UNIVERSITY OF THE WESTERN CAPE

Faculty of Community and Health Sciences

Assessing the influence of gender socialization on early adolescents' behaviors and perceptions towards sexual and reproductive health and gender-based violence in low socio-economic, urban neighborhoods, Cape Town: a quantitative study

Rinko Kinoshita

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy (PhD) in the School of Community and Health Science, University of the Western Cape.

Supervisor: Prof. Diane Cooper

Co-Supervisor: Prof. Hanani Tabana

March 2023

Keywords

Early adolescents

Sexual and reproductive health

Gender norms and socialization

Socio-ecological model

Pregnancy avoidance

Gender-based violence

Adverse childhood events

Mental health

Urban neighborhoods

Low socio-economic status

Abstract

Early adolescents (EAs), aged between 10 and 14, account for half of 1.2 billion adolescents worldwide. During early adolescence (EA), many EAs experience puberty and social and cognitive shifts. This is a period when gender norms are shaped manifesting in their perceptions and behaviors. Unequal gender norms may negatively affect adolescents' sexual and reproductive health (ASRH), including early pregnancy, violence, and mental health. There is a paucity of evidence on how EAs construct gender norms, and how unequal gender norms may impact their health and well-being.

This study identified key factors influencing the process of constructing EA gender norms, using the socio-ecological model. It explored how unequal gender norms may influence EAs sexual and romantic relationships; knowledge of HIV and pregnancy prevention; exposure to peer violence, intimate partner violence (IPV), and adverse childhood events (ACEs); and depression symptoms.

A quantitative, cross-sectional study was conducted in low socio-economic suburbs in Cape Town, South Africa, as part of the Global Early Adolescent Study (GEAS). Through a two-stage sampling method, 569 learners aged 11–14 were recruited from 11 schools, based on their consent and assent from caregivers. Data collection took place from July 2019 to March 2020, using close-ended, semi-structured questionnaires, developed by the GEAS and adjusted to the local context. EAs self-administered questionnaires through a Computer Assisted Self-interviewing (CASI) method.

Data were analyzed using Stata/BE 17.0. The main measures were seven gender norm composite scores, including four scores developed by the GEAS and three new scores this study identified. Multivariate regression models identified factors associated with the gender norm scores and associations between EAs' gender norms and each outcome variable.

The study confirmed that EAs construct gender norms through a collective influence of multiple levels of the socio-ecological model. EAs reported a high prevalence of ACEs (92% of EAs had experienced at least one ACE); peer violence perpetration (28%) or victimization (60%); and

iii

depression symptoms (94% reported at least one). When adjusted for other covariates, stereotypical gender norms were associated with early romantic relationships and sexual activity; knowledge of pregnancy and HIV prevention; IPV victimization; and depression symptoms. Strong negative effects of ACEs surpassed the effects of gender norms on peer violence perpetration, as the gender norms became statistically insignificant in the adjusted model. This indicates that the effects of ACEs on an increased recent peer violence perpetration were stronger and exceeded the effects of stereotypical gender norms on the peer violence perpetration.

This study underscores an urgent need to incorporate gender transformative interventions that promote EA gender equality in policies, programs, and research. The findings revealed key risk or protective factors that may affect ASRH issues among EAs, which will significantly contribute to designing age-specific, culturally tailored programs for EAs living in urban communities of high vulnerabilities. Given the dynamic nature of the construction of gender norms, there is a crucial need to collect longitudinal data from EAs, which should be triangulated with qualitative data, to further dissect the pathways and relative weights of these associations.

UNIVERSITY *of the*
WESTERN CAPE

Declaration

I declare that ***Assessing the influence of gender socialization on early adolescents' behaviors and perceptions towards sexual and reproductive health and gender-based violence in low socio-economic, urban neighborhoods, Cape Town: a quantitative study*** is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Full name: Rinko Kinoshita

Student number: 3699083

Date: 18 March 2023

Signed...

v

Acknowledgement

I was a 27-year-old master's student in Public Health when I first visited Cape Town, South Africa. I immediately fell in love with its stunning nature and was intrigued by its diverse culture, and, even more so, the complex history that the country thrived from: a long journey towards freedom. I was convinced that one day I would return. Many years later, I found myself enrolled at the University of the Western Cape (UWC), as a part-time, long-distance PhD student at the School of Public Health.

I owe a debt of gratitude to Prof. Diane Cooper, my principal supervisor, who agreed to be my advisor and accompanied me throughout this long and arduous journey. She was the one who mobilized a research fund to implement the Global Early Adolescent Study (GEAS) in urban, impoverished neighbors of Cape Town, and allowed me to analyze its data to write up my thesis. I cannot thank Prof. Cooper enough for guiding me with her feedback and insights and sharing her wealth of knowledge and experience in sexual and reproductive health, gender, and adolescence. Prof. Hanani Tabana took up the second supervisor's role after Prof. Lucia Knight (former UWC faculty member) moved to the University of Cape Town (UCT). I greatly benefited from Prof. Tabana's technical expertise in quantitative data analysis and adolescent mental health. Without my two supervisors who always encouraged me not to give up, I could not have achieved what I have today.

Besides my supervisors, I would like to thank the UWC research team, led by Prof. Cooper, who contributed to the start-up and implementation of the GEAS in Cape Town. Prof. Lucia Knight and Dr. Suraya Mohamed were part of the core team when we started the study. I also extend my sincere gratitude to Mr. Ntobeko Nywagi, the study coordinator for the GEAS/Cape Town site, and his two research assistants, Ms. Nomfundo Cishe and Ms. Michelle Odendaal. The team worked tirelessly in the field throughout the different stages of the study, coordinating learners, teachers, and principals. I greatly admire their professionalism, quality of work, deep understanding of research ethics, and most of all, caring attitudes to early adolescents who participated in the study.

I also extend my appreciation to faculty, administration staff, and fellow students at UWC's School of Public Health. From the PhD coordination group, I thank Prof. Asha George and Prof. Helen Schneider for their continued support and guidance. I also thank fellow PhD students/recent graduates: Wolde, Fidele, Aida, Tanya, Lisa, among others, whose accomplishments always inspired me.

From Johns Hopkins University, I would like to thank Dr. Robert (Bob) Blum, the principal investigator for the GEAS, and his team. I am especially grateful to Ms. Mengmeng Li, the senior data analyst, for her advice and tips based on her experience in analyzing GEAS multi-country data.

Since I completed my first master's degree in International Maternal and Child Health, I have kept in touch with two of my favorite professors, who are renowned in this field. My appreciation goes to Dr. Amy Tsui (ex-faculty member of the Johns Hopkins University), who served as an informal reader of my methodology and results chapters. Dr. Trude Benett (ex-faculty member of the University of North Carolina at Chapel Hill) reviewed the initial draft of the literature review. I also acknowledge Dr. Carolina Cardona, a recent PhD graduate from Johns Hopkins University and a talented scholar, for her technical advice on statistics.

I would also like to express appreciation to my supervisors and colleagues at the offices where I have worked, during my PhD journey: UNICEF-Nicaragua, UNICEF-Burkina Faso, UNICEF's Western and Central Africa Regional Office, and UNFPA-Bolivia. In each of these offices, I met like-minded colleagues and supervisors who supported me emotionally in my struggle to balance full-time, demanding jobs; international moves; family and childcare; and my PhD studies.

My deep gratitude goes to my family. My husband Roland, and my three daughters – Ayanée (13 years old), Kotonée (5 years old), and Yukinée (born in February 2023) – for their support and patience throughout my PhD journey. How many times I was asked by my daughters, "Mom, why can't you come with us to the playground? It's weekend!". My husband took my daughters out every weekend so that I could study all day and they would not be bored. He was also the one who put my little one to sleep every night, so that I could do my after-work routine: swim for one hour and study for a few hours.

My late mother dreamed of me becoming a doctor in a rural village in Japan, and this was also my aspiration when I was young. I ended up going to a nursing school and becoming a nurse midwife, then moved my career to global health – specifically sexual and reproductive health and gender/human rights. Public health has become my great interest, passion, and life-time mission. Therefore, after my master's degree in Public Health, I gained a second master's degree in Epidemiology, with a focus on analyzing and visualizing social injustice. Now, as I am nearing the end of my long PhD journey, I want to thank my mother who always encouraged me to pursue my dream. "Mom, I made it, it's not a medical doctorate, but I will soon be a doctor."

Last, but not least, I am grateful to each of our study participants, for their time and valuable information, and to their parents, who agreed to their children's participation. The data speaks thousands of words. My next objective is to use the research findings for evidence-based advocacy, by sharing them with practitioners and policy makers. I hope that the findings from my research project will serve as a steppingstone to improved sexual and reproductive health and well-being of early adolescents – so that every young girl's and boy's dream may also come true.

"After climbing a great hill, one only finds that there are many more hills to climb."

– Nelson Mandela
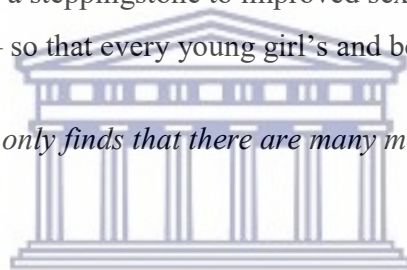
La Paz, Bolivia, 18 March 2023

Abbreviations

ACE	Adverse childhood event
AIC	Akaike's information criterion
aOR	Adjusted odds ratio
ARE*	Adolescents' romantic expectations
ART	Antiretroviral therapy
ASRH	Adolescent sexual and reproductive health
Birth to 20+	Birth to twenty plus study
CAPA	Child and Adolescent Psychiatric Assessment
CASI	Computer-assisted self-interviewing
CDC	United States Center for Disease Control
CI	Confidence interval
CSE	Comprehensive Sexuality Education
CSVR	Center for the Study of Violence and Reconciliation
DALYs	Lost disability-adjusted life years
DHS	Demographic and Health Survey
DRC	Democratic Republic of Congo
EA	Early adolescence
EAs	Early adolescents
EFA	Exploratory factor analysis
EMIS	Educational Management Information Systems
FP	Family planning
GASRH*	Gendered views on adolescents' SRH
GDP	Gross domestic product
GEAS	Global Early Adolescent Study
GERF	Gender equitable roles and features
GNI	Gross national income
GSR*	Gender stereotypical roles
GST*	Gender stereotypical traits
GSV*	Gender stereotypical views
HIV/AIDS	Human immunodeficiency virus / acquired immunodeficiency syndrome
HMICs	High- and middle-income countries
ICPD	International Conference on Population and Development
ICT	Information and communication technology
IGME	Inter-Agency Group for Child Mortality Estimation
IPV	Intimate partner violence
JHU	Johns Hopkins University
KMO	Kaiser-Meyer-Olkin measures
LGBTIQ+	Lesbian, Gay, Bisexual, Trans, Intersex, Queer and the '+' which describes other diverse sexual orientations.
LMICs	Low- and middle-income countries
MICS	Multiple indicator cluster surveys
ORs	Odds ratios
PCA	principal component analysis

PTSD	Post-traumatic stress disorder
RQ	Research question
SADC	Southern African Development Community
SA-DHS	South African Demographic and Health Survey
SD	Standard deviation
SDGs	Sustainable Development Goals
SDS	Sexual double standards
SRH	Sexual and reproductive health
SSA	Sub-Saharan Africa
Stats SA	Statistics South Africa (national institute of statistics)
STIs	Sexually transmitted infections
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund (previously United Nations Fund for Population Activities)
UNICEF	United Nations Children's Fund
UN IGME	United Nations Inter-agency Group for Child Mortality Estimation
UWC	University of the Western Cape
VIF	Variance inflation factor
WHO	World Health Organization
ZAR	South African rands

*Gender norm composite scores that were used in this thesis research project .

UNIVERSITY *of the*
WESTERN CAPE

Glossary

Adolescent sexual and reproductive health (ASRH): Adolescents' sexual and reproductive health addresses specific challenges faced by adolescents (aged 10–19), such as unintentional pregnancy, unsafe abortion, HIV/AIDS, mental disorders, anemia, child marriage, and unmet needs for family planning (WHO, 2022a).

Adolescents: The World Health Organization (WHO) defines adolescents as individuals in the 10–19 years age group (Dick & Ferguson, 2015).

Adverse childhood events (ACEs): ACEs are defined as stressful or traumatic experiences during the first 17 years of life, including abuse or neglect by caregivers or other adults, household instability, witnessing domestic violence, parental divorce or death, and a family member's substance abuse, incarceration or mental illness (CDC, 2021).

Depression symptoms: Depression symptoms include mental health symptoms or disorders, such as stress, depression, sadness, and anxiety, which can be commonly reported by adolescents (UNICEF, 2021b). WHO (2022)[1] defines a depressive episode as "experiences of depressed mood (feeling sad, irritable, empty) or a loss of pleasure or interest in activities, for most of the day, nearly every day, for at least two weeks."

Disability-adjusted life years (DALY): This is a measure of overall disease burden. It is a time-based measure that combines *years of life lost due to premature mortality* (YLLs) and years of life lost due to time lived in a state of less than full health, or *years of healthy life lost due to disability* (YLDs) (WHO, 2000).

Early adolescence (EA): The Lancet Commission on Adolescent Health and Well-being (Patton, 2016a) define adolescence in two stages. Early adolescence is generally considered to be between the ages of 10 and 14 years, while late adolescence is between the ages of 15 and 19 years. **Early adolescents (EAs)** are young adolescents who are between the ages of 10 and 14 years.

---

[1] https://www.who.int/news-room/fact-sheets/detail/mental-disorders

Education Management Information Systems (EMIS): The EMIS is a database of all public sector South African schools, which South Africa's National Department of Education has used since 1995. Within the EMIS, a unique 8-digit number is assigned to each school for identification and for assigning schools into low, middle, and high economic status.

Gender norms: Gender norms are defined as "*Unspoken rules* that govern the attributes and behaviors that are valued and considered acceptable for men, women, and gender minorities" (Heise et al., 2019. p.2441). These gender norms may determine not only behaviors or values at individual level, but guide important life decisions on the body, health, and life during adolescence, throughout adulthood, and into the next generation (Greene & Patton, 2020).

Gender stereotypical norms: A gender stereotype is "a generalized view or preceonception about attributes, or characteristics that are or ought to be possessed by women and men or their roles that are performed by men and women. these stereotypes can be both positive and negative" (United Nations Office of the High Commissioner for Human Rights, 2014, p.1). Therefore, stereotypical gender norms may include, for instance, 'a women's role is taking care of her home and family,' 'men should be the ones who bring money home for the family,' or 'boys should always defend themselves, even if it means fighting'.

Gender socialization: Gender socialization sets typical norms and roles for females and males and is a process that starts early in life. It becomes intensified during early adolescence (Chandra-Mouli, Plesons, et al., 2017; Kågesten, 2017).

Gini coefficient: The Gini index measures inequity in the distribution of income or consumption among individuals or households within a country (World Bank, 2014). A Gini index of 0 represents perfect equity, while 100 implies perfect inequality.

Intimate partner violence (IPV): The WHO's definition of IPV is "behavior by an intimate partner or ex-partner that causes physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviors" (WHO, 2021e). In this thesis, IPV perpetration is defined as carrying out such an act to his or her intimate partner,

while IPV victimization means one's reported experience of having been a survivor of such violence, perpetrated by her or his intimate partner.

Learners: 'Learners' is the term used in South Africa for primary and high school students.

Race: Race is defined as a social concept in this thesis. In South Africa, during the apartheid era, race was used as proxy for determining advantages or disadvantages in terms of opportunities, socio-economic benefits, status, and the use of public facilities. The current South African government and authorities continue to use this classification to assess a decrease or improvement in race-defined inequity (Southall, 2022, p.3). In this context, "race" refers to white and black South Africans and Coloured South Africans (Southall, 2022, p.4).

Reproductive health (RH): Reproductive health was first defined at the Internacional Conference on Population Development (ICPD) in Cairo and its Programme of Action as "Reproductive health is a state of complete physical, mental and social well-being and noe merely the absence of disease or infirmity, in all matters relating to the reproductive system and to is functions and processes" (ICPD, 2014, p.59). Based on this definition, reproductive health not only implies having a satisfactory and safe sex life, but also reproduction that is based on one's freedom of choice. Therefore, it includes the "rights of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice…and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth" (UN Women, 1995).

Sexual and reproductive health (SRH): SRH is defined as: "a state of complete physical, emotional, mental and social well-being in relation to sexuality (WHO, 2017) and reproductive system." (UNFPA, 2023). The ICPD in Cairo in 1994 first set the common language on SRH, by linking it to human rights, women's and girls' empowerment, gender equality, and sustainable development (Starrs et al., 2018).

Sexual and reproductive rights (SRR): The definition of SRR has evolved over the past 20-25 years in two aspects (Starrs et al., 2018). First, a consensus has been built that each component of SRR, which is essential to attain SRH, is closely interlinked. Secondly, the definition of it now integrates the access to SRH services and interventions for all, including those which address

violence, bodily autonomy, and physhological and social well-being.

Violence against children: The WHO defines violence against children as "all forms of violence against people under 18 years old, whether perpetrated by parents or other caregivers, peers, romantic partners, or strangers" (WHO, 2021e). The definitions and types of violence used in this study were adopted from the WHO's multi-country study on violence against women (Garcia-Moreno et al., 2005a). These have been used in research in South Africa with children and adolescents between 10 and 17 years old (Artz et al., 2016; Big Win Philanthropy, 2018; Meinck et al., 2016).

Young people: Young people are defined by the WHO (2002) as those between the ages of 10 and 24 years.
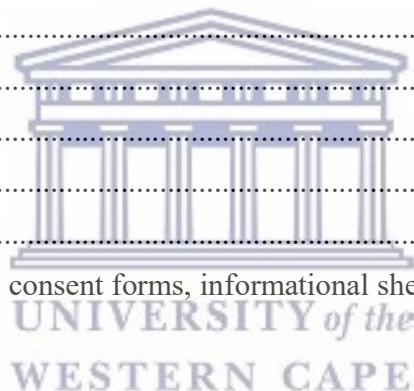
Table of Contents

List of Tables

CHAPTER FIVE: GENDER NORMS AND EMPOWERMENT SCORES

CHAPTER SIX: GENDER NORMS AND SEXUAL REPRODUCTIVE HEALTH KNOWLEDGE AND BEHAVIORS

CHAPTER SEVEN: VIOLENCE, ADVERSE CHILDHOOD EXPERIENCES, AND GENDER NORMS

CHAPTER EIGHT: MENTAL HEALTH AND GENDER NORMS

UNIVERSITY *of the*
WESTERN CAPE

List of Figures

List of Equations

PART I: INTRODUCTORY SECTION

This thesis is structured into three parts. Part I comprises the introductory section – Chapter 1: Introduction; Chapter 2: Literature Review; and Chapter 3: Methodology. Part II covers four chapters (chapters 4–8), each of which describes key results based on research questions of this study. Part III comprises the final two chapters: Chapter 9: Discussion; and Chapter 10: Conclusion.

CHAPTER ONE: INTRODUCTION

Gender norms constitute key determinants of specific health issues during adolescence, especially of adolescent sexual and reproductive health (ASRH). These ASRH issues include teenage pregnancy, HIV, and the perpetration of and victimization from violence, which have potential linkages to adverse childhood events (ACEs) and mental health issues. They comprise key focus areas of this PhD research, given important implications for lifelong health and well-being of early adolescents (EAs), as well as during later adolescence and into adulthood.

This introductory chapter provides the overall background to this PhD thesis. First, it highlights early adolescence (EA), the initial period of adolescence on which my research project focuses, as a critical stage in which girls and boys construct gender norms and attitudes. The chapter then emphasizes the significance of studying the development of gender norms and perceptions of EAs, as these may influence their sexual and reproductive health (SRH) knowledge, attitudes, and behaviors. Next, the chapter explains the magnitude of the key issues faced by adolescents generally – teenage pregnancy, human immunodeficiency virus (HIV), and violence – and the implications of these issues specifically for EAs. Where information on EAs is not available, I provide evidence on adolescents or young people in general, highlighting the current research gaps for EAs. Next, the study's problem statement and rationale underscore the significance of the new knowledge and insights that this research intends to contribute. In addition, the research questions, the aims, and the objectives of this study are presented. The chapter concludes by outlining the structure of the rest of the thesis, with a brief overview of each of the remaining chapters.

1.1 Background

This background section is organized into six sub-sections. First, it defines the period of adolescence and its particularities in terms of the developmental stage. This is followed by brief background information on how gender equality and improved ASRH can contribute to accelerating the Sustainable Development Goals (SDGs). In next sub-section, the focus narrows down to EAs, the target population of this research project, and illustrates why EA is a critical period for interventions that intend to improve ASRH and build equal gender norms. This is followed by a brief description of the key, interlinked challenges faced by EAs in South Africa within the context of the HIV pandemic. The final three sub-sections provide background information on the main focus areas of this research: adolescent pregnancies, violence and ACEs, and mental health issues among EAs.

1.1.1 Adolescent sexual and reproductive health, and gender norms

There are an estimated 1.2 billion adolescents aged 10–19 years worldwide, representing nearly a quarter of the global population (WHO, 2021d). One in every four adolescents, or 250 million, reside in sub-Saharan Africa (SSA)[2] (Melesse et al., 2020). If the current population growth rate continues, SSA's adolescent population is expected to increase to 260 million by 2030 (United Nations Population Division, 2019a).

Adolescence is a period of transition from childhood to adulthood, characterized by the onset of puberty, rapid physical, neurobiological and cognitive growth, and socio-emotional or psychosocial development (Loschert, 2019; National Academies of Sciences, Engineering and Medicine, 2019). During this developmental phase, individuals typically start to think more critically and develop diverse and complex relationships or distinct identities (National Academies of Sciences, Engineering and Medicine, 2019). They also experience intensified learning capacity and greater emotional volatility, becoming more susceptible to social influences (e.g. peers or adults) (McCoy et al., 2019) and engaging in increased risk-taking (Landis, 2020; Patton et al., 2018).

---

[2] Argentina, Colombia, Ecuador, Guatemala, Mexico and Paraguay were included in this study.

While adolescence can generally be considered a healthy life stage (Blum et al., 2017; Waid & Uhrich, 2020; WHO, 2021c), adolescents' greater exploration and experimentation during this life phase may pose increased behavioral health risks, such as an early onset of sexual relationships before the age of 15 (Durowade et al., 2017; McClinton Appollis et al., 2022), unprotected sex, violence, and substance misuse (Kuzma & Peters, 2016; Landis, 2020). Engagement in these higher-risk behaviors can lead to increased adolescent morbidity and mortality, and negative SRH outcomes, such as unintended pregnancies and sexually transmitted infections (STIs), including HIV, different types of violence, or mental illness.

Furthermore, evidence from mostly high-income countries shows that without timely health education or SRH services, risk behaviors developed during adolescence could cause increased premature adult morbidity or mortality (Högnäs et al., 2020; Jalanko et al., 2017; Lindberg et al., 2020). Hence, investing in ASRH is an important opportunity that is likely to bring considerable individual and global health benefits, not only for the rest of the individuals' lives, but also for the next generation of children (Blum et al., 2017; Greene & Patton, 2020; Sheehan et al., 2017; Starrs et al., 2018; The Lancet, 2020).

According to the United Nations Inter-Agency Group for Child Mortality Estimation (UN IGME), in 2020, between 900,000 and 1 million adolescents aged 10–19 years died, mostly due to preventable causes such as pregnancy-related complications, injuries, and HIV/AIDS (WHO, 2021c). The leading causes of deaths among adolescents and young adults (10–24 years old) include severe injuries (mainly due to road traffic accidents), drowning, violence, self-harm, and maternal conditions (WHO, 2021b). The SSA region had the highest adolescent mortality rate in 2020, with 6.4 deaths per 1,000 adolescents aged 10–14 years, and 16.4 deaths per 1,000 adolescents aged 10–19 years (UN IGME, 2021). Based on the current trend, an estimated 8.9 million adolescents aged 10–19 years are projected to die between 2021 and 2030 globally. Nearly half (47.1%) of these deaths are predicted to occur in the SSA region (UN IGME, 2021).

Addressing the need for equal rights for men and women is one of the principles of the 1948 Universal Declaration of Human Rights (Universal Declaration of Human Rights, 1948), which set out international human rights' standards (Global Health 50/50 Initiative, 2018; Shannon et al., 2019). Most recently, gender equality was incorporated into the SDGs as a stand-alone

3

objective and a cross-cutting strategy to attain universal health and well-being for women, adolescents, and children (Cochrane & Rao, 2019; Jacobs et al., 2021; Manandhar et al., 2018; Taukobong et al., 2016; United Nations, 2015). Despite the progress made towards the SDGs, notably on strengthened gender-responsive budgeting (United Nations, 2019), gender inequality is among the long-standing social issues that must be tackled if the SDGs' ambitious targets are to be achieved (Global Health 50/50 Initiative, 2018; Taukobong et al., 2016).

Improved ASRH, combined with strategies that aim at greater gender equity, can accelerate the achievement of the SDGs, especially Goals 4 (Good health and well-being), 5 (Quality Education) and 6 (Gender equality). These targets also promote universal access to ASRH services, education, and prevention of violence against women and girls (Greene & Patton, 2020; Shawa, 2018; Sheehan et al., 2017; UNFPA, 2022). The UN Secretary General's Global Strategy for Women's, Adolescents', and Children's Health 2016–2030, which, for the first time, included adolescents in its target group, contributes to the SDGs' achievements by promoting adolescents' physical and mental health, and equitable socio-economic opportunities (UN Secretary General, 2015).

In the following sub-sections, I provide definitions of the stages of adolescence and review key characteristics of EAs. I then provide background information on HIV and adolescent pregnancy as key SRH issues, as well as on violence and mental health as key issues faced by adolescents. Finally, I discuss the main focus areas of this thesis project, with specific reference to adolescents or EAs in South Africa.

1.1.2 Early adolescence: a critical period for gender socialization

Definitions of the age-based developmental stages of adolescence vary in the literature (Igras et al., 2014; Patton, 2016b; Victoria-Jardon, 2016; WHO, 2010b). Although Breinbauer and Maddaleno (2005) initially defined adolescence in terms of three age-based stages (early, middle, and late adolescence), subsequent scholars have commonly divided it into two stages: early adolescence, aged between 10 and 14 years, and late adolescence, aged between 15 and 19 years (Blum et al., 2017; Blum, 2016; Kawabata, 2020; Mmari et al., 2017, 2021; Zimmerman et al., 2019). These two age-based categories (early or late adolescence) were also used to define the

4

stages of adolescence by the Lancet Commission on Adolescent Health and Well-being (Patton, 2016). The current study adopted the most recent and commonly used definition of two stages of adolescence, and specifically focused on a smaller sub-set of EAs, from 12 to 14 years old.

In 2020, the population of EAs (10–14 years old) was estimated at 641.2 million worldwide, of which 295 million were female (United Nations Population Division, 2019b). This EA population represented 8% of the global population and 51% of the total global adolescent population. Of these, an estimated 570 million live in low- and middle-income countries (LMICs), with 136 million residing in SSA (United Nations Population Division, 2019b). In African countries, due to a rapid population growth in urban areas (Liang et al., 2019), the number of EAs have exceeded the population of older adolescents (15–19 years) by 22 million and was projected to grow another 5% between 2016 and 2023 (Woog & Kågesten, 2017).

EA is considered a critical stage of adolescence, during which girls and boys construct gender norms and attitudes (Blum et al., 2014; Starrs et al., 2018). As EAs reach puberty, they progressively develop increased capacity to engage in social interactions, specifically influenced by gender socialization (Vu et al., 2017; Woog & Kågesten, 2017). They also show an increased level of empathy and flexibility that allows opportunities for them to adapt to positive gender perceptions or behaviors or to absorb negative ones (Blum, 2020; Dahl, 2016).

On the other hand, many behaviors that are influenced by inequitable gender norms, such as high-risk sexual behaviors, violence, substance use, and mental health issues, start manifesting themselves during EA (Blum et al., 2017; Vu et al., 2017). Even prior to the sexual debut EAs' attitudes and behaviors, particularly within heterosexual romantic relationships, are shaped by internalizing dominant social rules or gender norms that reflect imbalanced gender power relations (Blum, 2017; Moreau et al., 2019). Therefore, adolescence, especially EA, provides an extraordinary opportunity to positively develop girls' and boys' attitudes towards greater gender equality, and simultaneously build their knowledge on SRH (Blum, 2020; Gupta et al., 2019; Starrs et al., 2018).

Figure 1. 1 presents the gender socialization process across the life course, showing important and influential actors or institutions at different developmental stages (John et al., 2017).

5

Although gender socialization should be seen as a continuous process starting in early childhood (Solbes-Canales et al., 2020), early and mid-adolescence are the most critical periods, when the perceived social influences increase rapidly and reach their peak (Blum et al., 2017; Kågesten et al., 2016; MacCarthy et al., 2016; Moreau et al., 2019). Gender norms or attitudes shaped during this EA period are rapidly solidified or reinforced and would be more challenging to change in later stages of adolescence (Landry et al., 2019; National Academies of Sciences, Engineering and Medicine, 2019).

The gender socialization process across the life course presented in Figure 1. 1 illustrates that this process is not static, but subject to change. Since it is a complex process which varies, depending on different contexts, this process has to be understood within a specific space, place and time, in addition to class, race or cultural factors (John et al., 2017). For instance, as a structural factor, mass-media sources ("media" in Figure 1. 1) have become important information sources for adolescents' gender socialization, due to a rapid growth of information technology. Television (e.g. telenovelas) and films, and the internet are reportedly the most influential media sources for adolescents' learning of alternative gender norms and behaviors in low and middle-income countries (MICs) (John et al., 2017).
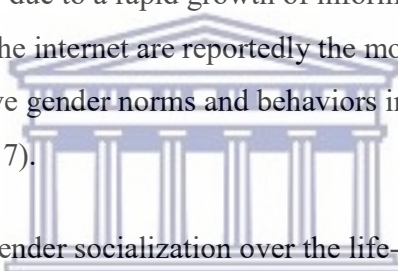
Figure 1. 1: Main influences on gender socialization over the life-course
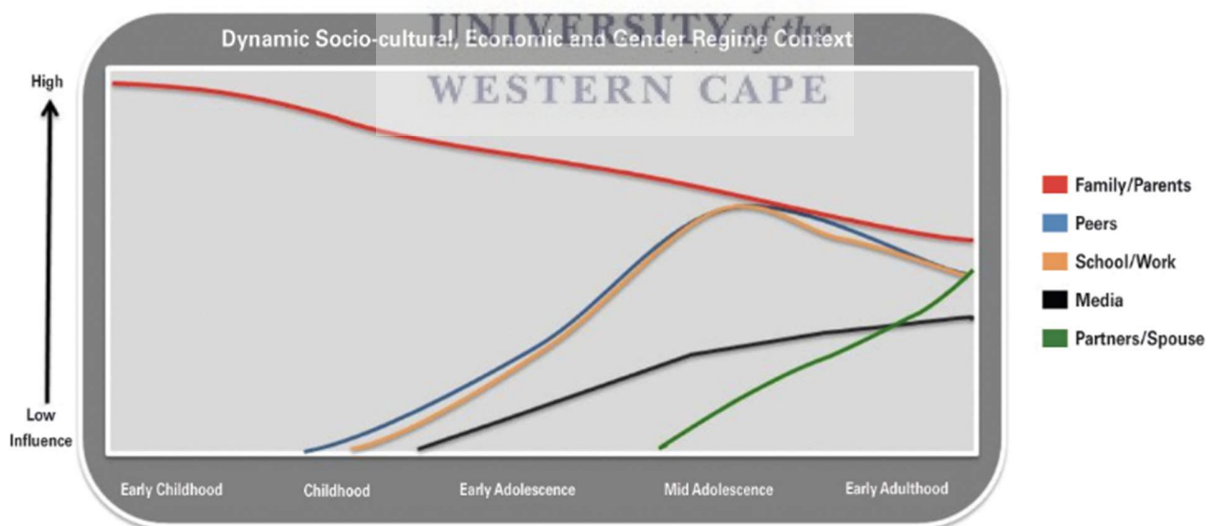
Source: John et al., 2017, p. 16

In Chapter 2, I describe and discuss in greater detail there are a number of theories of gender socialization that either amend, add to or contest other theories.

1.1.3 Early adolescents' sexual and reproductive health challenges in the context of HIV

The SRH and well-being of EAs are substantially influenced by the global HIV epidemic, which continues to severely affect SSA and, especially, South Africa. Over the last decade, new HIV infections among young people (aged 15–24 years) declined by 46% globally (UNAIDS, 2021). However, in 2020 an estimated 1.75 million adolescents aged 10–19 years were living with HIV, out of a global total of 38 million living with HIV (UNAIDS, 2021; UNICEF, 2021c). In addition, in Africa, HIV was ranked as the third top cause of deaths among EAs (10–14 years old) in 2019 (WHO, 2019).[3] While girls/young women account for 70% of new HIV infections globally, the decline in new HIV cases among boys has been slower than among girls over the last decade (UNICEF, 2021c).

In South Africa, 7.8 million adults and children were living with HIV in 2020, including 48,000 women and 310,000 adolescents aged 10–14 years (UNAIDS, 2020). In the same year, 200,000 new HIV infection cases and 72,000 AIDs-related deaths were registered (all ages). The prevalence in the general population has become more static. This is because people living with HIV expanded their lifespan through wider access to antiretroviral therapy (ART). Overall, the HIV prevalence in the population aged 15 or above decreased slightly from 19.7 to 19.1% between 2017 and 2020 (World Bank, 2020).

According to the national HIV prevalence survey in 2017, the HIV prevalence remained reasonably stable at approximately 8.0% among adolescents and young people (15–24 years), although there was a significant sex disparity in the prevalence: nearly 11% for females compared with 5% for males (Simbayi et al., 2019). For adolescents aged 12–19 years, a recent analysis of population-based data revealed a statistically significant increase in the HIV prevalence from 3.0 to 4.1% between 2012 and 2017 (Mabaso et al., 2021). The same data also

---

[3] Based on the WHO's six regions: Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, Western Pacific.

7

showed that the odds for girls aged 12–19 years being HIV positive was 2.2 times greater than for boys of the same age group.

In 2019, HIV was the top cause of death for adolescents aged 10–19 years in South Africa, followed by interpersonal violence (WHO, 2019). Similarly, for EAs, HIV was the top cause of death, while interpersonal violence was ranked as fourth from the top. Since EA is frequently a period when dating relationships begin and of sexual debut – potentially accompanied by increased sexual risk-taking – this makes South African girls and boys particularly vulnerable to HIV or other STIs. Moreover, they also face other interrelated challenges, such as unintended pregnancies, interpersonal violence, and mental illness (Righi et al., 2021; Wincentak et al., 2017).

Inequitable gender power relationships have been found to be critical risk factors for HIV infection among adolescents and young women as they increase high-risk sexual behaviors, such as reduced condom use, sex with multiple partners, and coerced sex (Pulerwitz et al., 2018; Righi et al., 2021). Furthermore, inequitable gender norms or relationships can aggravate intimate partner violence (IPV) and unintended adolescent pregnancies. Higher-risk sexual behaviors are more commonly reported among adolescent and young females who have experienced IPV and past pregnancies than those who have not reported them. These sexual behaviors are, thus, directly linked to increased risks for HIV transmission (Kidman et al., 2018).

For instance, girls' or women's engagement in age-disparate relationships, which often create a more inequitable gender power balance, have been found to concurrently increase adolescents' risk of HIV infection, IPV, and unintended pregnancies, especially in urban informal settings in South Africa (Evans et al., 2016) and in other SSA countries (Righi et al., 2021; Ziraba et al., 2018). In the absence of equitable gender power relationships, interventions that reduce sexual behaviors or promote condom use have been found to be less effective in reducing HIV infections, IPV, and unintended pregnancies among South African adolescents (Cooper et al., 2016). In the next sub-section, I provide background information on adolescent pregnancy.

1.1.4 Adolescent pregnancy

Approximately 21 million girls aged 15–19 years give birth every year worldwide, mostly in LMICs, with almost half of these pregnancies unintended (UNFPA, 2022; WHO, 2020). In LMICs, where 96% of the world's adolescents reside, nearly one in three young women (20–24 years) reportedly gave birth during adolescence (between 10–19 years old). Furthermore, three quarters of adolescent girls in LMICs who gave birth first at 14 years old or younger, gave birth a second time before 20 years of age (UNFPA, 2022), Between 2015 and 2020, the adolescent birth rate (ages 15–19) was 99 per 1,000 live births in SSA, more than double the global average rate of 41 per 1,000 live births (UNICEF, 2021b). Recent data from 15 countries in the Southern African Development Community (SADC)[4] estimated that the regional weighted pregnancy prevalence among adolescents (10–19 years) was 22% (95% confidence interval, or CI: 19–26%) (Yah et al., 2020).

Globally, the proportion of first-time births among adolescents below 17 years decreased from 60% to 45% over six decades, while the proportion of all global births accounted for in this age group declined from 68% to 50% during the same period (UNFPA, 2022). However, despite the increased attention given to teenage pregnancy as a critical issue and some progress having been made, the reduction in adolescent pregnancies over the last two decades has been sporadic in SSA, and extremely limited for those under 15 years old, with a widening in inequities across socio-economic status and urban-rural residences (Mutua et al., 2021; Neal et al., 2020).

In South Africa specifically, adolescent pregnancy rates among the country's nearly 10.3 million adolescents (10–19 years) including 5.13 million female adolescents (Stats South Africa, 2018), remain an issue of concern (Govender et al., 2019b). In South Africa, since the 1980s, there has been a decline in adolescent fertility rates for girls and young women aged 15–19 years (Jewkes, Morrell, & Christofides, 2009). Nonetheless, a comparison between the South African Demographic and Health Survey (SA-DHS) data from 1998 to 2016 (Figure 1. 2) shows that despite the decrease, teenage pregnancy remains a sizeable problem (South African National

---

[4] The 15 SADC countries are: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe.

9

Department of Health, 2019). Based on the latest SA-DHS data in 2016, 37% of 1,505 sexually active adolescent girls (15–19 years) reported that they had already had their first pregnancy, and 28% had given birth at least once (Ahinkorah et al., 2021).

Figure 1. 2: Comparison of Demographic and Health Survey (DHS) data between 1998 and 2016, South Africa
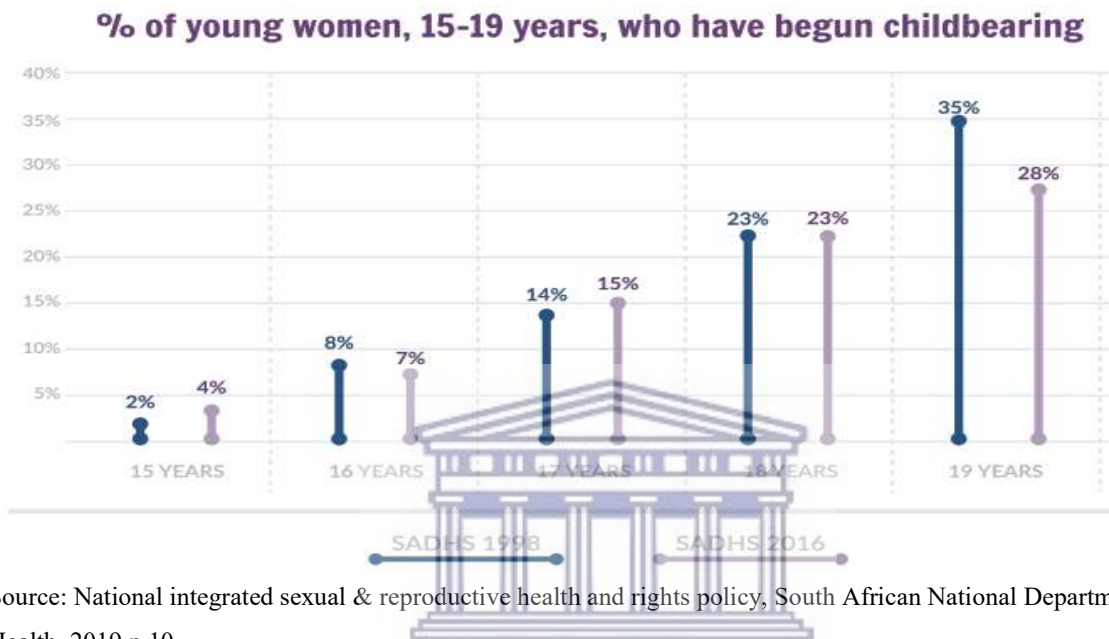
Source: National integrated sexual & reproductive health and rights policy, South African National Department of Health, 2019.p.10

Most recently, from April 2019 to March 2020, South African public health services recorded over 3,800 and 127,000 births for adolescent girls aged 10–14 and 15–19 years, respectively (Barron et al., 2021). Although both the number of deliveries and the birth rates were lower among girls aged 10–14 years compared to those aged 15–19 years, between 2017 and 2021 the increases observed in these indicators in the EA group were greater than those reported in older adolescents (Barron, Subedar, Letsoko, Makua, & Pillay, 2021). For example, among those aged 10–14 years, during this period the number of births increased by 48.7%, and the birth rate increased from 1.1% to 1.5%.

Adolescent girls experience higher mortality and morbidity, or disability, related to pregnancy and childbirth than do adult women (UNFPA, 2022; UNICEF, 2021a). Maternal complications or conditions comprise the second most common cause of death for adolescent girls aged 15–19

10

(WHO, 2020). EAs carry a greater burden of maternal health risks during pregnancy and childbirth than do older adolescents. In addition, in South Africa, early pregnancies, prior to 15 years old, have been found to increase by three times the incidence of HIV infection among women aged between 15–26 years, due to high-risk sexual behaviors such as multiple sexual partners or age-disparate[5] male partners (Christofides et al., 2014). An analysis of DHS data (2004–2018) from 46 countries in SSA and South Asia also shows that child mortality (stillbirth, neonatal, infant and under-5-year-old deaths) of first-born children to mothers younger than 16 was 2–4 times higher, and 1.5–2 times higher for those born to mothers who were 16–17 years old, compared to mothers aged 23–25 (Noori et al., 2022).

Another consequence of unintended adolescent pregnancies globally is unsafe abortions, which contribute to 4.7–13.2% of all maternal deaths annually (WHO, 2021a). Globally, 61% of unintended pregnancies end in abortion annually (a total of 73.3 million abortions) (Bearak et al., 2020). Between the periods 1990–1994 and 2015–2019, while the unintended pregnancy rate decreased globally, the proportion of abortions among all unintended pregnancies increased (Bearak et al., 2020; Kantorová, 2020). Among adolescents aged between 15 and 19 years, unintended pregnancies are the major cause for unsafe abortions, accounting for 15% of total unsafe abortions, or 3 million cases each year (Espinoza et al., 2020). Although the incidence of abortion among EAs is lower than older adolescents (15–19 years), EAs report a higher probability of undergoing abortions once they become pregnant (Ipas, 2019).

In South Africa, based on the public health sector's database, an annual average of 14,406 cases of termination of adolescent pregnancies (10–19 years old) were reported between 2017 and 2021 (Barron et al., 2021). This number increased by 8.3% between the periods of 2017/2018 and 2020/2021, according to the same source. At family and community levels, adolescent pregnancy may lead to rejection, discontinuation of education, and threats of violence (UNFPA, 2022; UNICEF, 2021a). Moreover, the negative socio-economic impacts of adolescent pregnancies, especially on achieving the SDGs in a timely manner, cannot be underestimated. The loss of educational opportunities due to early pregnancies may lead to unemployment or household

---

[5] "Age-disparate" relatonships or partners refer to relationships with a sexual partner (usually a male) whose age difference (compared to female) is five years or more. (LeClerc-Madlala 2008; in Simbayi et al. 2019).

economy instability, undermining the nation's longer-term socio-economic development (Popoola, 2021; UNFPA, 2020b, 2022; UNICEF, 2021a).

Sexual violence also plays a key role in unintended or mistimed pregnancies, as identified through the analysis of DHS data from 22 countries in SSA (South Africa not included) (Ahinkorah et al., 2020). In South Africa, adolescents and young women aged 17–24, with experience of sexual violence, showed higher odds of an unintended pregnancy compared to those without a history of this type of violence (Ajayi & Ezegbe, 2020). In the next sub-section, I explore the problem of violence against adolescents, the second focus area of this study.

1.1.5 Violence against adolescents

Violence is another critical challenge for EAs globally, with multi-faceted, life-time consequences for their physical and mental health, education, and socio-economic opportunities (UNICEF, 2017). Exposure of adolescents to violence can be direct (e.g. physical, sexual, verbal, or psychological abuse or bullying in schools) or indirect (e.g. witnessing domestic violence or violent acts in the community) (Heinze et al., 2021; Sui et al., 2021). EAs, and adolescents in general, are at an increased risk of different types of violence. This is partially because of the developmental period during which they progressively increase inter-personal relationships with peers or adults, or engage in romantic relationships, with increased autonomy to spend more time outside the households (Heinze et al., 2021). For instance, the Global School-based Health Survey from eight SSA countries[6] indicates that overall, 53.7% of in-school adolescents aged 10–19 years reported having experienced interpersonal violence (Aboagye et al., 2021).

South Africa is among the most violent societies in the world (Gouws, 2021; Ndhlovu & Tanga, 2021). The history of apartheid and widespread structural factors such as poverty, unemployment, and income inequity have contributed to a construction of social or gender norms in South Africa that are inclined to be more tolerant of violent behaviors (Brankovic, 2019; Gouws, 2021; Sui et al., 2021). As demonstrated by past research (Institute for Security Studies, 2019; Jewkes & Morrell, 2018; Richter et al., 2018)mission of violence is a great concern, exacerbated by a patriarchal society in South Africa, where adolescents witness domestic violence or violent acts

---

[6] Countries included Benin, Ghana, Liberia, Mauritius, Mozambique, Namibia, Seychelles, and Tanzania.

in their communities, and may develop unequal gender norms that support naturalization of violence (Rasool, 2022). In this setting, these adolescents are highly exposed to both direct and indirect forms of violence, especially those who live in urban, disadvantaged communities or informal settings.

In 2017, the South African homicide rate was 34.5 per 100,000 population, seven times higher than the global average (Prinsloo et al., 2021). Although there was a significant decline in the reported femicide rate from 24.7 to 11.2 per 10,000 in the female population between 1999–2017 (N. Abrahams et al., 2022), this was still 4.5 times higher than the global average[7] (Gouws, 2021; UNODC, 2018). South African adolescents, including EAs, especially in disadvantaged urban settings, live in a context of daily threats of violence in interpersonal relationships or within families, schools or communities (Scorgie et al., 2017; Swart et al., 2018).

Besides high exposure to violence, a recent study (Naicker et al., 2022) revealed that nearly all (99.5%) South African urban youth participants reported an experience of at least one type of ACEs prior to 18 years old. The most commonly reported ACEs included parents' unemployment or divorce, household death or illness, exposure to violence or abuse, and other household insecurity. This rate was even higher than a previous study by Manyema and Richter (2019), using the same cohort study data, which estimated the prevalence of having experienced one or more ACEs as being 88% in this young population.

In the next sub-section, I describe mental health among adolescents, linked to violence and ACEs.

1.1.6 Mental health among adolescents in relation to violence and adverse childhood events

According to *The State of the World's Children 2021* (UNICEF, 2021b), the global prevalence of mental disorders among adolescents (10–19) was estimated at 13% in 2019, with a higher prevalence for boys than girls. Although the prevalence of mental disorders in EAs (10–14 years) was lower than in those between 15 and 19 years, 13.5% of boys and 11.2% of girls in the

---

[7] The global average femicide rate is estimated at 2.3 out of 100,000 women in 2017 (UNDOC, 2018).

younger age group reported mental health disorders (UNICEF, 2021b). In the same report, anxiety and depression disorders were the most common symptoms, reported by 40% of adolescents. EAs are particularly vulnerable to mental illness, as they experience the onset of puberty, neurological or cognitive changes, and direct exposure to social or gender determinants of ASRH (UNICEF, 2021b). Globally, half of the mental health illnesses or disorders reported by adults had started by the age of 14 years (WHO, 2021b). According to Auerbach et al. (2019), 35% of college or university students across eight countries[8] including South Africa, reported at least one lifetime mental disorder or symptom. Commonly, the symptoms had initiated in early to middle adolescence.

In South Africa, based on the National Income Dynamics Study (2014), the prevalence of depression symptoms was 14.6% among urban adolescents and 9.4% among rural adolescents aged 15–19 years (Ajaero, Nzeadibe, et al., 2018). Previously, Das-Munshi et al., (2016) had found a higher prevalence among younger adolescents, aged between 14 and 15 years, from metropolitan Cape Town: 41% reported depressive symptoms, 21% reported post-traumatic stress disorder (PTSD), and 16% reported anxiety.

Exposure to different forms of violence can have negative effects on adolescents' mental health. Particularly among EAs, evidence from multi-country studies shows that dating violence leads to increased depression and anxiety levels, as well as antisocial or unhealthy behaviors, such as tobacco, alcohol, and substance use (Big Win Philanthropy, 2018; Blum, Li, et al., 2019; Taquette et al., 2019). South African learners[9] (10–19 years old) who reported having been bullied, having an injury, or who had attempted suicides had higher odds of reporting victimization through interpersonal violence (Aboagye et al., 2021). Urban South African adolescents aged between 12 and 19 years who reported childhood experiences of sexual, emotional, and physical abuse were more likely to report experiences of IPV (victimization among girls and perpetration among boys) (Shamu et al., 2016). These studies from South Africa suggest that the associations between ACEs and violence were mediated by corporal punishments at schools and households, alcohol use, risky sexual behaviors (among girls), or inequitable

---

[8] Australia, Belgium, Germany, Mexico, Northern-Ireland, South Africa, Spain, and the US.
[9] In South Africa, school students are referred to as "learners".

14

gender norms (among boys) (Shamu et al., 2016), in addition to low household socio-economic status (Gibbs, Dunkle, et al., 2020).

In addition to the correlations between violence and mental health issues, experiences of ACEs appeared to influence both current exposure to violence, and depression among adolescents, among other health or behavioral issues. In the USA, two rigorous longitudinal studies demonstrated these associations. First, Negriff's (2020) longitudinal study revealed that among adolescents (recruited between 9 and 12 years old and followed up until 18 years old), those who had witnessed IPV in the households during childhood reported an increased number of symptoms of depression, anxiety, and trauma than those who had not experienced ACEs. Likewise, a more recent longitudinal study with a large representative sample of school students in the USA (grades 7–12), indicated a significantly elevated risk of reported depressive symptoms among those who had experienced child maltreatment, even compared to those in other ACE groups (household dysfunction, violence, and low adversity) (Kim et al., 2022).

In the first prospective study in South Africa, conducted with adolescents aged 10–18 years old, Cluver et al. (2015) revealed strong associations between exposure to more than five types of ACEs and increased odds of suicidal behaviors (suicide attempts, planning, or ideation) in the previous year, after controlling for socio-economic status and baseline mental health. Based on a secondary analysis of the Optimus Study's data, the experiences of South African children of having been abused were linked to significantly higher risks of mental health issues, including substance misuse and negative educational outcomes in later life (Burton et al., 2016; Ward et al., 2018a).

In the next section, I summarize key problems and gaps in different thematic areas mentioned above that motivated my research project.

1.2   Problem statement and study rationale

This section is structured into three sub-sections, each of which focuses on problems related to the period of EA, and adolescent pregnancies, violence, ACEs, and mental health among EAs. In

each sub-section, I summarize key problems, linking them to research gaps that justify the focus areas and target population (EAs) of this PhD research project.

1.2.1 Early adolescents: neglected population in adolescent sexual and reproductive health research

Although EA has increasingly been recognized as a crucial period of gender norm construction, and hence a unique window of opportunity for gender transformative interventions, it continues to be the most poorly understood period of life (Blum et al., 2014; Lundgren et al., 2019; Sommer, Likindikoki, & Kaaya, 2013). Especially in SSA, research on gender and adolescent health, particularly on ASRH, violence, and mental illness, has primarily focused on older adolescents or young people (Lundgren et al., 2019; Sennott & Mojola, 2017). Among 1,302 articles on ASRH in the SSA region published between 2010 and 2019, nearly 70% targeted adolescents aged 10–19 years, and only 9% focused specifically on EAs (Ajayi et al., 2021). Many of these studies on ASRH from SSA relied on data from routine household surveys such as DHS or multiple indicator cluster surveys (MICS) (UNICEF, 2022) that systematically excluded EAs (Ahinkorah, 2020; Melesse et al., 2020; Wado et al., 2021).

Furthermore, geographically, fast-growing urban low-income neighborhoods in SSA have often been overlooked in the adolescent research agenda or focused only on specific geographic settings such as Nairobi, Kenya, or on vertically limited programmatic areas such as HIV and AIDS (Wado et al., 2020). It is, therefore, important to understand how various drivers of health status (e.g. geographic location, ethnicity, socio-economic status, and age) intersect with gender, and manifest themselves as inequalities (Manandhar et al., 2018) in the different issues faced by EAs. The following sub-section looks at adolescent pregnancies, one of the focus areas of this PhD study.

1.2.2 Adolescent pregnancies: critical gaps

As explained in sub-section 1.1.4, the reduction in adolescent pregnancy rates in SSA and South Africa has been inconsistent over the previous decades. The lack of access to modern contraceptive methods and high unmet needs for contraceptives among adolescents are among

16

the key factors that contribute to persistently high adolescent pregnancy rates (Chandra-Mouli & Akwara, 2020). If the current unmet needs were fully addressed globally, it is estimated that unintended pregnancies among adolescents could fall by 6 million annually (Chandra-Mouli & Akwara, 2020; Darroch et al., 2016) and 5,600 maternal deaths could be averted each year (Darroch et al., 2016).

Based on data from DHS and MICS in 39 SSA countries, slightly less than 10% of sexually active adolescent girls aged between 15 and 19 reported current use of at least one modern contraceptive method, compared to 18% among sexually active adult women aged 24–35 years (Li et al., 2020). The unmet need for family planning among sexually active adolescents in these countries was also estimated to be much higher than among adult women: 72% and 58%, respectively.

At an individual level, unequal gender power relationships within a patriarchal, male-dominated culture are found to be the risk factors for adolescent pregnancies in SSA countries (Govender et al., 2020; UNFPA, 2021, 2022; Yakubu & Salisu, 2018). These inequitable gender norms or power relationships can lead to increased sexual risk-taking, such as having multiple partners, unsafe or coerced sex combined with substance use, or lack of communication or negotiation on contraceptive use (Heise et al., 2019).

Despite the growth in literature on the scope and complexities of adolescent pregnancy globally, there remains a knowledge gap in research that targets EAs and adolescent pregnancies. Specifically, there is a paucity of evidence on the gender norms and their potential impact on knowledge of pregnancy avoidance, or utilization of contraceptives, and how they relate to increased risky sexual behaviors among EAs.

Likewise, the lack of contextualized understanding of the complexities behind the factors or predictors of adolescent pregnancies is another major research gap in SSA (Ahinkorah et al., 2021). For instance, many articles from SSA that examined the risk factors for ASRH, including adolescent pregnancies, relied heavily on DHS data and focused on older adolescents, including adolescent mothers affected by HIV or those with repeat pregnancies, and their sexual behaviors (Mmari & Sabherwal, 2013; Wado et al., 2020). Less attention has been given to gender norms as

17

a structural cause of adolescent pregnancies, especially on how these norms are constructed as EAs initiate sexual activities or romantic relationships (Ajayi et al., 2021).

1.2.3 Violence, adverse childhood events, and depression among early adolescents: interlinked issues

Different forms of violence (e.g. interpersonal, families, peers, or communities) represent a significantly high health threat among South African EAs, including mental health issues and substance abuse, or early pregnancies, leading to negative educational and employment opportunities (Manyema & Richter, 2019; Naicker et al., 2022; Ward et al., 2018b).

Furthermore, experiences of ACEs are reportedly associated with increased exposure to interpersonal violence as perpetrators or victims (Aboagye et al., 2021; Jewkes & Morrell, 2018; Mahendra et al., 2021), low self-esteem (Gauthier-Duchesne et al., 2021), antisocial or violent behaviors (Sitnick & Shaw, 2019), or mental health problems during adolescence (Nyato et al., 2019). Naicker et al.'s (2022) study showed the independent association of exposure to childhood sexual abuse as part of ACEs, with an increased lifetime risk of HIV infection among young females. As a long-term impact, exposure to greater levels of ACEs significantly reduced human capital by the age of 28 years. The reduced human capital was manifested in unemployment, school drop-out, criminality, mental illness, or substance abuse.

A wealth of research on violence against adolescents comes from high-income countries and/or older adolescent girls or young women. Out of 62 studies on gender-based violence and SRH outcomes among adolescent girls and young women from LMICs, approximately half were conducted in Africa, and none of them targeted EAs specifically (Grose et al., 2021).

However, little evidence is available on how gender norms affect different types of violence among EAs, such as bullying or fights among peers, the most common forms of violence in this age group. Evidence is also scarce in terms of how peer violence or IPV affect EAs' mental health (or vice versa), and how ACEs impact on EAs' recent exposure to violence or their depression. More research is thus required to specifically assess potential associations between

ACEs and exposure to violence or depressive symptoms among EAs, and whether these experiences are influenced by their gender norms or vice versa.

Given these research gaps and problems, this study has specifically targeted EAs in low socio-economic, urban suburbs of Cape Town. It has focused on a thus far unexplored area of gender norms and their potential associations with the onset of sexual activities or romantic relationships, knowledge on adolescent pregnancy or HIV prevention, experiences of different types of violence and ACEs, depressive symptoms, and other risk factors that may affect EAs. In the next section, I describe the purpose and significance of the study, followed by the research questions, the aims and objectives of the study and finally the how the study is organized.

1.3   Study purpose and significance

The purpose of this study was to improve our understanding of the factors that influence the construction of gender norms and the potential impact of gender norms on EAs' SRH knowledge, behaviors, perceptions, and experiences of violence or mental health issues. The study population was a sub-set of school-attending EAs, aged between 12 and 14 years, living in selected low-income urban areas of Cape Town, South Africa. The study drew on the data from the Cape Town site that formed part of a broader multi-country Global Early Adolescent Study (GEAS), led by Johns Hopkins University, which has been implemented in over 11 cities globally (Al-Attar et al., 2017; Chandra-Mouli et al., 2017; Johns Hopkins University, 2021; Moreau et al., 2019a).

Firstly, the results of this study can contribute to informing evidence-based EA programs that aim to build more equitable gender norms. Secondly, key policy and programmatic recommendations can be used for strengthened advocacy with decision-makers and practitioners to better incorporate the interconnectedness of gender norms with other issues faced by EAs, such as early pregnancy, HIV, violence, and mental health. These in turn, might lead to improved ASRH and prevention of interpersonal violence and depression symptoms. Although the study findings will mainly contribute to better understanding gender norms among EAs in an urban area of South Africa, they will be of interest to other middle-income countries with similar socio-economic contexts.

19

In the next section, I explain my research questions, aims and objectives, and the organization of this thesis.

1.4   Research questions

This research project aimed to answer the following six research questions (RQs):

RQ 1: What factors across the socio-ecological model (e.g. individual, family, peers, schools, communities, and media/communications) affect EAs' gender norms and perceptions?

RQ 2: Are more equitable gender norms associated with higher empowerment scores among EAs, measured in different dimensions (i.e. decision, freedom of movement, "voice" – which is freedom to express their views – and influence)?

RQ 3: Do gender norms influence EAs' knowledge of, perceptions, attitudes, and behaviors towards romantic relationships, sexual activities, and early pregnancy avoidance or HIV prevention?

RQ 4: Are any associations between inequitable gender norms and recent experiences of peer violence or IPV – both victimization and perpetration – reported by EAs?

RQ 5: Has exposure to, and experience of ACEs influenced EAs gender norms and experience of violence during the past six months?

RQ 6: Do gender norms affect reported depression symptoms, when adjusted for other factors such as violence, including ACEs, peer violence, and IPV?

1.5   Aims and objectives

1.5.1 Aims

The main aim of this study was to examine how gender norms were constructed, influenced by socio-contextual factors among a sub-set of EAs aged 12–14 years in three low socio-economic,

20

urban settings in Cape Town, South Africa. The study further aimed to examine if and how these gender norms shaped EAs' behaviors and knowledge towards SRH. This included, for example, their knowledge of pregnancy avoidance and HIV prevention, and their experience of the onset of sexual activities or romantic relationships.

In addition to SRH-related issues, the study sought to examine if gender norms were associated with EAs' experience of violence among peers and in intimate romantic relationships, and if and how these associations were interplayed by their exposure to ACEs. Finally, the study assessed the potential associations between gender norms and reported depression symptoms among the EAs, when adjusted for other contextual factors.

1.5.2 Objectives

Based on the research questions and the aims, the six objectives of this research are the following:

1. To describe the family and socio-economic profiles of EAs aged 12–14 years who were surveyed in this study.
2. To validate existing gender norm indices developed by the GEAS and additionally, to assess whether the development and use of new gender norm measurements were appropriate within this study population. This objective was a preparation step to validating the main outcome variables (gender norm scores) that were used across the research questions.
3. To identify factors across different levels of the socio-ecological model[10] that negatively or positively influenced study participants' reported gender norms. This included assessing the potential associations between gender norms and empowerment scores measured in different dimensions (i.e., voice, freedom of movement, decision-making, and influence). This objective corresponded to RQs 1 and 2.
4. To explore potential associations between study participants' gender norms and knowledge, perceptions, and attitudes toward romantic or sexual relationships and SRH risk behaviors, including knowledge on pregnancy avoidance and HIV prevention, and current or future utilization of contraceptive methods (corresponding to RQ 3).

---

[10] The socio-ecological model will be discussed in the literature review chapter.

21

5. To assess potential associations between gender norms and exposure to or experiences of violence, with a focus on peer and interpersonal violence, including ACEs (corresponding to RQs 4 and 5).

6. Additionally, to explore any potential associations between the gender norms and reported depression symptoms among EAs, and if and how violence, including ACEs, mediated these associations (corresponding to RQ 6).

1.6 Organization of this thesis

This thesis consists of the following ten (10) chapters. **Chapter 1** has provided the background to the study, with a focus on adolescent pregnancies, HIV, and violence among EAs. It has also presented the research problem and study rationale, the research questions, aims, and objectives. In addition, the study motivation and its significance were explained, in terms of generating new knowledge that can inform evidence-based policy and programs.

Chapter 2 presents an overview of the literature on SRH in EAs, including in the South African context. It identifies in greater depth critical evidence gaps related to gender norms and SRH, including adolescent pregnancies, vulnerability to HIV, violence, and mental health in particular. Although the literature review was intended to focus specifically on EAs, given the paucity of research on this age group, its scope was expanded to later adolescents, or youth. The chapter concludes by documenting the theoretical and conceptual framework used in this study, based on the review of the relevant literature.

Chapter 3 documents the methodology used in this study. It describes the study setting and context, the population, and the sampling methods, as well as the study design and the instruments used to collect the data, to address the research questions and study objectives. It also explains the data collection method, management and entry process, data analysis, the study's reliability and validity, and its ethical considerations. In addition, this chapter defines key outcome measures and covariates of interest, including the gender norm scores that were developed by the GEAS and new gender norm scores identified through this study.

22

The section on results is structured into five chapters (**chapters 4 to 8)** by research questions. Each of these five chapters begins with a summary of the specific analysis methods and measures used, to remind the readers, followed by the key results.

- **Chapter 4** summarizes the key socio-demographic characteristics of the study population at the individual, family, peer, school, community, and media levels. Following this, it describes reported sexual activities and romantic relationships of the EAs.
- **Chapter 5** explains the results from the analysis that explored associating factors of gender norm constructs among the EAs (responding to RQs 1 and 2).
- **Chapter 6** presents the results from analysis related to correlations between gender norms and SRH knowledge and behaviors, with a focus on knowledge of HIV prevention and pregnancy prevention, and sexual and romantic relationships (responding to RQ 3).
- **Chapter 7** describes the key findings from the study on violence, ACEs, and gender norms, and how these correlate (corresponding to RQs 4 and 5).
- **Chapter 8** presents the results on the associations between gender norms and depression symptoms, mediated by violence and ACEs among the EAs (responding to RQ 6).

Chapter 9 discusses and interprets the key findings presented in chapters 4–8, drawing on the literature. Specifically, results from the current study are compared with those from the GEAS's multi-country analysis, facilitated by using common variables from the GEAS's standard questionnaire in this study. Moreover, this chapter describes the study's strengths and limitations.

Chapter 10 presents the conclusions of the study, and policy, research, and programmatic implications within the South African context. Building on these parts, it then presents key recommendations to contribute to effective gender-transformative interventions and prevention of violence, adolescent pregnancies, and mental illness among EAs. The chapter mainly focuses on the most relevant recommendations for South Africa. However, it also discusses the potential relevance of these results to other regional and global settings, especially in poor urban contexts in middle-income countries.

CHAPTER TWO: LITERATURE REVIEW

Social norms are behaviors that are collectively believed to be normal, appropriate, or typical in a group or a community (Paluck & Ball, 2010). While sex is used to denote the biological (i.e. anatomical, genetic, biochemical, physiological, and physical) differences between males and females, gender is a social construction (Cooper & Tabana, 2021; Institute of Medicine (US) Committee on Understanding the Biology of Sex and Gender Differences, 2001). Gender norms, as part of social norms, are defined as societal expectations, principally for male and female roles, rights, responsibilities, and opportunities (Jokinen et al., 2021; Manandhar et al., 2018; Vu et al., 2017). They shape the varying social values, attitudes, norms, roles and responsibilities that society expects of males and female or boys and girls, and relationships between or within these groups (Cooper & Tabana, 2021; Mediterranean Institute of Gender Studies, 2005). Hence, they often delineate unequal relationships or inequitable power distribution between men and women (Manandhar et al., 2018; Moreau, Li, De Meyer, et al., 2019). These norms are learned through gender socialization and can become firmly embedded at an individual or societal level (John et al., 2017; Ryle, 2011). Therefore, the concept of gender is amendable and evolving within and across time (Cooper & Tabana, 2021; Güzel, 2019; Sprague, 2018).

In this chapter, I first review the existing literature on definitions related to gender norms, roles, and equality. Next, I briefly describe a synthesis of theories and evidence on gender socialization, and why the period of early adolescence (EA) is critical for constructing gender norms through the socialization process. I then identify the different factors or actors in their immediate environment that influence gender views or attitudes of early adolescents (EAs), through a review of relevant literature. I follow this with a review of literature on selected Adolescent Sexual and Reproductive Health (ASRH) challenges in urban sub-Saharan Africa (SSA), and South Africa, in particular. In addition, I analyze the existing evidence base on how gender norms among EAs interrelate with their sense of agency or empowerment; knowledge on teenage pregnancy or HIV prevention; sexual activities; exposure to violence, including adverse childhood events (ACEs); and mental health. Following the above, I present priority research gaps that justify this thesis project. In the final part of this section, I explain the conceptual models used in this research,

24

building on a socio-ecological model and insights from relevant disciplines, such as intersectional, psychological, and sociological perspectives.

2.1 Gender norms, adolescent sextual and reproductive health, and early adolescents

This section starts by defining key concepts related to gender norms or roles, and gender equality, followed by how gender norms affect ASRH in general. First, I delineate gender socialization, based on different theories that I present in a chronological order. Thereafter, I narrow the focus to EA, a critical period for the construction of gender norms through gender socialization processes. Finally, I provide a synthesis of evidence on key factors or actors that influence the gender socialization process of EAs.

2.1.1 Gender norms as social determinants of adolescent sextual and reproductive health

A wealth of research has demonstrated that gender norms and role expectations have a significant effect on health behaviors, access to health care, and quality of health services, especially in ASRH (Chandra-Mouli et al., 2015; Manandhar et al., 2018; Santhya & Jejeebhoy, 2015). The influence of gender norms on health and well-being is mainly shaped by three pathways: 1) interactions with other social and economic determinants of health; 2) health-seeking behaviors that are influenced by protective or harmful norms and beliefs; 3) gender responsiveness in the health system, i.e., how the system responds to gender differences in needs or capacities, such as access to health care and its financing system (Heise et al., 2019; Manandhar et al., 2018). For instance, unequal gender norms or beliefs can limit women's decision-making powers in individual, familial, and political spheres, including decisions about their own health and education, and their children's health and well-being (Basu et al., 2017; Mmari et al., 2017; UNFPA, 2021). They can also restrict the socio-economic and political roles or capacities that women can occupy, when combined with other factors such as a low level of education (Yadav et al., 2021).

25

Unbalanced gender power relationships can equally constrain girls' and women's negotiations or communications on safe sex or contraceptive use with their intimate partners, and their decisions on health care-seeking behaviors (UNFPA, 2021, 2022). Several recent studies (Ahmmed, 2021; Anik et al., 2021; Kangbai et al., 2022; Yadav et al., 2021), mostly from South Asia, demonstrated that higher levels of education (women's and their partners'), empowerment, and socio-economic status increased the utilization of maternal health services (e.g. antenatal care visits and skilled birth attendants). These associations were facilitated by access to the services, such as distance from a health center (Kangbai et al., 2022) or urban residence, compared to rural areas (Anik et al., 2021). In turn, increased contraceptive use can lead to women's economic empowerment and girls' completion of education and their future participation in the formal labor sector, through the effects of preventing early or unintentional pregnancies (Finlay & Lee, 2018).

Although evidence on empowerment and sexual and reproductive health (SRH) outcomes among adolescents or EAs is quite limited, in Kenya, female adolescents (15–17 years old) who reported greater power in their relationships were significantly less likely to experience sexual or physical intimate partner violence and more likely to have used a condom during their last sexual intercourse (Pulerwitz et al., 2018). This was the case even when the analysis was controlled for socio-economic status and education. For these reasons, in many cultures inequitable gender norms have been found to be a root cause of risky sexual behaviors, early forced marriage, adolescents' unintended or unwanted pregnancies, HIV infection, and violence (Global Health 50/50 Initiative, 2018; Heise & Kotsadam, 2015).

Even though girls and women carry the main burden of power imbalance, inequitable gender norms may also negatively affect men's or boys' health, through increased risky sexual behaviors (Patton, Darmstadt, et al., 2018; Svanemyr, 2020). Especially during adolescence, boys are more likely to be given freedom of movement (Hallman et al., 2015; Mmari et al., 2018), or experience less parental or caregiver's monitoring[11] than girls, while they tend to operate under social pressure to show male toughness, independence, and self-protection (Gwyther et al., 2019; Heise et al., 2019; Mmari et al., 2018; Pacheco-Montoya et al., 2022). These social or peer pressures can lead to high risk-taking in sexual behaviors, or substance use, resulting in exposure to HIV and other sexually

---

[11] In this thesis, whenever parents are mentioned (e.g. parental monitoring, closeness with parents, parent-child commnication), it applies to the main caregiver if the adolescentes do not live with their parents.

transmitted infections (STIs), or injury related deaths including violence (Patton, Darmstadt, et al., 2018; Shannon et al., 2019).

Although boys may not be sanctioned for risky sexual behavior or violence, which further promotes a particular culture of masculinity (Reed et al., 2018), they may be bullied or discriminated against if they do not concur with the prevailing dominant culture of masculinity (Heise et al., 2019). In the next sub-section, I narrow down my focus to better understand the gender socialization process during the period of EA.

2.1.2 Theoretical understanding of the gender socialization process

Gender socialization literature has used various theoretical frameworks to analyze these processes, such as feminist studies, those of queer and intersectionality movements, as well as theoretical and empirical understandings of psychological and social phenomena (John et al., 2017). During the 1960s and 1970s, social learning theory (Bandura, 1977; Bussey & Bandura, 1999) was commonly applied to better understand gender socialization (John et al., 2017). This theory was driven by individual and mutual learning experiences that emerged through observation, interaction, and communication. However, in this framework, children and adolescents tended to be perceived as passive inheritors of socio-cultural and gender norms, rather than actively involved in constructing them (John et al., 2017; Maccoby & Jacklin, 1974). Subsequently, social learning theory evolved into cognitive theories, which intended to better understand how information was processed and internalized as knowledge, during an individual's gender socialization process (Martin et al., 2002). Yet, these theories were criticized, due to insufficient consideration of social and cultural influences on gender socialization (John et al., 2017).

In the early 1980s, scholars such as Bem (1981, 1993) introduced gender schema theory, which sought to address the weaknesses of the cognitive theory approaches (John et al., 2017; Starr & Zurbriggen, 2017). Influenced by a feminist approach to psychology, this theory classified characteristics and behaviors as masculine or feminine, depending on how they were perceived in social and cultural environments. The theory also paid greater attention to the mechanisms or processes by which people develop gender perceptions (Khajehpour et al., 2011; Shields, 2008).

27

Subsequently, building on earlier social learning theory (Bandura 1977), the process-person-context-time (PPCT) model was introduced to explain how an individual's learning and internalizing process of gender norms took place over time, through interactions with the environment (Bronfenbrenner, 2004; John et al., 2017).

The discipline of sociology also influenced the understanding of gender socialization. From a sociological view, the gender socialization process is considered dynamic and can change over the life course, due to social factors (Connell, 1987). Some theorists, guided by the concept of intersectionality, have viewed gender norms not simply as additive or multiplicative effects of social identifiers or inequalities, but as being shaped by the convergence across these factors (e.g. social locations, power structures, and processes), which are important both interdependently and interactively (Bowleg, 2008; Hankivsky, 2014; Shields, 2008). Thus, from an intersectionality point of view, the influence of gender norms on health status and access to health services can be best understood within the context of other cross-cutting social and economic determinants of health (Cooper & Tabana, 2021). For instance, a good way to analyze power relations is by examining how the multiple components of discrimination, subordination, marginalization, or inequity experienced by different groups in societies may overlap, and often aggravate its effects (Sri, 2022). Nevertheless, Witter et al. (2017) argue that a specific focus on the influence of gender inequity on health remains important in a number of contexts and has particular relevance in low- and middle-income countries (LMIC), given the high number of SRH issues that affect women and girls.

2.2 Key actors or factors that influence the gender socialization of early adolescents

For children and adolescents, while gender socialization begins in families, it is reinforced by their broader social environment, through interactions with teachers, religious leaders, peers, and exposure to media (Blum, 2017; John et al., 2017). During EA, the parent-child relationship dynamics show a pronounced shift, as EAs go through brain maturation processes and increase their sense of independence (Mmari et al., 2018). Nevertheless, parents and family continue to be significant key players in EAs' gender socialization process (John et al., 2017; WHO, 2018b).

28

Preliminary results from the broader Global Early Adolescent Study (GEAS) (Shanghai and Delhi study sites) indicated that mothers play a vital role for EAs' gender norm constructs, although the level of such influence varied for girls and boys (Basu et al., 2017; Mmari et al., 2018; Vaitla et al., 2017). In keeping with the variations found in the Shanghai and Delhi sites, recent analysis across other GEAS urban sites (the DRC, China, Indonesia, Ecuador, and Belgium), demonstrated an influential role for parents, especially mothers, in teaching their daughters traditional female roles, and mediating their daughters' decision-making on marriage or motherhood (Mmari et al., 2021). In contrast, studies show that boys may grow up in an environment in which male-oriented gender roles and norms are mainly under the influence of fathers or peers (Basu et al., 2017; Patton, Darmstadt, et al., 2018).

While parental influence is reduced during EA, the role of peers within schools or communities increasingly guides gender socialization of EAs and their health behaviors (Weber et al., 2019). For instance, in SSA countries, peers greatly influence young people's discourses on gender and sexuality (Graham & Mphaphuli, 2018), and riskier sexual behaviors (King et al., 2021), such as early sexual initiation and unprotected sex. They have also been found to influence perceptions towards intimate partner violence (IPV) or coerced sex among adolescents (Faragó et al., 2021; Weber et al., 2019). especially as EAs may possess less knowledge on SRH, they have been shown to be more susceptible to peer pressure in terms of risk behaviors for HIV or pregnancy, compared to their older counterparts (Igras et al., 2014; Weber et al., 2019).

Likewise, the school environment constitutes an important factor that affects EAs' development of critical perspectives on gender and sexuality. Interactions with teachers and peers and knowledge shared in schools contribute to adolescents' equitable gender norm construction; yet they can also constitute spaces where gender discrimination or inequitable gender norms are endorsed (Landry et al., 2020; Lundgren et al., 2019; Vyas et al., 2020). In South Africa, schools and other social structures appear to replicate a patriarchal society, characterized by unbalanced gender power and inequality (Jacobs & George, 2021).

Furthermore, although evidence is limited to adolescents in high-income countries and, the media, including social media and the internet, are powerful structural factors that can influence adolescents' gender socialization (Vannucci et al., 2020; C. Yu et al., 2021). For instance,

29

exposure to violent and sexualized media content, including advertisements of cigarettes and alcohol, or pornography, can reportedly increase violence (Grose et al., 2021), cigarette and alcohol use, as well as earlier initiation of sexual activities among adolescents (Hailegebreal et al., 2022; W. Lin et al., 2020). A study from the USA revealed that high school boys and girls who endorsed stereotypical gender and dating beliefs were more likely to use digital dating to abuse harass, coerce, or control their relationships (Reed et al., 2018).

In urban South Africa, wider access to cell phones might provide emerging means or opportunities for young women to take better control in their intimate sexual relationships (Gibbs et al., 2021). However, in a culture dominated by prevailing masculinity, women's agency is still limited, compared to that of their male partners, who might have used a mobile phone to reinforce their power over and monitoring of their female partners. In the next sub-section, I discuss key evidence related to gender norms and empowerment among EAs, or adolescents in general.

2.3   Gender norms and empowerment among early adolescents

Over the past years, various studies have shown that girls' and women's empowerment is a positive mediating factor in promoting equal gender norms or culture, leading to improved SRH outcomes (Edwards et al., 2021; Nabugoomu et al., 2020; Nkhoma et al., 2020; Pryor & Seck, 2019; Zimmerman et al., 2019). Studies from LMICs in particular showed that empowerment, measured by control over resources, decision-making power, or education, may reduce women's and girls' exposure to sexual violence (Decker et al., 2018) and unintended pregnancy, lower fertility, and extend intervals between pregnancies and births (Prata et al., 2017; Taukobong et al., 2016; Upadhyay et al., 2014).

A qualitative study by Stern et al. (2015) in South Africa indicated that women (including those 18–24 years old) who did not challenge the notion of hegemonic masculinity that rationalizes men's violence had limited empowerment agency and increased vulnerabilities to sexual coercion or abuse. Therefore, women and girls who are living in household poverty or orphans, having been out-of-school or living with disabilities are among the most disadvantaged, in terms of

30

educational attainment, access to, and possession of resources, and decision-making power, three fundamental levers of empowerment (Taukobong et al., 2016).

Yet, the concept of empowerment goes beyond individual women's and girls' participation in decision-making, since it also involves recognizing and using their ability to make their own choices (Rahman, 2013). To better understand this process, scholars applied the empowerment-capability approach promoted by Sen (1979) as central to the empowerment concept. This approach takes account of individuals' capability to make choices and reach the full potential of human rights within a broader social context (Bhadauria et al., 2019; Nussbaum, 1999). For example, a meta-analysis of studies from LMICs found a positive association between empowerment and reduced adolescent pregnancy, which was facilitated by better inter-personal relationships, increased mobility, and greater personal safety (Taukobong et al., 2016). Using the same approach, Stacki and Baily (2016) conceptualized how schools in LMICs could empower girls by transforming inequitable gender roles, acting as agents for positive social changes.

In SSA, the empowerment of girls is principally linked to increased access to, and retention in, education systems. Increased education among girls not only empowers them but assists the development of their knowledge and capabilities to optimize SRH outcomes (Nabugoomu et al., 2020; Stacki & Baily, 2016). For instance, a study in urban informal settings in Nairobi, Kenya, illustrated a significant reduction in pregnancy-related drop-out rates among girls who received empowerment training, when it was combined with strategies to increase self-esteem and efficacy (Sarnquist et al., 2017). A better understanding of the pathways in which empowerment interacts with gender equality and SRH outcomes is necessary for tracking the achievement of Sustainable Development Goal (SDG) number 5, related to empowerment and gender equality of women and girls (Pryor & Seck, 2019; Van Eerdewijk et al., 2017).

In the next section, I review relevant literature regarding gender norms and their associations with HIV and other health factors among adolescents.

31

2.4 Gender norms, HIV, and other health factors in adolescents

As explained in Chapter 1, older adolescents in South Africa, especially girls, carry a high burden of HIV infections. In the first sub-section (2.2.1), I examine the vulnerabilities faced by adolescents to HIV and AIDS. In the second sub-section (2.2.2), I explain violence as a key driver of the current HIV pandemic in South Africa, including how ACEs may affect adolescent exposure to violence and risk of HIV. Across these sub-sections, I highlight the trajectory between HIV, sexual risk factors, and inequitable gender norms or power imbalances in intimate relationships.

Violence in the South African context increases risk of HIV infection. This may have multiple implications such as mental illness, poor reproductive health outcomes, chronic diseases, disabilities, and deaths (Jewkes, Dunkle, Nduna, & Shai, 2010; Meskele et al., 2019; Tenkorang et al., 2020). Among a large sample of heterosexual men, aged 18–40 years, in peri-urban South Africa, IPV perpetration was associated with engagement in risky sexual activities, which can subsequently lead to an increased risk of HIV infection (Hatcher, Gibbs, Jewkes, et al., 2019). These associations were mediated by unequal gender views and alcohol overuse. Due to paucity of research on HIV, specifically in EAs, this chapter principally draws on evidence from older adolescents and young people.

2.4.1 HIV knowledge and risky sexual behaviors among adolescents

Adolescents in SSA report critical gaps in SRH knowledge, which make them vulnerable to early pregnancy and STIs, including HIV. A recent analysis of Demographic and Health Survey (DHS) data from eight SSA countries indicates that nearly 90% of adolescents (10–19 years) knew what HIV is, with no differences observed across age categories, sex, wealth index, or school attendance (Finlay et al., 2020). Despite the high level of general knowledge on HIV, adolescents, especially EAs, showed a lower level of SRH knowledge in other areas, such as menstruation (63% knew what menstruation was) or STIs other than HIV (44% knew what STIs were). In South Africa, in the latest 2019 national HIV survey, only 36% of adolescents and youth (15–24 years) possessed accurate knowledge on HIV transmission (Simbayi et al., 2019).

Adolescents who reported a higher HIV knowledge score were less likely to engage in risky sexual behaviors (Shamu et al., 2020). However, a higher level of knowledge or awareness may not automatically lead to an increased preventive behavior. In a recent study with a nationally representative sample of South African adolescents (15–18 years), while more than 80% were aware of condoms as a method for HIV prevention, 35% of those who were sexually active were reportedly using them only inconsistently (Agaku et al., 2022).

Risky sexual behavior and other vulnerabilities described below among adolescents in SSA, including South Africa, are of particular concern, due to their high exposure to HIV infection risk. Between 1994 and 2018, there was a decline in the percentage of early initiation of sexual intercourse (prior to the age of 15) among women (Liang et al., 2019). Nevertheless, the prevalence of early sexual debut among young adolescents aged 10–14 years was reportedly the highest in SSA, compared to other World Health Organization (WHO) regions.[12] Among a large sample of adolescents (10–19 years) across seven countries in SSA,[13] 21–28% experienced an early onset of sexual intercourse, prior to 15 years old, and 38–45% reported unprotected last sex (Berhane et al., 2020). Inequitable gender norms, lack of comprehensive knowledge of HIV, as well as low household socio-economic status were identified as common factors that may drive HIV vulnerabilities among out-of-school youth (15–24 years old) in Zambia, Malawi, and Kenya (Mathur et al., 2020).

In the next sub-section, I focus on the inequitable gender norms as a key driver of the HIV pandemic in South Africa, which especially affects adolescents.

2.4.2 Trajectory between violence, inequitable gender norms, and HIV

Violence, influenced by inequitable gender norms, has been documented as one of the key drivers of the current HIV pandemic in South Africa (Bhatia et al., 2017; Harrison et al., 2016; Jewkes & Morrell, 2012; Joyner et al., 2015). Jewkes et al. (2010) demonstrated the pathways through which inequitable gender norms may place adolescents and young women (15–26 years) in

---

[12] South Africa was not included in the study, but Tanzania, Uganda, Zambia, Kenya, Malawi, Mozambique, Ghana, and Benin Botswana were.

[13] Over 230 adolescents and youth from five provinces (Western Cape, KwaZulu-Natal, Mpumalanga, North West, and Eastern Cape) participated in in-depth interviews and focus group discussions.

https://etd.uwc.ac.za/

Eastern Cape at increased risk for HIV infection. Although 12 years have passed since Jewkes et al.'s (2010) publication, it remains one of the milestone studies in HIV research in South Africa. According to her research, gender inequity, or gender imbalanced relationships, affects HIV, mainly through three pathways.

Firstly, power imbalanced relationships are associated with increased rape, sexual violence and IPV, while patriarchal norms of masculinity reinforce controlling or violent acts and increased sexual risk-taking by male partners. Secondly, these power relationships undermine women's agency to refuse unsafe sex, or negotiate with their partners for protected sex, making them highly vulnerable to HIV infection. Finally, IPV and other types of violence can lead to depression symptoms, and increased substance use, both for women and men, leading to risky sexual behaviors and elevated risk of HIV infection.

Although research on EAs' HIV risk behaviors is limited, over 70% of men (18–40 years) from urban informal settings in South Africa reported one of three risk behaviors for HIV: alcohol misuse, unequal gender norms, or IPV perpetration (Hatcher, Gibbs, McBride, et al., 2019). This study showed that stereotypical gender views among these men predicted IPV perpetration and alcohol misuse, while all three factors contributed to their risky sexual behaviors. A recent study with a national representative sample of in-school adolescents aged 15–18 years in South Africa also revealed that unequal gender norms that can increase HIV risk had already been developed by this age group (Agaku et al., 2022).

Based on the framework developed by Jewkes et al. (2010), I adapted the model above (Figure 2. 1) for my study to include other types of violence, such as peer violence, the most common form of violence in EAs and among outcome variables in my research. This framework guided my analysis, by demonstrating interlinkages between ASRH areas, such as sexual behavior, violence, depression, and knowledge on pregnancy or HIV prevention. It also suggested potential pathways through which these ASRH issues may be influenced by unequitable gender norms or imbalanced power relationships, or empowerment.

Figure 2. 1: Pathways that place adolescents at high risk for HIV infection, adolescent pregnancies, and depression
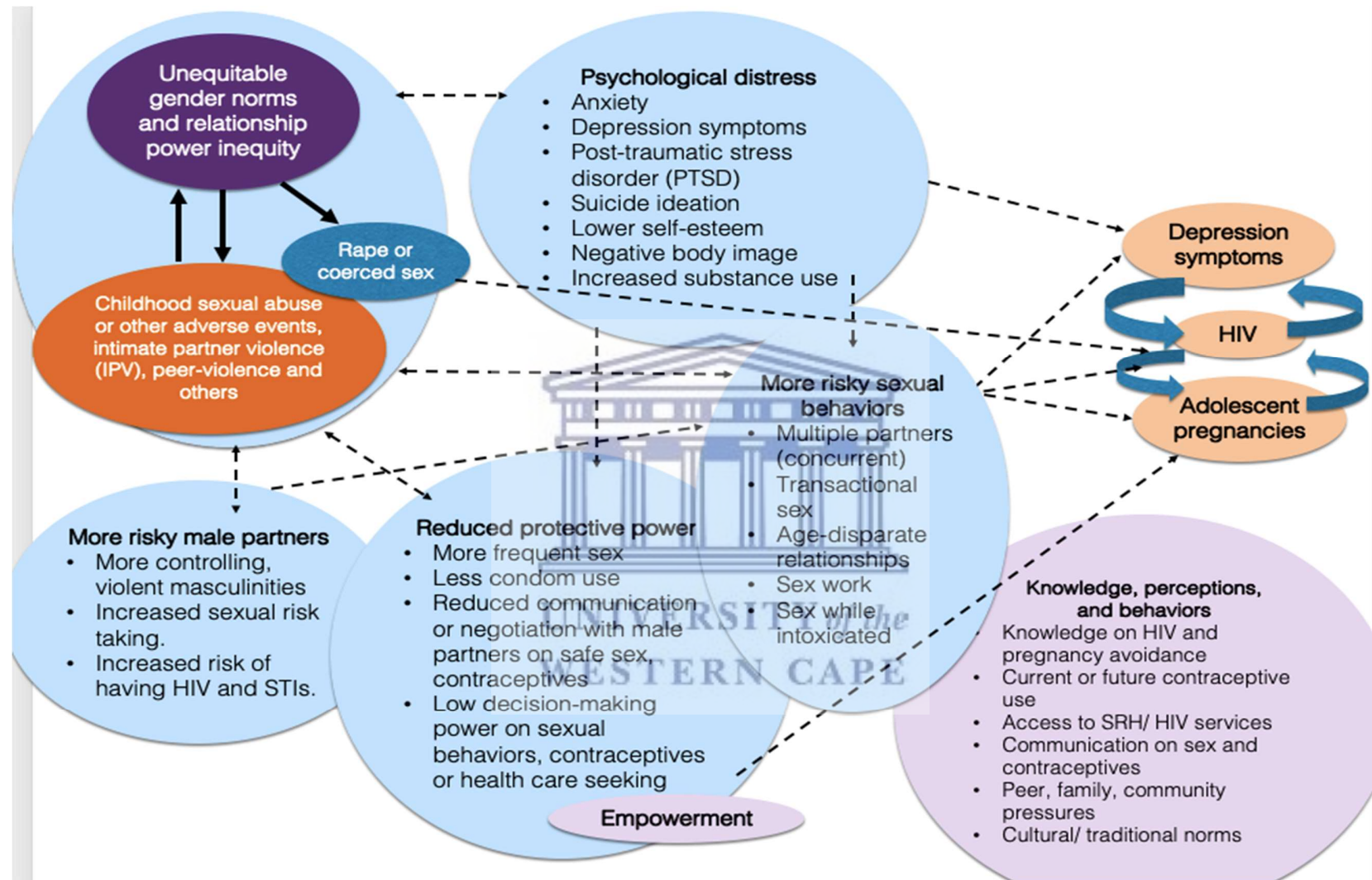
As illustrated in Figure 2. 1 above, and in the context of the HIV pandemic in South Africa, prevention of teenage pregnancy is another critical issue to respond to. In the next section, I narrow the focus, to look at adolescent pregnancy in conjunction with gender norms in EAs.

2.5   Adolescent pregnancy

As explained in Chapter 1, a reduction in adolescent pregnancy over the last two decades has been less evident in SSA countries, including in South Africa, especially among adolescents younger than 15 years old. In the next sub-section, I first discuss the key determinants of adolescent pregnancy. Subsequently, the discussion shifts to the factors associated with increased knowledge of pregnancy avoidance or contraception/family planning (FP) among adolescents or EAs. Finally, I discuss whether gender norms are associated with adolescent pregnancy, and specifically with their knowledge of pregnancy avoidance. Due to a paucity of evidence on pregnancies in EA, I draw mostly on studies on adolescents aged 15–19 years old or young women (20–24 years old).

2.5.1 Key determinants of adolescent pregnancy

The different factors that influence the persistently high rates of adolescent pregnancies can be classified into three levels: 1) individual; 2) environmental and socio-economic; and 3) health service levels (Odejimi & Bellingham-Young, 2014; Yakubu & Salisu, 2018). Recent reviews on adolescent pregnancy in SSA (mostly using the DHS data) revealed that, in addition to low educational attainment, younger age of sexual onset, age (older adolescents) (Akombi-Inyang et al., 2022), household poverty, peer pressure on early sexual initiation, and lack of parental monitoring, were associated with an increased risk of adolescent pregnancy (Ahinkorah et al., 2019; Wado et al., 2019, 2020). In contrast, a recent study of 10 SSA countries (South Africa excluded) revealed that the prevalence of unintended pregnancies among adolescents and young women (15–24 years old) was higher for those who belonged to the richest quintile of household wealth index than the poorest (Ahinkorah, 2020b). As the author of that study hypothesized, young women who are from a higher wealth quintile may be more likely to desire postponing childbearing to a later age, hence the prevalence of unintended pregnancies may increase.

36

Previous studies report diverse results regarding rural-urban differences in adolescent pregnancy rates. In SSA, most studies found a higher early pregnancy rate among adolescents and young women in urban areas than among those in rural zones (Huda et al., 2021; Sagalova et al., 2021). This was probably linked to urban women having better access to SRH information and services, including modern contraceptives (Sserwanja et al., 2022), than their rural counterparts (Habte et al., 2022). In contrast to these results, based on DHS data across five African regions, Yusuf et al., 2019 identified a greater use of modern contraceptives among females in rural areas (aged 15–49). Furthermore, young women (aged 15–29) in an urban area of Ethiopia who received family planning messages through mass media were less likely to use modern contraceptives than those without such exposure (Ahmed & Seid, 2020).

Other individual factors, such as excessive use of alcohol, substance abuse, and access to a mobile phone or the internet in communicating with peers or partners, appeared to also increase risky sexual behavior and subsequently, higher odds of adolescent pregnancy (Wado et al., 2020). A review of over 60 studies from LMICs, including South Africa, identified early marriage, risky sexual behaviors, substance use, family experience of adolescent pregnancy or birth, peer pressure, and lack of sexual education or communication with parents as risk factors for adolescent pregnancies (Chung et al., 2018). In contrast, community-based meetings, or sensitization to early pregnancy prevention and sexuality were highlighted as protective factors in this review.

In South Africa, similar factors such as age (older adolescents), race (black Africans), marital status (i.e. married or cohabiting), limited education levels (e.g. only having a school primary education), a low wealth index, or a large household size were shown to influence a history of adolescent pregnancies among adolescents and young women aged 15–24 years old (Amoateng et al., 2022; Mkwananzi, 2017; Odimegwu & Mkwananzi, 2016). Similarly, high risk sexual behaviors (e.g. early sexual debut, multiple sexual partners, and low contraceptive use), lack of parental monitoring, access to sexually explicit media, imbalanced gender power relationships for girls (Govender, 2020), peer pressure, and drug or alcohol use appeared to increase the odds for adolescent pregnancy or childbearing (Biney et al., 2021; Odimegwu et al., 2018). Table 2. 1 summarizes key risk and protective factors for adolescent pregnancies in SSA, including South Africa, identified in the literature review.

Table 2. 1: Key risk or protective factors that influence adolescent pregnancies in SSA

Individual factors
• **Risk factors:** limited education levels (e.g. primary education); rural or urban residency (controversial); younger age of sexual onset; excessive use of alcohol or substance abuse; early marriage; risky sexual behaviors; substance use; age –high risk groups varying from EA to older adolescents (Nigeria), to 25–29 years old (South Africa) – race or ethnicity (eg Black Africans); low or inconsistent contraceptive use, experience of coercive sex and/or violence, exposure to community violence • **Protective factors:** higher education levels, consistent contraceptive use, high levels of knowledge on contraceptives, high education or economic aspirations, access to, and utilization of adolescent friendly SRH services and other determinants (mentioned above)
Family/household factors
• **Protective factors**: parental or caregiver's monitoring or strict disciplines (rules and regulations) in family; communication with parents on sexuality and contraceptives • **Risk factors**: unstable family relationships; mother or older sisters having had an early pregnancy; low maternal education level; parental absence; lack of support from family (especially from female members); poor parental monitoring.
Other environmental and socio-economic factors
• **Protective factors:** access to communication sources (e.g. radio, mobile phone, or the internet) on pregnancy avoidance or family planning; school-based sexuality education; community meetings on prevention of pregnancies or talk about sexuality/risk of pregnancy. • **Risk factors:** religious or socio-cultural norms that favor early marriage or pregnancies; household low wealth index; peer pressure (e.g. influence on early initiation of sex or other risky sexual behaviors); lack of sexuality education in schools, which meets adolescents' needs; lack of communication with teachers; access to sexually explicit media

Main references : Ahinkorah et al., 2019; Akombi-Inyang et al., 2022; Govender et al., 2019b; Wado et al., 2019. Other references are mentioned elsewhere in Section 2.5.1.

South African research has had an important focus on family factors that are associated with adolescent pregnancies. Unstable family relationships, combined with limited communication or information on sexuality in families, can increase negative influence of peers on adolescents' risk perceptions or behaviors related to early pregnancy (Bosire et al., 2021; Govender et al., 2019a). Lack of emotional support from family, particularly from female members (Govender et al., 2019b), and low life aspirations of adolescents were also found to be more likely to make an adolescent vulnerable for teenage pregnancy (Wall-wieler et al., 2016). Moreover, a family history of teenage pregnancy, such as mother or older sister having been pregnant as a teenager, appears to increase the chance of younger adolescents having repeated early pregnancies (Govender et al., 2019b). This intergenerational cycle of teenage pregnancy can, thus, be

38

explained through social learning theory, which consists of social modelling, shared parenting influence, and collective risks faced by the family (East & Felice, 1992; Wall-wieler et al., 2016).

Finally, a few studies in South Africa have found an association between gender-based violence, particularly coercive sex, and high levels of teenage pregnancy (Christofides et al., 2015; Mkwananzi, 2017). However, these associations appeared to be mediated by early sexual debut, being raised in the absence of parents, or having been exposed to community violence (Brahmbhatt et al., 2014).

In the next sub-section, I review evidence related to knowledge and utilization of contraceptive methods among adolescents.

2.5.2 Knowledge and utilization of contraceptive methods

A recent trend analysis of the DHS data in SSA showed that low knowledge levels, coupled with younger age (between 15 and 19 years old), religion (Muslims), being married, and having had no child, were associated with low utilization of modern contraceptives among adolescents and young women aged 15–24 years (Ahinkorah, 2020a; Melesse et al., 2020). In addition, persistent myths about or experiences of the side effects of contraceptives; some cultural norms against contraceptive use (J. Smith, 2020); lack of access to SRH information sources, including newspapers or radio (Ahinkorah, 2020a); and limited availability of adolescent-friendly contraceptive services (Dioubaté et al., 2021; Self et al., 2018; J. Smith, 2020) can undermine adolescent girls' accurate knowledge and consistent use of modern contraceptives. In South Africa, adolescents and young women (15–24 years old) who had higher educational levels such as secondary or tertiary education and who had not yet married were more likely to use modern contraceptive methods (Makola et al., 2019). On the other hand, those residing in urban informal settlements or rural areas, who were single and had only primary school education, were less likely to use contraception.

Nonetheless, evidence from SSA shows that interventions that aimed to improve knowledge or attitudes might not, on their own, increase contraceptive utilization, and consequently they had limited effectiveness in reducing adolescent pregnancies (Jewkes et al., 2009; Jodele, 2016).

39

Likewise, high levels of knowledge on pregnancy avoidance showed no relationship with the incidence of repeated adolescent pregnancies in KwaZulu-Natal (Govender et al., 2019b). Translation of knowledge into behaviors may be greatly influenced by individual or contextual factors, such as peer pressure, risk perceptions, and self-esteem (Bingenheimer et al., 2015; Ezenwaka et al., 2020; Phillips & Mbizvo, 2016), or gender power imbalances in relationships (Aventin, Gordon, et al., 2021; Ezenwaka et al., 2020).

Linked to this, recent studies from SSA countries, including South Africa, found that adolescents and young women (15–24 years old) who had ever used contraceptives (traditional or modern) had higher odds of unintended pregnancy than those who had never used it (Ahinkorah, 2020a; Biney et al., 2021). This may be due to contraceptive failure, given a high prevalence of traditional contraceptives or myths (Dioubaté et al., 2021; Govender et al., 2020; J. Smith, 2020) or inconsistent use of modern contraceptives (Akamike et al., 2019; Guttmacher Institute, 2017).

In the next sub-section, I discuss adolescent pregnancy from a gender perspective, reviewing relevant literature from South Africa.

2.5.3 Adolescent pregnancy from a gender perspective

Based on a recent analysis of the data taken from 150 countries between 1990 and 2019, the countries that achieved higher socio-economic development and greater gender equity, coupled with legal access to safe abortion, reported lower rates of unintended pregnancies among women of all ages (UNFPA, 2022). In SSA countries, equitable gender norms were found to promote favorable SRH behaviors such as contraceptive use (Svanemyr, 2020). In contrast, inequitable gender norms, with a low level of knowledge on contraceptives, can lead to increased risky sexual behaviors among boys, and less control over their sexuality among girls (Nalukwago et al., 2019).

South African researchers have increasingly adopted a gender approach to research on adolescent pregnancies over the past decades (Govender et al., 2020; Jewkes, Sikweyiya, et al., 2009; Varga, 2003). In an early article, Varga (2003) identified traditional gender ideology in KwaZulu-Natal, characterized by *ukuhlonipha* (meaning respect and dignity) among girls and *isoka* (sex-related

https://etd.uwc.ac.za/

Zulu masculinity) among boys, as key barriers to safe sex, pregnancy avoidance, and prevention of HIV/STIs among adolescents. Subsequently, Jewkes, Morrell, et al. (2009) pioneered studies that analyzed teenage pregnancies as a multi-dimensional gender phenomenon, shaped by social, political, and historical contexts.

A recent quantitative study in KwaZulu-Natal, South Africa, illustrated that a dominant culture of masculinity that perceives masculinity as portraying strengths is reflected in violent sexual relationships or limited negotiation of contraceptive use (Govender et al., 2019b). In this last study, over 66% of teenage mothers believed that protection against pregnancy during sexual intercourse was the responsibility of females, not males. Govender et al.'s (2020) most recent qualitative study also identified a gender imbalanced power relationship as a risk factor to adolescent pregnancies, through increased sexual risk-taking, which was also mediated by other peers or family factors described in Table 2. 1. Although these data are restricted to adolescent pregnant mothers in KwaZulu-Natal, the results shed a light on how inequitable gender norms may impact adolescent pregnancies.

In the subsequent section, I present a synthesis of evidence on violence against children and adolescents, and its relationship with gender norms.

2.6   Violence against children and adolescents

Violence against children and adolescents manifests itself in various forms. These include physical violence, emotional abuse, threat of violence, physical neglect, sexual abuse/harassment, and bullying (Burton et al., 2016). These types of violence can occur in any setting (e.g. home, school, community, or the internet) and may be perpetrated by individuals or groups (UNICEF, 2015). Specifically, my study focuses on two types of violence among EAs: peer violence, including teasing, bullying and physical fights; and IPV in romantic relationships. First, I briefly summarize the overall trends related to these specific types of violence against adolescents. follow by a brief description of the historical and structural contexts of South Africa, which have likely led to an extremely violent society. Finally, I conclude with a summary of key factors that have been found to be associated with violence against adolescents, with a focus on gender norms

41

and masculinity. Due to a paucity of research addressing violence specifically among EAs, this section mostly draws on evidence from studies on adolescents more generally, or young people.

2.6.1 Global and regional trends of violence against adolescents

Addressing violence against children and adolescents is a human rights obligation and a critical public health priority (Lundgren & Amin, 2015). Globally, 1 billion children and adolescents, aged between 2 and 17 years, had experienced some form of violence in the previous year (Hillis et al., 2016). In three of the WHO regions, including the African region, this number corresponds to at least 50% of children having experienced violence within the last 12 months. The WHO (2018) also estimates that over 94% of the lost disability-adjusted life years (DALYs)[14] could be attributed to violence against children (0–15 years) in LMICs. The pattern of violence against children and adolescents in LMICs is such that they experience higher levels of poly-victimization, including repeated victimization or co-occurrence of multiple types of violence, than their counterparts in high-income countries (Lees et al., 2019).

IPV – defined as physical, psychological, or sexual harm to a partner within an intimate relationship (Joyner et al., 2015) – is the most common form of gender-based violence (Starrs et al., 2018). Using the DHS data obtained between 2010 and 2018 from 27 countries in SSA, including South Africa,[15] the median prevalence of physical or sexual IPV in the previous year was 25% among married or cohabiting adolescents and young women aged between 15 and 24 years (Wado et al., 2021). In this multi-country analysis, the Central African sub-region had the highest IPV prevalence (39.8%), followed by Southern Africa (28.4%).

The overall prevalence of physical fighting, bullying, and physical attack, as well as sexual and emotional violence among adolescents is reportedly higher in LMICs than in high-income countries (Cerna-Turoff et al., 2021; Han et al., 2019). In seven SSA countries,[16] between 2015 and 2017, bullying and physical fights were the most common forms of violence among

---

[14] In this thesis, whenever parents are mentioned (e.g. parental monitoring, closeness with parents, parent-child commnication), it applies to the main caregiver if the adolescentes do not live with their parents.
[15] The WHO regions are: the Americas, Africa, Eastern Mediterranean, Europe, South-East Asia, and Western Pacific.
[16] Data from the ARISE Network Adolescent Health Study, with adolescents (10–19 years), in nine selected communities, across seven countries: Burkina Faso, Eswatini, Ethiopia, Ghana, Nigeria, Tanzania and Uganda.

42

adolescent males, with the prevalence of 23% and 35%, respectively (Berhane et al., 2020). Studies run by the United States Center for Disease Control (CDC) in six countries in SSA revealed that half of the participating adolescents (aged 13–17) reported having recently experienced physical violence (Big Win Philanthropy, 2018). Furthermore, the study found that adolescent girls experienced sexual violence early in the lives (at age 13 or younger) and the prevalence may have increased with age (from 14-15 to 15-16 years old). Among female adolescents, approximately 19% reported having experienced some form of violence for the first time at the age of 13 or younger, 36% between 14 and 15 years old, and 43% between 16 and 17 years old (Big Win Philanthropy, 2018).

In the following sub-section, I explore the historical and structural contexts that might have contributed to a violence-tolerant culture in South Africa.

2.6.2 Key factors associated with violence against adolescents

Violence against adolescents is a multi-causal phenomenon stemming from individual, relationship, community, and contextual factors (Semahegn et al., 2019). For example, interpersonal factors such as parenting and family structure, harmful social or gender norms, and the individual's acceptance of abusive behaviors can contribute to adolescents' experience of violence (Moreno-Ruiz et al., 2018; Riggs & O'Leary, 1996). A systematic review of 94 studies, mainly from LMICs, showed that sex (being a girl) and low education level (primary school) of a mother or adults in the household were associated with an increased experience of all forms of violence among children and adolescents (Cerna-Turoff et al., 2021). At the school level, having less school connectedness (e.g. individual's positive perceptions towards schools and the importance of education), lower levels of perceived school safety, and negative feelings among boys about their appearance at school were evidenced as significant risk factors for IPV among EAs (Mason-Jones et al., 2016).

Among South African adolescents, having a stable or supportive family environment, especially with the presence of a father (Artz et al., 2016; Manyema & Richter, 2019) or mother (Sui et al., 2020), has been found to be a key protective factor against violence. In contrast, a lack of a mother's or a female caregiver's knowledge, again, including her low education level, and her

43

acceptance of violence, were identified as significant risk factors for the children's experiences of violence or abuse (Ward et al., 2018). Family structures without a positive male role model may encourage adolescents to look for a role model in the community, who could be an older peer or youth who may be associated with gangs (Scorgie et al., 2017).

Adolescents in South Africa face daily threats of community violence, or violence that occurs outside of the home (Falconer et al., 2020). Community support systems or social cohesion, together with shared values in communities, were found to be among the positive social determinants for improved adolescents' health, including prevention of violence (WHO, 2014). However, due to the migration patterns from rural to urban areas and from neighbouring countries – very common in South Africa – social networks in communities, which could have protected children and adolescents from violence, have been disrupted (Brankovic, 2019; Lamb, 2019). Moreover, easy access to weapons and high rates of gang violence, especially in large cities such as Cape Town, Johannesburg, and Durban, aggravate community-based violence (Edberg et al., 2015).

Table 2. 2: Key risk factors by types of violence against adolescents

Types of violence	Risk factors
Violence or abuse in general	• Female caregiver's low education level (primary) and acceptance of violence • Dysfunctional family structure with absence of father or mother • Lack of social cohesion • Household or community poverty (and inequity or inequality) • Hegemonic culture of masculinity
Intimate partner violence (IPV)	• Less school connectedness (e.g. negative perceptions towards schools and on the importance of education) • Lower levels of perceived school safety • Negative feelings among boys about their appearance at school • Older age
Physical, emotional, and sexual violence	• Sex (girl) • Low education of mother or an adult in the household
Community violence	• Lack of community support systems or social cohesion, or of shared values in communities • Easy access to Ions or arms • High rates of gang violence

Main references: Brankovic, 2019; Cerna-Turoff et al., 2021; Semahegn et al., 2019. Others are cited in Section 2.6.2.

44

Studies in South Africa have consistently found that children from low socio-economic households or living in low-income neighborhoods were significantly more likely to report exposure to, or perpetration of physical and emotional violence (Institute for Security Studies, 2019; International Bank for Reconstruction and Development et al., 2018; Lamb, 2019; Manyema & Richter, 2019). Yet, poverty on its own does not seem to predict violence. Inequality and exclusionary factors at the macro-level, such as an unequal distribution of a share of economic rewards, especially for men (Gibbs, Jewkes, Willan, et al., 2018); political and social resources or opportunities; and a type of hegemonic culture of masculinity (Brankovic, 2019), coupled with household poverty, may lead to highly violent environments. This is especially the case in urban South African contexts. Table 2. 2 summarizes the key risk factors of violence against adolescents based on evidence from LMICs and South Africa that are reviewed here.

In the next section, I focus on inequitable gender norms as a key root cause of violence, mainly in the South African context.

2.6.3 South Africa's violent society: historic contexts

Over the past four decades, South Africa has experienced an epidemic of gender-based violence (N. Abrahams et al., 2012; Hoosen et al., 2022; Jewkes, Dunkle, Nduna, Shai, et al., 2010; Jewkes & Morrell, 2012). Violence is considered to be driven by multiple and complex factors, which interact with each other within the socio-ecological model at the social, community, family, and individual levels (Brankovic, 2019; Hoosen et al., 2022). In South Africa, these factors are influenced by the historical and political context of the country, creating a legacy of a strongly violent culture, grounded in widespread social and economic inequities and a particular form of hegemonic masculinity (Hoosen et al., 2022).

Studies have commonly argued that South Africa's history of colonization and apartheid, characterized by violent systems, have played a primary role in shaping and naturalizing the widespread culture of violence (Bhana et al., 2019; Brock et al., 2014; Edberg et al., 2015; Hoosen et al., 2022; Jewkes & Abrahams, 2002). Firstly, colonialism involved violent conquest. During the apartheid era, violence was employed as a key strategy for conflict resolution and perceived as a sign of power (Brock et al., 2014; Jewkes & Abrahams, 2002; Norman et al.,

45

2010). In addition, the apartheid system created a primarily race-linked socio-economic hierarchy, which aggravated inequality, frustration, and lack of trust in the state's institutions among the population (Edberg et al., 2015). Apartheid also caused family fragmentation and challenges for quality parenting, due to the forced migratory work patterns, highlighted by the absence of fathers in families or communities (Langa, 2020).

Since the country's transition into democracy in 1994, research on violence in South Africa has shifted its focus from the political to the individual and social levels, in an effort to reduce the social, economic, and psychological effects of violence (Brankovic, 2019). However, apartheid's legacy in South Africa remains profoundly embedded in the society and is linked to an extremely violent culture, among its cumulative effects (Cooper & Tabana, 2021; Hoosen et al., 2022). In the next sub-section, I discuss concepts of hegemonic masculinity in South Africa.

2.6.4 Concepts of hegemonic masculinity in South Africa

In SSA, including South Africa, increased focus has been placed in recent years on research that surveyed trajectories between gender, sexuality, and violence (Bhana et al., 2021; Ross & Parkes, 2021). These studies revealed that adolescents, especially in lower socio-economic urban communities, were constantly exposed to various forms of violence, as a result of a prevailing masculine culture and power imbalanced relationships. Since the early 1990s, South African scholars (Jewkes, Flood, et al., 2015; Morrell, 1998; Morrell et al., 2012) have drawn on Connell's concept of hegemonic masculinity (Connell, 1985, 1987) to conduct gender-related research. Carrigan, Connell, & Lee (1985) subsequently proposed an alternative model to this concept, which examines multiple dimensions of masculinities, from a sociological perspective. These concept and model were applied in an analysis of masculinity and patriarchal culture in an historically violent society (Connell, 2021; Connell & Messerschmidt, 2005; Jewkes, Flood, et al., 2015).

In South Africa's informal urban settings, hegemonic masculinity traditionally manifests itself through the male's principal role as an economic provider for a heterosexual household (Gibbs et al., 2015). However, due to multiple deprivations and widened economic inequity in the country, many men are unlikely to achieve the economic power that is traditional in households(Gibbs,

46

Myrttinen, et al., 2020; Langa, 2020). In addition, the rise of democracy, women's empowerment movements, and progressive adaptions of gender-sensitive policies, especially since independence in 1994, have challenged traditional hegemonic masculinity in the country (Sprague, 2018; The Center for the Study of Violence and Reconciliation (CSVR), 2008). These shifts have potentially threatened the traditional power of men who, consequently, might have attempted to reinforce their control or power over females through IPV (Hamber, 2010). Therefore, the emerging concept of multiple masculinities is characterized, not only by men who are financial providers to households, but by men who might legitimize the use of violence to gain control over women in relationships (Gibbs et al., 2015; Gibbs, Myrttinen, et al., 2020; Jewkes, Morrell, et al., 2015; Jewkes & Morrell, 2018; Sprague, 2018).

Nonetheless, the concept of multiple masculinities also presents the possibilities of contested masculinities (Ammann & Staudacher, 2021; Cooper & Tabana, 2021; Hearn et al., 2019). A "crisis of masculinity" (Ammann & Staudacher, 2021, p. 760; Connell & Messerschmidt, 2005, p.840; Hearn, Howson, et al., 2019; Perry, 2017) emerged between late 1980s and early 1990s, especially among young African men who were no longer unable to pursue the traditional, ideal masculinities (e.g. economic provider to family) and had to come up with alternative or contested roles, identities or duties (Ammann & Staudacher, 2021). Women and men or girls and boys who take up contrary positions to the traditional hegemonic masculinities are also often at risk of censure, marginalization (Cooper & Tabana, 2021), or social sanctions, particularly among boys (Carter, 2014; Masters et al., 2021).

Therefore, practices or concepts of hegemonic masculinities are not fixed but dynamic, fluid, and contested, and are shaped by power relations and intersectionality (Hopkins, 2018; Vaiou, 2018) across age, sex, race or ethnicity, education, language, or place of living (Ammann & Staudacher, 2021). This creates the need to undertake complex analyses on the ways in which individual intersectional identities, social inequities, and power relations impact on hegemonic masculinities, and subsequently influence EAs' health and behaviors, including violence (Ammann & Staudacher, 2021; Cooper & Tabana, 2021; Vaiou, 2018).

In the next section, I discuss how violence has been affecting the lives of adolescents in South Africa.

47

2.6.5 Trends of violence among adolescents in South Africa

The 2016 South African Optimus Study, a population-based, cross-sectional survey, provided the first-ever nationally representative data on the extent and impacts of violence, abuse and neglect among adolescents aged between 15 and 17 (Artz et al., 2016, 2018; Burton et al., 2016; Leoschut & Kafaar, 2017). The reported prevalence of violence among adolescents in the study was: 34.4% for physical abuse, 21.3% for neglect, 16% for emotional abuse by caregivers, and 23.1% for witnessing domestic violence (Ward et al., 2018). Furthermore, the study revealed high levels of violence against children and adolescents, such as bullying, corporal punishment, or assaults that were perpetrated by peers and adults, or gang groups in communities (Artz et al., 2016; Burton et al., 2016). A recent qualitative study reported similar findings on the widespread nature of violence and abuse in urban neighborhoods of Cape Town, documented through daily observations of nurses who worked at community health centers (Cooper et al., 2019).

Other key data reports on violence in South Africa were generated by the Birth to Twenty Plus (Bt20+) cohort study (Holmes et al., 2022; Mathews, 2018; Richter, 2022; Richter et al., 2018), which is now called the Birth to Thirty (Bt30) study (Naicker et al., 2022; Richter, 2022). This longest-run longitudinal survey in Africa assessed the experience of violence during childhood and later in the lives (until 22 years old) of an urban cohort from Soweto (Richter et al., 2018). Over the study period, only 1% of the study participants reported not having experienced any type of violence in their lives at family, school, and community levels. In the same survey, more than half of school-going children were reportedly exposed to violence in their home, and two-thirds to community violence, with an increasing exposure to sexual violence by age (10% among primary school children and 30% among adolescents/youth between 14 and 22 years old). Approximately 40% of children aged between 6 and 13 years reported poly-victimization (Richter et al., 2018),[17] which exposed them to five or six different types of violence, on average. Most recently, Herrero Romero et al. (2021) revealed that in urban, low-socio-economic settings in the Eastern Cape, 64% of adolescents aged between 15 and 17 years reportedly experienced poly-victimization, a much higher rate than the previously reported data.

---

[17] DALYs are defined as the sum of the years of life that were lost due to premature mortality and the years lived with a disability caused by disease or health condition in a population (WHO, 2000).

More than half of South African students aged 12–19 years (50% of girls and 70% of boys) have reported being engaged in a romantic or dating relationship (Pöllänen et al., 2021; Russell et al., 2014; Shamu et al., 2016). Experiences of IPV are not uncommon within these relationships (Mason-Jones et al., 2016; Pöllänen et al., 2021). Among a large sample of learners from public high schools in the Western Cape Province, 19% reported having been survivors of IPV and 13% reported having perpetrated IPV (Mason-Jones et al., 2016). Girls were less likely to report physical IPV than boys, while boys showed increased odds of being a perpetrator of sexual IPV than girls. A recent study revealed a much higher IPV prevalence among adolescents in the same province than previously reported. Forty percent of girls in the eighth grade in the Western Cape (mean age: 13.7 years) reportedly experienced physical or sexual IPV, while the same proportion of boys reported perpetrating physical or sexual IPV (Pöllänen et al., 2021).

In the next section, I review evidence on hegemonic masculinity, by highlighting its association with violence against adolescents in South Africa.

2.6.6 Gender norms and violence against adolescents in South Africa

Jewkes & Morrell, (2010) made one of the first attempts to better understand empirical findings on hegemonic masculinity in conjunction with an increased risk of IPV among women and girls. A qualitative study conducted with adolescent girls and young women aged between 15 and 21 from Eastern Cape witnessed a persistently strong masculine culture, where men were expected to control women both through violent and non-violent methods (Jewkes & Morrell, 2012). Boafo et al. (2014) found that a higher prevalence of perpetration of violence in dating relationships among boys compared to girls (12–17 years old) in Cape Town was most probably due to male-dominated gender norms or stereotypes. Individual male perpetration of violence, however, was not typically used to gain their dominance over all women but was an option for them to defend their power over women in intimate relationships or with their peers (Gibbs et al., 2015). Further to these studies, Shamu et al. (2016) identified the correlations between gender-inequitable norms and girls' victimization through IPV or boys' perpetration of IPV among adolescents aged between 12 and 19 in Pretoria. These associations were mediated by other risk factors such as risky sexual behaviors, corporal punishment by teachers or parents, and childhood experiences of abuse and bullying.

Most recently, Mayeza and Bhana (2021) used the concept of hegemonic masculinity to better understand the phenomena of bullying among adolescent learners (primary schools) aged between 10 and 13 in townships near Durban. Their study highlighted that male-oriented power in schools that produce violence was not only rooted in hegemonic masculinities but was influenced by underlying socio-cultural and economic factors and community violence.

In the next and final sub-section on violence, I discuss major socio-economic and health impacts of violence against children and adolescents.

2.6.7 Impacts of violence against children and adolescents in South Africa

The alarming levels of violence against women and children in South Africa continues to have devastating effects on the population across generations and hinders progress towards the National Development Plan 2030 (Department of Social Development, 2014). Based on the data from the 2002–2006 Cape Area Panel Study in Cape Town (Lam et al., 2008; Zheng et al., 2018) and the 2016 Optimus Study (Fang et al., 2016), the estimated reduction in adults' incomes due to exposure to childhood physical and emotional violence was ZAR 25.2 billion (approximately US$ 2.0 billion) and ZAR 9.6 billion (approximately US$ 750 million), respectively. Any experience of childhood physical abuse was associated with a loss young adults' wages by 14%, while childhood emotional abuse may lead to a reduction by 12% in future wages, with a higher proportion of loss for females than males (Zheng et al., 2018). Based on the DALY, the economic impact of non-fatal violence against children[18] in South Africa was estimated at US$ 15.81 billion annually, or 5% of the country's GDP (Hsiao et al., 2018).

An increasing number of studies over the past two decades have assessed the relationship between violence and increased risk-taking in health behaviors. A multi-country study targeting adolescents (12–15 years old) from 43 LMICs revealed a linear association between the number of reported physical attacks in the previous year and increased sexual risk behaviors among adolescents, especially for boys (L. Smith et al., 2020).[19]

---

[18] Data from the latest South African DHS in 2016 were included in this study.
[19] South Africa was not included in this study although Swaziland, Tanzania, Uganda, Zambia, Kenya, Malawi, and Mozambique were included among SSA countries.

Over 80% of adolescents (Grade 8 of high schools) from Cape Town reported having witnessed or been a survivor of violence during the past 12 months (Stansfeld et al., 2017). Among them, the highest level of violence exposure significantly increased adolescents' depression symptoms and anxiety, compared to those who were at the lowest exposure. A similar impact was found with community violence. Adolescent learners from secondary schools in the Western Cape Province who reported indirect or direct exposure to community violence experienced increased negative mental health outcomes, such as anxiety, depression and suicidal ideation (Sui et al., 2021).

In the next sub-section, I discuss current evidence of how ACEs may impact the exposure to violence, in conjunction with unequal gender norms, during EA or adolescence.

2.6.8 Adverse childhood events and violence among early adolescents

Over the past few decades, international scholars have increasingly linked research on violence against adolescents and children with experiences of ACEs, as part of the outcome measurements (Steptoe et al., 2019). The US Center for Disease Control and Prevention (CDC) (2019, 2021) defines ACEs as stressful or traumatic experiences during the first 17 years of life. The standard questionnaires on ACEs developed by both CDC (2021) and WHO (2018a) include not only the child's own experience of abuse or neglect by caregivers or other adults, but other negative household experiences. These include household instability or negative experiences such as witnessing domestic violence, parental divorce or death, and a family member's substance abuse, incarceration, or mental illness.

Based on a global meta-analysis of over 35 publications, mostly from high-income countries, Hughes et al. (2017) illustrated an elevated risk of those who experienced increased number of ACEs for negative health outcomes throughout life. Among the health outcomes, strong associations were observed between ACEs and mental illness, increased sexual risk-taking, alcohol or drug misuse, and violence (interpersonal or self-directed). A recent analysis of national survey data from over 90 LMICs also confirmed a persistent negative impact of childhood household poverty on lifetime health and human capital, including health and survival, nutrition, cognitive and physical development, early pregnancy, and reduced girls' education (Victora et

51

al., 2022). Another cross-sectional study in Vietnam, with a large sample of adolescents aged 12–17 years, showed an association between all types of childhood maltreatment and emotional dysfunctions during adolescence (Tran et al., 2017).

Several scholars have studied intergenerational transmission of ACEs, especially family violence and child maltreatment or abuse. For instance, witnessing domestic violence, and other adverse events in childhood, is likely to increase IPV and mental health issues, which in turn, can lead to maltreatment or abuse of their own children (Buss et al., 2018; Lünnemann et al., 2019; Stargel & Easterbrooks, 2020). These findings correspond with the results from a study conducted in Africa (Big Win Philanthropy, 2018), which identified an association between experiences of childhood abuse and mental illnesses and risky behaviors, such as smoking, drug and alcohol abuse, and chronic illnesses. Among adolescents between 15 and 22 years old, living in informal settlements in Nairobi, Kenya, past experience of ACEs (e.g. a forced sexual intercourse and household insecurity) were associated with increased problematic behaviors (Kabiru et al., 2014). Among adolescents aged 12–18 years in informal settlements in Kampala, Uganda, both IPV victimization and perpetration were associated with having witnessed IPV of parents or childhood experience of physical abuse (Culbreth et al., 2019).

In South Africa, Kleijn's (2010) qualitative study with 10 rapists of children and infants remains relevant as milestone research on ACEs and perpetration of violence. The study suggests that male participants' behaviors were commonly shaped by their own experiences of ACEs, exemplified by having received repeated physical punishment or maltreatment in families, schools, and communities. Moreover, the male rape offenders were noted to have lived their childhoods in low socio-economic households, in which fathers were absent, and in communities with little social cohesion. In Jewkes and Morrell's (2018) study, young men aged 18–25 from Eastern Cape and KwaZulu-Natal with mid or high levels of violent and antisocial behaviors, reported significantly higher childhood exposure to verbal violence or trauma than those who were in the low-violence behavior groups.

South African studies have also shown interconnections between exposure to ACEs and the development of gender inequitable norms later in their life (Jewkes, Flood, et al., 2015; Mathews

et al., 2011). Childhood adversity or traumatic experiences may increase emotional vulnerability and a feeling of insecurity and powerlessness, potentially leading to inequitable gender perceptions, or reinforcing hegemonic forms of masculinity during EA.

In the next section, I summarize key studies on mental health issues among adolescents, in conjunction with violence and ACEs.

2.7   Mental health among early adolescents

This section is structured into two parts. In the first sub-section, I summarize key evidence on how violence, including ACEs, is correlated to mental health issues, or depression among adolescents. In the second sub-section, I explore an historic evidence base on associations between masculinity or adherence to traditional gender norms and mental health problems among EAs or adolescents and young men, if EA-specific data are not available.

2.7.1 Violence, adverse childhood events and mental health among early adolescents

Mental health issues among adolescents appear to be interconnected with violence, including their experiences of ACEs. A literature review from 16 LMICs found a significant association between recent experiences of any form of violence and increased mental health symptoms, such as post-traumatic stress disorder, depression, and anxiety (Le et al., 2018). Depression symptoms during adolescence, in turn, can also lead to increased risky sexual behaviors or substance use, problematic behaviors and suicide ideation, as revealed in a recent meta-analysis of data from 17 LMICs (including five studies from Africa) (Pozuelo et al., 2022). Among school-going adolescents (10–19 years old) in eight countries in SSA, mental health issues (e.g. feeling anxiety, and having attempted suicide), coupled with past experiences of bullying, alcohol or cigarette use, or parent or caregiver's disrespecting the adolescent's privacy, indicated an increased risk of interpersonal violence (Aboagye et al., 2021). In Tanzania, adolescents and young women aged 15–23 years who were screened for anxiety or depression symptoms were three times more likely to report experiences of partner violence, after adjusting for age, marital status, and socio-economic status (Nyato et al., 2019).

Similar to the global and regional findings, exposure to intimate partner and non-partner violence among adolescents in urban South Africa was associated with higher depression scores, anxiety, post-traumatic stress disorder (PTSD) symptoms, increased risk of self-harm (Stansfeld et al., 2017), substance use, and negative SRH outcomes (Decker et al., 2014). In addition to violence in relationships, witnessing community violence was also associated with increased mental health issues among adolescents (Donenberg et al., 2020; Oluwaseyi & Simo Fotso, 2020; Sui et al., 2021).

These negative associations may be heightened by a lack of support from families and household financial insecurity (Duby et al., 2021). Poor mental health and increased levels of substance use (alcohol and drugs) may in turn, aggravate IPV perpetration and high-risk sexual behaviors among young South African men (18–30 years). This potentially leads to an increased risk of HIV infection (Gibbs, Dunkle, et al., 2018). For example, Duby et al. (2021), in a large-scale qualitative study, identified bidirectional correlations between depression symptoms, increased risk of HIV, and adolescent pregnancies among South African adolescents and youth (15–24 years).[20]

Children and adolescents who endure negative psychological impacts of ACEs as they grow up may develop less empathy and capacity to cope with stress, thus perpetuating violent acts themselves (Jewkes, Flood, et al., 2015). Among Chinese adolescents (10–17 years old), those who experienced ACEs were more likely to report depression and anxiety symptoms, compared to those who had not experienced ACEs, with a dose-response relationship (Jiang et al., 2022). Especially, adolescents who reported childhood emotional neglect, coupled with current isolation or rejection from peers, reported a significantly higher risk of depression or anxiety symptoms. A linear association was also found between reported exposure to ACEs and increased depression symptoms during adulthood among South African young males (aged 18–30 years) in Durban (Hatcher, Gibbs, Jewkes, et al., 2019). This was especially the case for those who had reported a combination of physical, sexual, and psychological abuse in childhood.

---

[20] Over 230 adolescents and youth from five provinces (Western Cape, KwaZulu-Natal, Mpumalanga, North West, and Eastern Cape) participated in in-depth interviews and focus group discussions.

In the next sub-section, I address key evidence on gender, masculinity and mental health among adolescents.

2.7.2 Gender, masculinity and mental health among adolescents

Adolescents, starting between 11 and 14 years old, and particularly girls, face an increased risk of mental health issues (Yoon et al., 2022). The same study found that an increased prevalence of mental health issues between 13 and 14 years old, compared to those who are 11 to 12 years old, and this age-related difference was observed stronger among girls than boys. A global analysis of data collected from 73 countries on adolescents' mental health revealed that girls are more likely to report worse mental health outcomes than boys, including psychological distress and life satisfaction levels (Campbell et al., 2021). However, the magnitude of the gender gap varied by country, region, or dimension of mental health outcome. For instance, in countries with higher GDP per capita, lower mental health scores and a larger gender gap in the prevalence rates were reported. And, in more gender equal countries, girls reported a higher burden of mental health issues than boys. These results are possibly because of extra stress generated by challenging the traditional gender norms, such as pressure related to improved education achievement and future economic participation (Campbell et al., 2021).

Several studies have identified some levels of correlation between traditional masculine-oriented gender norms and poor mental health outcomes (Patton et al., 2018; Rice et al., 2021; Wong et al., 2017). Wong et al. (2017), in a large, global meta-analysis (general population including adolescents) found that conformity to masculinities, especially for boys and young men, was modestly associated with increased mental health issues and reduced help or psychological services. Conversely, Exner-Cortens et al. (2021), in a systematic review of 29 studies, mostly from high- and middle-income countries (HMICs), illustrated that adolescent boys (between sixth and twelfth grades) who greatly endorsed stereotypical masculinity traits such as power seeking and restricted emotions, reported fewer cases of depression, anxiety, and panic disorder (internalizing behaviors). On the other hand, they reported more externalizing problems (e.g. drug or alcohol misuse and antisocial behaviors) than their peers who did not endorse this type of masculinity.

Burton (2008) found perceptions among South African adolescents towards hegemonic masculinity, such as stereotypical gender-oriented roles, as a key predictor of mental health issues. The extent of adolescents' endorsement of these stereotypical gender roles determined whether they perceived their depression as a weakness, and thus they refrained from seeking help or services. Subsequently, Basterfield et al.'s (2014) study with over 560 adolescent male learners (15–18 years old) from KwaZulu-Natal, South Africa, revealed that the largest proportion of variance in depression scores was estimated in a traditional male-dominant ideology of masculinity, school connectedness, and coping mechanisms. However, in this model, masculinity, when used as an individual variable, was not a significant predictor of depression, but coping styles and school connectedness were.

The next sub-section addresses key research gaps in ASRH, gender norms and empowerment, early pregnancies, violence, and mental health among EAs, which are relevant to this study.

2.8 Key research gaps

Since the United Nations coordinated an International Conference on Population and Development (ICPD) in Cairo in 1994, significant progress has been made in ASRH globally, such as a decrease in child marriage, delayed onset of sexual activity or childbirth, and increased contraceptive use among adolescents (Kabiru, 2019; Liang et al., 2019). Nonetheless, persistent challenges remain in fulfilling the sexual and reproductive rights of adolescents, especially in empowering them to make informed choices on their health and well-being (The Lancet, 2019).

Gender or social norms and their interrelationship with pregnancies, sexual and romantic relationships, violence, and mental health problems among adolescents have received little interest from researchers (Jones et al., 2018; Liang et al., 2019). As indicated previously, despite the period of EA being a crucial time for constructing and internalizing gender norms, until recently this age group has been neglected in the global health and social policy agenda. Thus, there is an urgent need to strengthen gender-specific analyses among EAs, which help formulate effective policies or interventions to tackle gender inequities as the root causes of these issues.

2.8.1 Research gaps on early adolescents' gender norms and sexual and reproductive health

Over the past five years, the Guttmacher-Lancet Commission on Sexual and Reproductive Health and Rights has advocated for more research focused on EAs, with special attention to methodological issues and research ethics in this age category (Guttmacher Institute, 2017; Starrs et al., 2018). For instance, more evidence is required to inform strategies for effective comprehensive sexuality education (CSE), reducing adolescent pregnancies, and addressing all forms of violence, while promoting equitable gender norms as a cross-cutting strategy. Research on the most vulnerable EAs who have greater risks and needs for SRH services, such as those living in urban informal settings, is imperative. It is especially important to assess both sexual and non-sexual (romantic or dating) relationships among EAs, to gain insights for the evidence-based design of SRH interventions for this age group.

While scholars have highlighted potential associations between gender norms and ASRH or gender-based violence among adolescents, there is a paucity of literature on how gender norms or perceptions impact SRH among EAs in general, and particularly in SSA, including South Africa (Ajayi et al., 2021; Yah et al., 2020). These evidence gaps are summarized in the following five aspects. Firstly, past research on gender pathways to health from SSA has rarely included both gender-related and health-related measurements or data to explore the association between them (Weber et al., 2019). The use of routine national household surveys or global or regional datasets has also limited assessing the intersection between gender norms and other social determinants of health (e.g. religion, wealth, and ethnicity), due to lack of variables related to gender norms in these routine surveys (Pryor & Seck, 2019).

Secondly, existing gender or ASRH research has not systematically incorporated boys or targeted girls only, especially when the research questions have been focused on adolescent pregnancy, IPV or in some cases, HIV. Thirdly, as highlighted in the multi-country GEAS analysis, there is a critical research gap on how gender norms among EAs affect their romantic or dating relationships and their SRH knowledge and behaviors, and how these norms are influenced by structural or interpersonal factors (De Meyer et al., 2014).

57

Fourthly, there is a lack of age- and context-specific gender norm measurements that are reliable and validated specifically for EAs (Amin et al., 2018; Chu et al., 2005). Although the GEAS's analysis (Moreau et al., 2021; Moreau, Li, De Meyer, et al., 2019) sheds light on the standardization of the gender measurements that are appropriate for EAs, they may vary across countries, and therefore, must be tested and adjusted to the specific study contexts (Gilbert et al., 2020; Kågesten, 2017).

Finally, within an analysis of risk or protective factors associated with ASRH, past studies from SSA have primarily focused on individual characteristics, and only to a lesser extent on family, school, or community-level factors (Amin et al., 2018; Mmari & Sabherwal, 2013). Hence, another gap in research to be conducted is a further exploration of the influence of parents, peers, school-related factors, and community factors on EAs' gender socialization (Amin et al., 2018; Chandra-Mouli, Plesons, et al., 2017; Mkwananzi, 2017; Wado et al., 2020). For example, it is unclear how parental relationships (e.g. communication, discipline, and other aspects of parenting) may influence EAs' gender norm constructs and their SRH knowledge or behaviors (Ajayi et al., 2021; Tenenbaum & Leaper, 2003).

2.8.2 Gaps in research on empowerment and gender norms among early adolescents

Pryor and Seck (2019) identified two major research gaps related to empowerment and SRH outcomes, and how these were correlated to gender norms. Firstly, there is limited availability of data on EAs that specifically focus on levels of empowerment, SRH indicators, and how gender norms interact with these variables. Secondly, there is a lack of data on men's and boys' perceptions towards masculinities, which limits gaining insights on potential associations between empowerment, gender norms and SRH outcomes, especially among EAs. Taukobong et al. (2016) have highlighted research gaps on girls' empowerment and gender equality, and whether – and if so, how – empowerment may increase gender equality and improve SRH outcomes among adolescents. Existing literature on adolescents' empowerment and how it affects their SRH outcomes is limited to only certain aspects, such as behavioral risks, communication, and self-efficacy in relation to SRH outcomes (Koenig et al., 2020). Understanding the associations between different dimensions of empowerment agencies and gender norms among

58

both boys and girls could facilitate a better understanding of gender power and its relationship to SRH (Koenig et al., 2020).

It should also be noted that some studies from LMICs report inconsistent findings as to whether there is a distinct positive association between empowerment and SRH outcomes. This is influenced by possible inconsistencies or variations in empowerment measurements, gender relationships of dynamics, socio-political environments, and study populations. For instance, studies from developing countries have commonly used household decision-making power and mobility for measuring women's empowerment domains (Prata et al., 2017; Upadhyay et al., 2014). These measures may not be appropriate for adolescents, specifically EAs, or for the use across different cultural contexts. Through the broader GEAS, which is the first study to have validated empowerment measures with EAs (both girls and boys) across 10 countries, empowerment measures were identified and validated in three dimensions: voice, freedom of movement, and decision-making (Zimmerman et al., 2019). However, my study also emphasizes the importance of considering different contextual or cultural factors (e.g. resources, families, or communities) in identifying and validating the most appropriate empowerment measures for EAs.

2.8.3 Research gaps related to adolescent pregnancies among early adolescents

The paucity of evidence on adolescent pregnancy from LMIC, especially in SSA, undermines efforts to design effective interventions that could improve knowledge, acceptability, and utilization of contraceptives among adolescents (Phillips & Mbizvo, 2016). Among 16 studies that assessed adolescent pregnancy in SSA, 69% were conducted in one city, Nairobi, and none focused on EAs (Pryor & Seck, 2019; Wado et al., 2020). Moreover, studies in SSA on adolescent pregnancy tend to combine data from Central, East, West, and Southern Africa, which masks urban-rural and other variations across or within countries (Gunawardena et al., 2019; Kassa et al., 2018; Melesse et al., 2020, 2021; Wado et al., 2020).

Owing to the health impact on younger adolescents, and unique opportunity for starting comprehensive sexuality education (CSE) or prevention of early pregnancies during EA, there is a pressing need to gain more evidence on EAs. Priority research areas include identifying key

59

determinants of EAs' knowledge on pregnancy avoidance, early onset of sexual intercourse or romantic relationships, EAs' current or future intentions towards modern contraceptive use (Ahinkorah, 2020a; Phillips & Mbizvo, 2016), and their perceptions towards sexuality (Chandra-Mouli, Parameshwar, et al., 2017; Neal et al., 2020). Future research should also explore community-level or contextual factors associated with adolescent pregnancy, including gender norms and other cultural and socio-economic factors (Kassa et al., 2018; Mkwananzi, 2017).

In South Africa, research on adolescent pregnancy has gained increased attention from scholars since the late 1980s, especially in the early 2000s (Panday et al., 2009). Several studies have been path-breaking and rigorous in applying a gender framework, to better understand adolescent pregnancies in South African settings (Jewkes et al., 2001; Panday et al., 2009; Varga, 2003). However, important inconsistencies in these studies exist due to differences in sample size and research methods, and a lack of sufficient consideration of intersectionality across variables, such as race,[21] socio-economic status, and education (Varga, 2003). Many studies on adolescent pregnancies have been descriptive, based only on qualitative methods; or quantitative analyses with small sample sizes, focused on adolescent mothers (Govender et al., 2018, 2019a, 2019b, 2020; Mushwana et al., 2015; Panday et al., 2009).

In addition, despite the importance of better understanding perceptions and experience of boys toward adolescent pregnancies (Amin et al., 2018; Kane et al., 2019), studies that have explored both girls and boys on this subject, especially targeting EAs, are limited. Hence, there is a paucity of South African research that specifically assesses determinants of teenage pregnancy in different geographic settings (e.g. urban areas with low-economic status), or that focuses on younger populations groups (e.g. EAs), targeting both boys and girls. For EAs particularly, because of a lower pregnancy rate and smaller proportion of an onset of sexual intercourse compared to older adolescents, research has not explored sufficiently their perceptions or knowledge of pregnancy prevention and sexual or romantic relationships.

---

[21] Analysis by race is of particular importance as a proxy measure for disadvantaged populations or inequities in South Africa.

2.8.4 Research gaps on gender norms, violence, and adverse childhood events among early adolescents

Addressing all forms of violence among EAs should be a critical issue in the policy and programmatic agenda in SSA, given the widespread HIV epidemic and the persistently high adolescent pregnancy rate in many countries, including South Africa (Bankole et al., 2007; Jewkes, Morrell, et al., 2009; Semahegn et al., 2019). At the global level, three major limitations related to research on violence against children and adolescents can be highlighted. Firstly, pooled prevalence of violence based on the meta-analysis of existing datasets, such as those from DHSs, masks regional and country-level variations or in-country disparities, including rural-urban differences (Chandra-Mouli et al., 2021). Secondly, methodological differences in the measurements of violent episodes make the comparison across countries, regions, or studies challenging. Thirdly, current approaches to research on violence, based on gender norms, tend to focus more on individual attitudes, behaviors, or perceptions, and less on the school or community factors, which drive gender inequality or power imbalances as structural causes of violence (Alexyeff et al., 2020).

A review study by Big Win Philanthropy (2018) indicates a paucity of evidence on the relationship between stereotypical gender norms and different types of violence among EAs in African countries. Additionally, quantitative research on violence and gender norms in school contexts – such as bullying or physical violence, especially on EAs – is extremely scarce in South Africa (Mayeza & Bhana, 2021). While studies have assessed risk or protective factors for the exposure to one type of violence among adolescents, they have not assessed poly-victimization, which is common in South Africa (Herrero Romero et al., 2021). When children or adolescents experience multiple forms of violence simultaneously, negative health outcomes may be aggravated and further affect their health throughout the life cycle (Cerna-Turoff et al., 2021).

Although several South African studies have assessed gender inequality as a root cause of violence (especially IPV or sexual violence), less focus has been placed on ACEs in EAs and their relationships with gender norms and recent exposure to violence (Brankovic, 2019; Lundgren & Amin, 2015). A few South African studies have retrospectively surveyed young adults' exposure to ACEs, including the prevalence, risk factors, and impacts on their lives (Fang

61

et al., 2016; Hatcher, Gibbs, Jewkes, et al., 2019). However, given the high exposure of the South African youths to childhood adversity, it is imperative to include EA populations in research, and collect more evidence on how their experiences of ACEs may affect their exposure to current violence, depression symptoms, or risky sexual behaviors. This kind of specific evidence would help policymakers and practitioners to identify high-risk populations for ACEs and take measures to prevent possible negative impacts starting during EA.

2.8.5 Research gaps in mental health issues among adolescents

Globally, research on mental health among adolescents remains relatively sparce (Jorns-Presentati et al., 2021; Stiglic & Viner, 2019), especially in LMICs, where over 90% of the global adolescent population live (UNICEF, 2021b). Moreover, existing research has mainly focused on the prevalence of biological, physiological, and social factors of mental illness (Maccarthy et al., 2016; Roberts et al., 2021); mental health among older adolescents; young people living with HIV; or prenatal or postnatal depression (Roberts et al., 2021). Lack of definitions of mental health disorders, including anxiety or suicide ideation that occur prior to the diagnosis of depression or other diagnosable mental illnesses, also impedes better understanding of mental health among adolescents in different contexts (UNICEF, 2021b).

Furthermore, through a global synthesis review of key evidence on mental health in adolescent boys, Rice et al. (2018) highlighted a critical need for gender-sensitive research on mental health. How inequitable gender norms or masculinities might impact girls' and boys' mental health in a given society can better inform gender-transformative policies and programs that address mental health (Kapungu & Petroni, 2017). However, a paucity of evidence from LMICs, especially SSA countries, restricts scholars in clearly identifying possible pathways of how gender norms influence mental health issues among EAs. In a systematic review of 29 studies that combined data from approximately 25,000 adolescent boys on mental health (Exner-Cortens et al., 2021), nearly 50% of the studies were from the USA, and the rest were from other HMICs. Only one study was from South Africa (Basterfield et al., 2014). Of the studies included, only nine investigated associations between conformity to traditional hegemonic masculinity and mental health issues.

In SSA, including South Africa, mental health issues among adolescents are neglected in ASRH research, especially adolescents who are under 15 years old (Jochim et al., 2021; Roberts et al., 2021; Sewpaul et al., 2021). A few regional studies from SSA or Africa on adolescent mental health were published recently, focusing on the prevalence of depression or anxiety symptoms among adolescents (aged 10–19)[22] (De Neve et al., 2020; Ross, 2021), adolescents' mental health in the contexts of HIV and early pregnancy (Roberts et al., 2021), and the effects of the COVID-19 pandemic on adolescents' mental health (Jorns-Presentati et al., 2021). None of these studies included EA populations, mainly due to lack of disaggregated data.

South African research on boys, men, and masculinities expanded significantly in the early 1990s. Yet lack of understanding of negative impacts of dominant masculinities on mental health has been identified as a missed opportunity (Potgieter et al., 2017). Another significant evidence gap in South Africa is on whether, and if so, how adolescents' risk behaviors are correlated with their well-being, including mental health, even though risk behaviors on their own have been well-documented (Govender et al., 2019).

Between 2000 and 2016, of 28 South African studies on the well-being of adolescents and young people, which used mental health interchangeably with the concept of well-being, none specifically targeted EAs (Govender et al., 2019). Zimmerman et al. (2021) assessed associations between multidimensional poverty and depression symptoms among adolescents and young people aged 11–25 in South Africa, Mexico, and Colombia. In South Africa, low household income was the only variable that was found to be associated with depression symptoms, when controlling for age and sex. A better understanding of the intersectionality between poverty, ethnicity, sex, or gender can dissect the heterogeneity in mental health issues faced by adolescents to improve preventive interventions (Martin & Hadwin, 2022).

In the following section, I describe theoretical and conceptual frameworks that were used in this research project, by drawing on the relevant literature.

---

[22] Using cross-sectional data from ARISE Adolescent Health Study in nine rural and urban communities across SSA: Tanzania, Burkina Faso, Ethiopia, Ghana, Uganda, and Eswatini.

2.9   Theoretical and conceptual framework

The conceptual framework (Figure 2. 2) used for this PhD project was derived primarily from Bronfenbrenner (1979)'s socio-ecological development theory, with the addition of other relevant models explained below (Blum et al., 2014; John et al., 2017; McCleary-Sills et al., 2014; Patton & Temmerman, 2016; UNFPA, 2015). The socio-ecological model has been widely used in ASRH research related to health investment (Tomlinson et al., 2021), prevention of adolescent pregnancies (Ezenwaka et al., 2020; Govender et al., 2018; Max et al., 2015), reducing risky sexual behaviors (Khuzwayo & Taylor, 2018), violence prevention (CDC, 2022; Pettifor et al., 2018), and HIV prevention (Mwale & Muula, 2021). This model was considered most appropriate for this PhD research, as it helps better understand how different social, structural, or environmental factors influence EAs' perceptions towards gender norms, and subsequently affect their SRH knowledge and risk behaviors. In my model, the individual (EA) is at the center, surrounded by layers of social dynamics across different socio-ecological levels that constitute their environment, based on the Tolman et al.'s (2010).

The present framework also draws on Heise et al.'s (2019) model on gender health and systems, which shows how various social determinants influence health and well-being of adolescents. As shown in the bottom part of Figure 2. 2, EAs' exposure, knowledge, or behaviors are most likely influenced by traditional dominant notions of gender norms and other contextual factors, and subsequently determine their ASRH outcomes. Building on Campbell and Cornish's (2012, 2014) work, the current study identified key variables in EAs' environments across three dimensions: 1) resource- or experience-based areas (e.g. household wealth index or empowerment scores); 2) symbolic aspects (e.g. gender norms); and 3) relational contexts (e.g. parent-child communication or supports in schools or communities) (Gibbs, Jewkes, & Sikweyiya, 2018), with gender norms as the main research interest.

Figure 2. 2: Conceptual framework of the proposed study
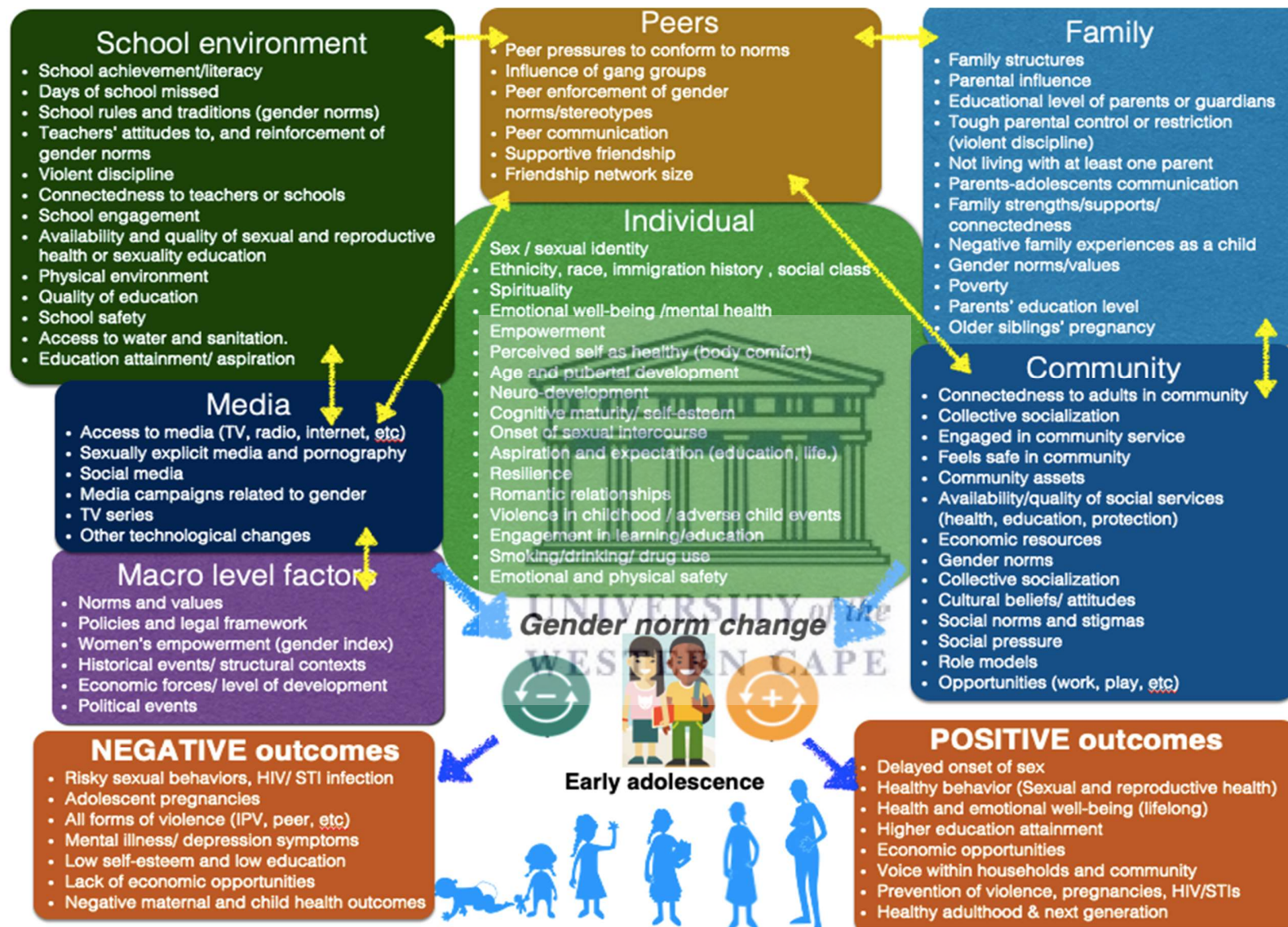
It is important to underscore that health inequities are shaped by social, political, and environmental factors, rather than simply defined by access to quality health care (WHO, 2005). Based on this theory, Tolman et al. (2010) developed a framework specifically for ASRH, which incorporates social constructions of adolescent sexuality, such as traditional gender norms, beliefs, and practices.

Complementary to this framework, a model developed by Marcus et al. (2015) and Blum et al. (2014) positioned socio-economic characteristics, individual agency (e.g. empowerment), and influences by families, peers and communities, as the drivers for gender norm constructions among adolescent girls. These models additionally consider factors related to the media and information and communication technology (ICT), political and economic shifts, legislative frameworks, and institutions (e.g. schools and health centers) as the operating factors for gender norm changes among adolescents.

Building on this model, Jacobs and George (2021) further conceptualized the structural and social determinants for ASRH, based on existing approaches to health systems and policy research. Inspired by these models, this PhD study explores the micro-level determinants (e.g. individual, interpersonal, and community-levels), as well as the macro-level factors, such as access to social media or pornography, which may influence EAs' gender norm constructions.

Finally, this research incorporates an intersectional approach (Cooper & Tabana, 2021; Jones et al., 2020; Pulerwitz et al., 2019) to better understand how social, cultural, and economic dynamics interact mutually, and with gender norms, as enabling factors for EAs' SRH (Chandra-Mouli et al., 2021; Springer et al., 2012). Violence and adolescent pregnancies, in particular – two of the focus areas of this study – are multi-faceted social and health phenomena, which require an intersectional perspective to better understand EAs' and behaviors (Chambers & Toller Erausquin, 2015; Heise, 1998; Hess, 2012; Ribas, 2021; Ryan, 2018; Ward et al., 2012).

2.10 Conclusion

In this chapter, I have presented current evidence on EAs and gender norms that justify the key importance of conducting this research project in urban communities in Cape Town with low socio-economic status.

Firstly, I argued that EA is a critical transition period to late-adolescence and adulthood, during which EAs construct gender norms through socialization at different levels of the socio-ecological model. Secondly, I highlighted adolescent pregnancies, violence against adolescents, and mental health issues, which are among the major challenges faced by South African EAs and which negatively affect their health and well-being throughout their lives. This is the rationale for why I selected these areas as the focus areas of my research project.

Thirdly, I presented an overview of a review of the relevant literature, identifying specific research gaps in South Africa and SSA, especially on EAs' gender norms, and their associations with selected issues (e.g. adolescent pregnancy, violence and ACEs, and depression). The chapter is concluded by presenting key conceptual frameworks that have guided my research project to date. This project was primarily based on the socio-ecological model, with due consideration of the social determinants to ASRH, and also applied an intersectionality approach to gender. In Chapter 2, I discuss the study population, context, and methodology.
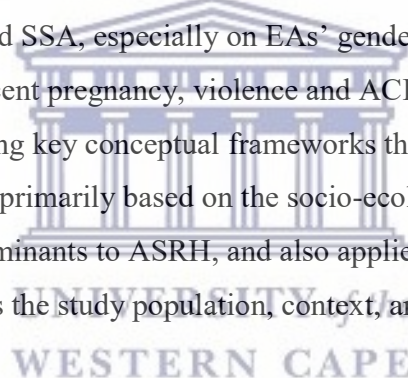
CHAPTER THREE: METHODOLOGY

In the previous chapter, I reviewed the relevant literature and discussed the theoretical and conceptual frameworks that were used in this study. In this third chapter, I describe the methodology used in this research project, which was guided by deductive and inductive approaches. The deductive approach tests a pre-defined theory or hypothesis, while the inductive approach constructs a new theory, based on observations and patterns that emerged from the data analysis process. Firstly, I explain the study background context, site settings and study populations, followed by the research design and sampling methods. I then describe data collection tools and procedures, data management and entry, and data analysis. In the final part of this chapter, I document the steps taken to ensure reliability and validity, and the study's ethical considerations. While this chapter explains the methodology and measures in great detail, I briefly summarize them at the beginning of each chapter on results (chapters 4-8).

3.1 Study context, setting, and population

3.1.1 Study context

South Africa had an estimated total population of 60.1 million in 2021, including approximately 30.8 million females (Stats South Africa, 2022b). During the apartheid era, race was used as proxy for determining advantages or disadvantages in terms of opportunities, socio-economic benefits or status, and the use of public facilities. The current South African official statistics continues to disaggregate its statistics based on race, to track progress in decreasing historically race-based inequity. According to this historical classification, in the 2021 mid-year population estimate, black South Africans comprised the largest proportion of the population (48.6 million, or 80.9%), followed by Coloured (5.3 million; 8.8%), white (4.7 million; 7.8%), and Indian/Asian (1.6 million; 2.6%) (Stats South Africa, 2021a).

It should be noted that throughout this PhD thesis, the term "race" is defined from a sociological perspective. The current South African government and authorities continue to use this classification to assess a decrease or improvement in race-defined inequity (Southall, 2022, p.3). Following Southall (2022), in this thesis, I refer to white and black South Africans (with white

68

and black uncapitalized) and Coloured South Africans (capitalized and British spelling) (Southall, 2022, p.4). The term "Coloured" in South Africa has a different connotation to the term "colored" elsewhere in the world. Coloured people self-identify as such, and as descendants of the Khoi or San (first nation people), or of slaves brought to South Africa mainly from countries such as Indonesia and Malaysia, as well of those of mixed descent.

In terms of the socio-economic development, South Africa is classified as an upper middle-income country, based on Gross National Income (GNI) per capita (World Bank, 2022). Despite this classification, the country remains among one of the most inequitable countries in the world, with a latest official Gini coefficient[23] of 63.0, reflecting the highest levels of income inequity globally (World Bank, 2014). Just over half (56%) of the South African population lives in poverty, with an average income of less than US$83 per month (World Population Review, 2021).

Moreover, its high unemployment rate has continued to rise, from 33% in the last quarter of 2020 to 35% in the fourth quarter of 2021, reaching the highest recorded rate since 2008 (Stats South Africa, 2022a). In the middle of 2021, an estimated 18% of the South African population, or 10.6 million, were adolescents aged between 10 and 19. This included 5.7 million early adolescents (EAs) (10–14 years), who constitute 54% of the total adolescent population (Stats South Africa, 2021). Out of the 10.6 million adolescents in South Africa, approximately 1.1 million (10%) reside in the Western Cape province, and of these, 53% (or 310,400) were EAs aged between 10 and 14 in 2021 (Stats South Africa, 2021).

3.1.2 Study setting

The study was conducted in the City of Cape Town in the Western Cape province of South Africa. This province covers the fourth largest geographical area and, similarly, has the fourth largest population in the country (Mokitimi et al., 2021). Out of a total population of approximately 6.9 million in the Western Cape (Stats South Africa, 2019), 16.1% comprised

---

[23] The Gini index measures inequity in the distribution of income or consumption among individuals or households within a country. A Gini index of 0 represents perfect equality, while 100 implies perfect inequality (World Bank).

69

adolescents between 10 and 19 years old (Stats South Africa, 2018). Between 2011 and 2016, the proportion of the adolescent population in the Western Cape increased by 2%, the second highest increase among the nine provinces[24] in the country (Stats South Africa, 2018). The Western Cape province is divided into 30 municipalities and of these, the City of Cape Town is the only metropolitan municipality. The estimated population of the City of Cape Town was 4.4 million in 2019 (female: 50.4%; males: 49.6%), with a median age of 29 (City of Cape Town, 2020). Adolescents between 10 and 19 years old accounted for 15% of the total population in the City of Cape Town in the same year (City of Cape Town, 2020).

The City of Cape Town was ranked as the tenth most violent city in the world in 2021, with an overall homicide rate of 64 per 100,000 habitants (Mexican Council for Public Security and Criminal Justice, 2021). According to the National Third Quarter Crime Statistics published in February 2021 (Western Cape Government, 2021), the number of murder cases in the Western Cape province increased by 11% between the fourth quarter of 2020 and the first quarter of 2021. This increase in murders was much higher than the national increase (6.2%) between 2019/2020 and 2020/2021 (Stats South Africa, 2021b). Furthermore, in 2021, 11 of the 30 police stations with the highest number of reported murders were in the Western Cape province (Western Cape Government, 2021). More than half of the total number of murder cases in the country were reported to these police stations (579 out of 1,134 cases). Most of these murders were due to interpersonal violence. Gang-related violence and retaliation were the two main causes for the increase in the murder cases in the Western Cape.

Related to the adolescent sexual and reproductive health (ASRH) issues of this study's main focus and based on the latest available Demographic and Health Survey (DHS) data (2016), 16% of South African female adolescents aged between 15 and 19 had reportedly been mothers or pregnant with their first child; 8% were in the Western Cape (South African National Department of Health et al., 2018). In addition, mental health problems are of growing concern among adolescents in South Africa. Although updated province-specific data are not available, Plüddemann et al. (2014) found that nearly 15% of over 20,000 high school students (grades 8 to 10) in the Western Cape province were classified as high-risk for mental health problems. These

---

[24] The nine provinces are: Western Cape, Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo Province, Mpumalanga, Northern Cape, and North-West.

mental health risk levels were measured by 15 items (Rahdert, 1991) that assessed mental health issues and potential psychological problems. The same study found that girls were significantly more likely to be in the high-risk group than boys (18.5% vs 10.1%).

Through an exploratory qualitative study with small samples of adolescents (13–15 years old) and caregivers from Khayelitsha, Cape Town (an urban township near this study's sites), Kuo et al. (2019) illustrated the increased vulnerabilities for poor psychological outcomes for urban South African adolescents. Their risk for mental health problems were mainly aggravated by the ongoing HIV epidemic (e.g. their own HIV diagnosis or family's exposure to HIV), family's depression history, adverse childhood events, and poverty.

3.2 Study sites and population

The study's specific sites included the suburbs of Strand, Mfuleni and Kuilsriver in the City of Cape Town's Northern and Eastern Metropolitan Districts. These suburbs were selected as suitable research settings, based on the advice of the City authorities, as they were considered not oversaturated by other research projects. In addition, they were defined as low socio-economic urban areas, with ethnic diversity, as per the criteria for the broader Global Early Adolescent Study (GEAS).

A further aspect considered for this study was that public high schools in these areas were mostly co-educational (they included both male and female learners). Table 3. 3 in Appendix 1 (Chapter 3) presents a summary of basic socio-demographic and economic characteristics of the study site settings based on the latest population census data collected in 2011 (City of Cape Town, 2013; City of Cape Town & Statistics South Africa, 2013b, 2013a). The total population was the largest for the suburb of Strand (116,221), followed by Mfuleni (64,269) and Kuilsriver (69,515). The young population (0–24 years old) represented 40–50% of the total population for the three suburbs.

As explained above, South Africa's official statistics continue to use the historical race-based classifications. Based on this classification, in Mfuleni over 95% of the population were black Africans, and 49% of households lived in informal dwellings in 2011 (City of Cape Town &

71

Statistics South Africa, 2013b). In Strand, 54% of the population were black Africans, with 33% of the population living in informal dwellings (City of Cape Town, 2013). In contrast to the other two suburbs, Kuilsriver had a predominantly Coloured population (58%), and only 8% of the population lived in informal settings (City of Cape Town & Statistics South Africa, 2013a).

Figure 3. 1 shows the number of reported violent crime cases in Cape Town between 2016 and 2017, which is the latest available disaggregated by 61 police precincts (City of Cape Town Organizational Policy and Planning Department, 2018) This shows the high levels of violent crime cases reported in three study sites (Strand, Mfuleni and Kuilsriver), with Mfuleni being the highest between 2016 and 2017.

In terms of the economic status, Mfuleni had the lowest economic status, with the highest proportion of households (77% of the total households) having a monthly income of R3,200 or less (equivalent to 192.80 USD) and the highest unemployment rate (40%) (City of Cape Town & Statistics South Africa, 2013b). It should be noted that these statistics are averages for each suburb, which can mask the inequity within the same geographic area, especially by race or by formal or informal dwellings. Moreover, the data were drawn from the latest population census in South Africa in 2013, as there have not been any other recent data.

As for the study population, this study drew its sample from EA learners aged between 12 and 14 years old (a sub-set of the EAs aged 10–14 years old) who were attending grades 7, 8 and 9 of junior or middle high schools in the above-mentioned study sites. A total of 569 learners (232 males and 337 females) completed the questionnaires and were included in the data analysis. Detailed information on the sample size and sampling methods are provided in section 3.4.

Figure 3. 1: Spatial distribution of the number of all violent crime across 61 police precincts,
Cape Town 2016/17
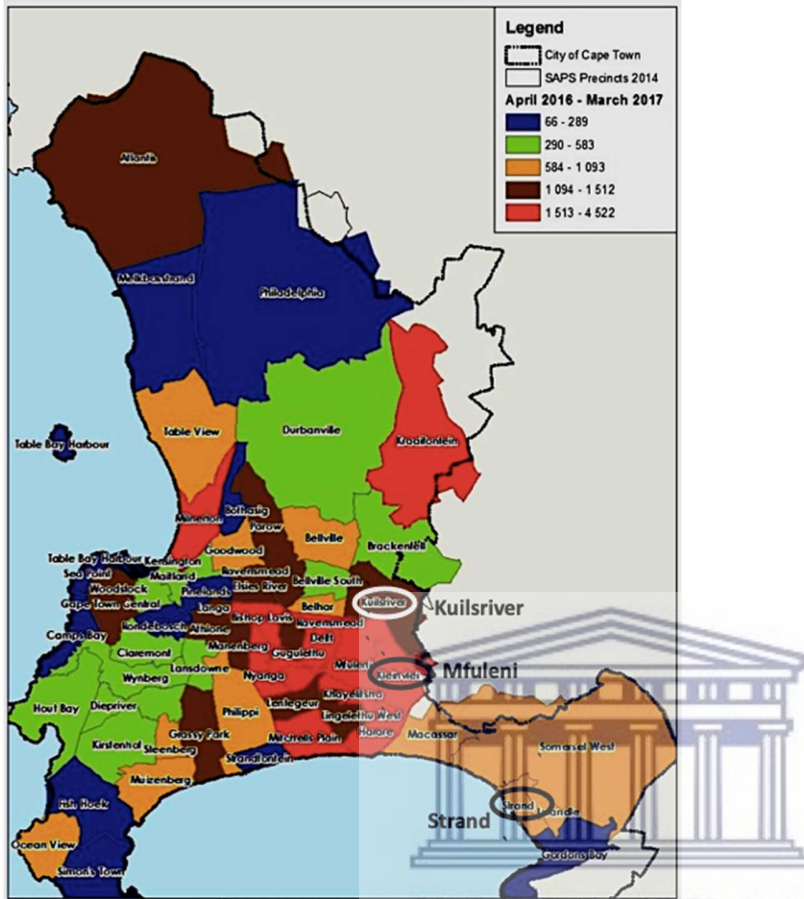
Source: The City of Cape Town Organizational Policy and Planning Department, 2018. P.9 [25]

3.3   Study design

This study used an observational, cross-sectional design, nested in the Cape Town sites of the
larger Global Early Adolescent Study (GEAS). The GEAS has been implemented in over 14
low-income socio-economic cities globally since 2014. It used similar data collection tools
across the sites, adapted to each country context (Johns Hopkins University, 2021; WHO et al.,
2016).

---

[25] SAPS 2016/2017 crime data. The latest data from 2020 are not disaggregated by police precincts.

An advantage of an observational study, with cross-sectional design, is that it is less susceptible to the disadvantages of experimental studies, such as a recall bias and loss-to-follow-up (Altman, 1991). However, the main limitation of a cross-sectional study is its inability to establish a temporal (or sequential) relationship between exposure and outcome variables (Gordis, 2009). Nevertheless, this design still allows the researcher to explore associations between the outcome and other variables of interest (Gordis, 2009; Last, 2001). A further rationale for using a cross-sectional design was the fact that this study focused on early adolescents (minors) living in geographic areas where migration was frequent. Therefore, this design was considered as the most feasible option to obtain a snapshot (Gordis, 2009; Last, 2001) of the study issues under examination among EAs in impoverished, urban areas of Cape Town, in a situation where participants may migrate.

3.4 Sample size and sampling methods

3.4.1 Sample size

This study, embedded in the broader global study (GEAS), initially planned to collect data from 900 learners (50% girls, 50% boys) aged 12–14 years, attending 10 selected public schools in Strand, Mfuleni and Kuilsriver. This original sample size was derived based on the difference in frequencies of dichotomous variables, which were expected to be rare for this young study population, to allow comparisons between sub-categories of the population by sex, age, or other variables. For instance, it was initially estimated that 10% of the EAs have had sexual intercourse, which was considered as a rare event for this young study population. The original sample size calculation used the power of 80%, a confidence level of 0.05 and a relative risk of 2.5 between the sub-populations: boys and girls.

Despite the initial plan to recruit 900 learners, due to the COVID-19 pandemic-related school closures, data collection had to be suspended during and after the second week of March 2020. Up to this date, the study had recruited a total of 571 eligible and consented learners. Two participants, after their initial recruitment, declined to be interviewed (refusal rate: 0.35%). The final dataset thus contains 569 participants.

Because our sample size was reduced due to the unexpected suspension of the data collection, I double-checked retrospectively a minimum required sample size, using the standard formula (Equation 1). The power of 80% and the standard error of 0.05 were applied, and the actual prevalence of the outcome variables were used. The actual prevalence of this study population was available for some of the outcome variables such as sexual activities, or romantic relationships (e.g. onset of sexual intercourse, current or past romantic relationships), or violence-related variables (peer violence and intimate partner violence – IPV). These processes were particularly important to determine the feasibility of running a disaggregated regression analysis by sex, as it would further reduce the sample size.

Equation 1: A formula for retrospective sample size calculation used in this study

$$n = \frac{Z^2_{\alpha/2}P(1-P)}{E^2}$$

n – required minimum sample size
E – desired precision
α – level of significance
Z – the Z-score corresponding to the degree of confidence (1.96)

For the gender norm scores (continuous variables), a minimum power that could be detected by each of the final regression models was estimated, using Stata's command "*power*", as a standard procedure for multivariate regression analyses. This calculation used the following parameters: the actual number of covariates tested, the actual sample size, and the crude R^2 value that were obtained in the final linear regression models. Although the sample size in the final multivariate linear regression models was reduced from 569 (original sample size) to approximately 410-420 (section 5.2.3), this process ensured that my sample size was still sufficient to detect above the targeted, 80% of the power.

3.4.2 Sampling methods

The study participants were selected through a two-stage sampling strategy. The initial sampling units were 18 public high schools in the Eastern and Northern districts of the Metropolitan area. These included schools in the suburbs of Mfuleni, Kuilsriver, and the Strand, identified through the Western Cape Provincial Educational Management Information Systems (EMIS) (South Africa Basic Education Department, 2021). In South Africa, a quintile ranking system is used to

75

categorize public schools into five quintile groups, based on households' monthly income. These quintile groups determine the tuition fees of schools, according to a sliding scale. Parents or caregivers who earn a higher income pay proportionally higher school fees than those with lower incomes. Learners with comparable socio-economic status were, therefore, grouped into similar types of schools in one of the quintiles, based on the tuition fee (Van Dyk & White, 2019).

For the purposes of this study, schools in Quintile 1 group, which did not charge any school fees for learners, were selected. These learners were from households with the lowest socio-economic status. Two of the 18 schools originally identified from the EMIS in the study areas were excluded because they were not in the Quintile 1 group. With permission from the Western Cape Provincial Department of Education, the research team obtained basic information from EMIS on the 16 eligible schools, such as the size of the schools, the ratio of girls to boys, the number of learners aged between 12 and 14, and their race and language compositions.

The first stage of sampling involved selecting schools out of the 16 pre-selected, eligible public schools in the study sites. The last three digits of a unique identification number that was assigned in the EMIS for each of the 16 schools were used to randomly sample schools for inclusion in the study. These last three digits were sorted in the order from the smallest to the highest number. The first 11 schools (three primary and seven secondary) that appeared on the top of the list were selected to be the data collection units. When selecting the schools, the number of schools from each of the sites was balanced.

The second stage of sampling from the 11 selected schools used a stratified sampling method to identify learners disaggregated by age and sex. The research team visited each of the selected schools and informed the principals and teachers about the study. After these initial meetings at the schools, the study team leaders obtained a complete list of students for grades 8 and 9, generated from the EMIS database. Eligible learners were selected from the list, based on the inclusion criteria (Table 3. 1). To achieve an age and sex balance, initially, the plan was to randomly select between four and nine eligible learners per class, stratified by age and sex. However, this was not attained for all 11 schools, as recruitment was interrupted by the COVID-19 pandemic.

Table 3. 1: Inclusion and exclusion criteria for the study respondents

Study population	Inclusion criteria	Exclusion criteria
Early adolescent learners in grades 8 or 9 in schools categorized as being in low-income communities	• Males and females 12–14 years of age (grades 8 and 9) at the time of the survey administration • Currently enrolled in the public high school selected for the study sites. • Has obtained signed consent from a parent/guardian to participate in the study. • Able to assent.	• Not in eligible age range for study participation • Unwilling or unable to assent to study participation. • No signed consent from a parent/guardian to participate in the study.

Table 3. 4 in Appendix 1 provides a breakdown of the number and proportion of students selected from each of the 11 schools by study sites. At several schools, only a small number of learners could be recruited into the study. This was due to logistical constraints on the days of data collection and a limited number of computer tablets (N = 25) available for questionnaire self-administration. Other logistical issues included the unexpected non-availability of a suitable venue in schools for data collection during extra-curricular hours. Another issue was poor attendance of consented and eligible learners on the day of the data collection (e.g. consented learners did not show up after school hours). These problems, coupled with the unexpected suspension of data collection, due to the COVID-19 pandemic, affected the recruitment process of the study sample and the balance of participants by age, sex, and schools across three study sites.
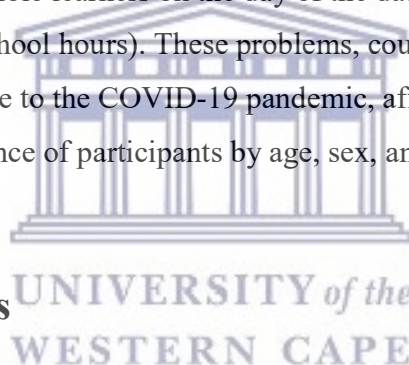
3.5 Study instruments

The study used the GEAS's standard survey questionnaires, which were adapted to the local context. It included the following two modules: 1) questions to measure overall gender norms and attitudes in interpersonal relationships (gender module); and 2) questions on early adolescent sexual and reproductive health views and behaviors, including social, demographic, behavioral, and contextual influences (health module). To develop the standard questionnaires, especially the gender norm measurements, the GEAS had used an initial formative phase (in-depth interviews with EAs and parents) to identify key domains and items. These had been piloted in other GEAS sites across different countries for validation (Moreau, Li, De Meyer, et al., 2019). The Cape Town study sites had not formed part of the global analysis of the formative data collected during the initial phase of the GEAS.

The questionnaires included primarily closed or multiple-choice questions, while some of the questions were open-ended, to allow the participants to provide their own answers. Another feature of the questionnaires was the use of a five-point Likert scale for questions about gender norms, SRH knowledge, depression symptoms, and adverse childhood events (ACE). Participants were invited to select the degree of agreement using five points on a scale with a statement: 1) agreed a lot; 2) agreed a little; 3) neither agreed or disagreed; 4) disagreed a little; or 5) disagreed a lot.

Vignette-based questions were also used to measure EAs' perceptions towards gender behaviors on pregnancy responsibility, communication, and peers' or parents' attitudes (Blum et al., 2019). Among these questions, only one variable related to EAs' perceptions towards social inclusion of an a-typical peer was used in the current research project. The questions asked about the EAs' acceptance to social inclusion of an a-typical peer (a boy who is attracted to play with a group of girls, and a girl who wants to hang out with a group of boys). This variable was then categorized in a binary variable: "0" if they did not accept such peer or accepted but ignored her or him; and "1" if they accepted her or him unconditionally and included her or him in their group.

The standard GEAS's questionnaires were tested for validation and cultural appropriateness before being used for the data collection. Firstly, they were pre-tested with a small group of five EAs who were recruited from a high school in an area known as Philippi in Cape Town. Philippi has a similar socio-economic and demographic profile to the main study sites. Based on the pre-test, the GEAS questionnaires were further adjusted to the local context and the study's target population (e.g. the comprehension level and the duration for administration), considering their young age. Following the pre-finalization of the questionnaires, a pilot test was conducted between May and August 2018 with a larger group of EAs. A total of 129 eligible and consented learners aged between 12 and 14 (86 females and 43 males) were recruited from two high schools, which were selected from the Metro East Education District of Cape Town. These schools and the geographic area had similar socio-demographic characteristics to the targeted study sites.
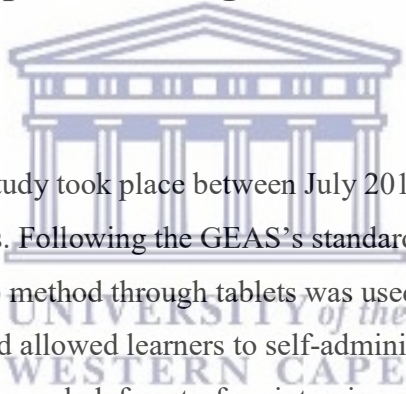
Based on the pilot study, several questions that were considered irrelevant to the local context were eliminated from the final questionnaires. In addition, for the purpose of this PhD project,

78

the following questions were added to the study instrument: 1) whether EAs had a female sibling(s) who had a pregnancy prior to 18 years of age; 2) EAs' intention to use contraceptive methods if they decided to have sexual intercourse in the coming year; and 3) if EAs would be able to negotiate the use of contraceptives with their current partner (see Appendix I).

The finalized questionnaires were translated to the three common local languages of the learners (English, Afrikaans, isiXhosa). In addition, two researchers back-translated the pre-final questionnaires to ensure accurate translation into these languages. During the data collection, learners were able to complete the questionnaires in the language of their choice. The questions and possible responses (multiple choice) were uploaded prior to data collection onto computer tablets, with the assistance of the Johns Hopkins University (JHU)'s data management center, using the Open Data Knowledge (ODK) software package.

3.6 Data collection, capture, management and entry

3.6.1 Data collection

The data collection of the main study took place between July 2019 and March 2020 at 11 selected schools in the study sites. Following the GEAS's standard study protocol, the computer-assisted self-interviewing (CASI) method through tablets was used to collect data during the pilot and main study. This method allowed learners to self-administer the survey questionnaires electronically, rather than interviewer-led, face-to-face interviews being conducted. Prior to the GEAS, the CASI method had been tested by several researchers with this young age group in similar settings and found to improve response rates by ensuring greater confidentiality, especially when sensitive issues were raised (CDC-Division of Global HIV and TB, 2010; Jaspan et al., 2007). A unique study identification number was automatically assigned to each of the study participants.

The data collection took place in schools after normal class hours. Field workers checked with a teacher who had agreed to act as a liaison for the study's target schools as to whether both an assent form from EAs and a parent/caregiver's consent form had been obtained for each of the eligible learners. These forms were collected and verified as complete by the fieldworkers. Due

79

to the number of tablets that were available for the current study, and to enable fieldworkers to optimally supervise the data collection process, a maximum of 25 learners per day in each selected school were enrolled for participation in the study. A quiet venue was made available within the schools for the EAs to be seated at an appropriate distance from each other and complete their questionnaires in privacy.

Most respondents took approximately 50–60 minutes to complete the questionnaire. Two local field workers and the site coordinator were available at the venues during data collection to provide information once again on the purpose of the study, distribute the tablets to learners, and answer any questions that participants might have. When the participants returned their tablets after completing their questionnaires, the study coordinators checked the completeness of the responses through quality control questions embedded in CASI.

3.6.2 Data management

During the data collection, the study coordinator transferred collected data from questionnaires daily to an online SurveyCT platform that was established by JHU and assigned to each of the GEAS sites. Upon the data transfer, standard quality control was run by the JHU's data management center, using a "do" file. The quality control mechanism primarily checked two parameters: 1) the number of participants who responded to each question to identify missing or non-meaningful responses (initially set at a 15% of non-meaningful response rate as the maximum cut-off point for exclusion from the dataset); and 2) the duration of the questionnaire administration by each respondent.

For the Cape Town site, as the study had to be terminated early, the sample size was smaller than initially planned. Therefore, to avoid further compromising the sample size, all the respondents were retained in the dataset, regardless of the percentage of missing or non-meaningful responses for specific questions. To mitigate the potential risk of compromising the sample size or selection bias, the proportion of missing or invalid responses was verified during the data analysis both for the outcome and predicting (independent) variables. If the sample size was lower than 10% of the total sample size, the results were interpreted with caution and discussed in the limitation section. The second quality assurance indicator assessed the duration for each

80

participant to complete the questionnaires. If the duration of the questionnaire administration by a study participant was significantly longer or shorter than the standard duration, the study staff double-checked the completeness of the questionnaires.

3.7   Data analysis

This section is structured in two parts. First, an overview of the data analysis methods used in the study is summarized for each of the analysis steps, corresponding to the seven research objectives. Next, the main measures used in this study are explained, with a focus on the main study outcome and independent variables. Data collected from the 569 study participants were analyzed using Stata/BE 17.0 (StataCorp, 2021, College Station, TX, USA). Table 3. 5 in Appendix 1 summarizes the number of the total study sample included in the data analysis by sex and age. The current analysis included one participant aged 11 years, enrolled in error in the subsequent data analysis, as: 1) one participant would not significantly influence the analysis results; 2) our sample size was smaller than expected and this was preferable to further reducing the sample size for analysis; and 3) the age difference of this participant compared with the remaining participants was insignificant – a few months).

3.7.1   Data analysis methods

3.7.1.1 Socio-economic and demographic characteristics of the participants

This step of the analysis assessed descriptive statistics of socio-economic and demographic characteristics selected from different levels of the socio-ecological model: individual, family, peers, schools, neighbors, and access to information and communication (e.g. exposure to social media, smart phone, TV, and pornography). Covariates related to key characteristics were selected, based on the literature review and in response to each research question or objective. Descriptive statistics are presented for the covariates by the number of responses and the percentage of total participants, stratified by sex. Student's *t*-tests were used to assess any significant difference in responses between boys and girls or by age category (11–13 years old and 14 years old). If a variable's distribution was imbalanced and the sample size in a category

81

was too small (a cell count of less than five per category), Fisher's Exact Test was used, instead of Student's *t*-test for the same purpose.

3.7.1.2 Validation of the GEAS's gender norm composite scores

Firstly, the four gender norm indices that were developed for the GEAS were validated with the dataset from Cape Town, using a polychoric principal component analysis (PCA) and polychoric exploratory factor analysis (EFA). These are data reduction strategies to summarize multivariate data with fewer dimensions (defined as "factors" in EFA or "components" in PCA), while capturing maximum possible variations from the original variables (Katchova, 2013). Prior to the polychoric PCA and EFA analyses, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and inter-correlation among variables was assessed to determine the adequacy of their use (KMO of above 0.50) (Katchova, 2013).

A polychoric PCA was then conducted with all the variables that construct each of the gender norms as composite indices. An eigenvalue of above 1.00 was used as the cut-off point to identify the component(s), which were also verified by a scree plot of eigenvalues. Next, through using a polychoric EFA, factor loading was checked to allow the selection of a more parsimonious set of items loading on the identified factors or components (Ford et al., 1986). The cut-off points of ≥ 0.30 or < -0.30 were used to determine factor loading (Fabrigar et al., 1999; Osborne et al., 2011). This cut-off point was raised to ≥ 0.40 or < -0.40 when more than one variable was loaded at or above 0.30 under the same factor (cross-loading). Based on the results, the factor loadings were rotated or re-oriented if needed (factor rotation). The objective of applying the factor rotation was to simplify the structure of the loading and facilitate an easier interpretation of the EFA results (Katchova, 2013). In this analysis, the use of an oblique rotation ("*promax*" in Stata) was considered appropriate, given that the analysis showed significant inter-variable correlations.

Although PCA and EFA are similar methods, the EFA assumes that a few common factors drive the variation in the data, while the PCA does not (Katchova, 2013). Therefore, PCA is most appropriate to identify a minimum number of components that can summarize the maximum level of the variation across variables (Korstanje, 2020) and used in a deductive approach prior to

82

the EFA. The current analysis followed this logic, by using PCA, followed by EFA. Furthermore, I used a polychoric PCA and EFA, given that these methodologies may reduce misclassification errors compared to the normal PCA/EFA, especially when Likert scales are used to measure the data (Martel et al., 2021; Poirier et al., 2020).

Subsequently, a polychoric ordinal, Cronbach's alpha and its 95% confidence interval (lower limit) were calculated to assess the internal reliability of each of the factors that were identified through the PCA/EFA. In this analysis, I considered Cronbach's alpha of 0.70 as reliable (Taber, 2018), and above 0.60 as acceptable (Van Griethuijsen et al., 2015). In addition, other factors such as the number of variables that constitute a composite score, and the nature or domains of the variables within the score were also assessed to make a sense of the measures. Detailed results of the validation process are presented in section 5.1.

After the gender norm scores were validated, the analysis explored and identified potentially new gender norm scores that were appropriate for use with this study population. In this study, the author examined 27 gender norm-related variables, which had not been examined in the JHU's analysis, for possible other composite gender norm scores that could be constructed. The analysis followed the same steps described above, which validated the JHU's gender norm scores. Detailed results from this process and newly created gender norm composite scores are presented in section 5.1.

3.7.1.3 Factors associated with EAs' reported gender norms

This sub-section explains the methodology used to research questions one and two (RQ 1 and RQ 2). Once the gender norm scores were validated or constructed for each of the scores, descriptive statistics, including mean, medium, standard deviation, and range were calculated. For these scores, the differences in the mean scores by sex (boys or girls) and age (11–13 years old or 14 years old) were tested by Student's *t*-test for independent samples. Across different segments of the statistical analysis, a p-value of < 0.05 was considered as statistically significant.

Followed by this, for each of the gender indices, a multivariate linear regression model was constructed, adjusting to covariates of interest (independent variables), to detect a significant association with each of the gender norm scores. These independent variables were identified for

83

each level of the socio-ecological model: individual, family, peers, schools, neighbors, and exposure to media. The selection of covariates primarily relied on the literature review and, if necessary, was cross-checked with the results from bivariate linear regression analyses, using the gender norm score as the outcome variable. This intermediary analysis made it possible to narrow down the number of independent variables selected from each of the layers of the socio-ecological model to a maximum of three to four variables.

The final multiple linear regression models included each of the gender norm scores separately as the outcome variable, to which selected covariates were progressively added to the model from each level of the socio-ecological model. As a robustness check of the multiple linear regression models, we first verified a potential correlation among independent variables to avoid including two factors that measure strongly correlated variables. Secondly, potential multicollinearity among the variables was assessed using variance inflation factors (VIFs). In this analysis, the mean VIF > 5.0 for the overall model (Vatcheva & Lee, 2016) was used as the cut-off point.

Model selection was based on goodness of fit, using Akaike's information criterion (AIC). For each of the outcome variables (gender norm scores), the AIC was calculated sequentially when additional independent factors were added to the model. The lowest AIC implied the best-fit model. Another measure of goodness of fit was the adjusted R^2 (R^2). Adjusted R^2 is similar to R^2, but it controls for the variables and the number of samples that are newly added to the model (Figueiredo Filho et al., 2011). The models with the highest adjusted R^2 values and the lowest AIC value were considered as the best-fit models. The same analysis steps described above were applied to assess the associations between the empowerment scores and gender norms (corresponding to RQ 2).

3.7.1.4 Sexual reproductive health behaviors and knowledge, and gender norms

This segment of the analysis corresponded to RQ 3, exploring associations between gender norm scores and SRH behaviors and knowledge. The main outcome variable was adolescents' knowledge score in two topics: 1) pregnancy avoidance; and 2) HIV prevention. These two knowledge scores were constructed, using the variables that were asked in the GEAS's standard

84

questionnaires. Next, the analysis explored descriptive statistics (distribution) of each score among this study population. The significant difference between boys and girls was identified, using Student's *t*-test or Fisher's Exact Test (for the minimum cell count < 10). Further, the analysis assessed factors associated separately for pregnancy avoidance and HIV prevention knowledge, using the multivariate linear regression analysis. The same methodology for testing goodness of fit (e.g. lower Akaike's information criterion or AIC value) as described under the gender norm scores (see sub-section 3.6.1.3) was used to identify the variables that contribute to the best-fit models.

The analysis also examined potential associations between gender norms and reported romantic or sexual relationships, using three outcome variables: the onset of sexual intercourse, having ever experienced a sexual touch (i.e. being touched or touching someone's private parts), and past or current romantic relationships (binary categorical variables). Multivariate logistic regressions were conducted to identify associations with the gender norm scores, adjusted for selected covariates. Similar to the linear regression models, the AIC value was compared for different models, to assess the model fitness. When building logistic regression models, correlations among predicting variables (covariates) were double-checked through Pearson's correlation coefficients to avoid including two variables that measure similar outcomes. Log likelihood ratios were used to identify the best-fit model by choosing the one that showed the lowest log likelihood ratio.

3.7.1.5 Gender norms and violence perpetration and victimization

This analysis identified the associations between violence perpetration and victimization (peer violence and IPV) with gender norm scores (corresponding to RQ 4). A binary logistic regression analysis was conducted to explore associations between peer violence perpetration and victimization (categorical variables) during the previous six months, and the gender norm indices. Potential associations were then explored, using multivariate logistic regression models, between being a witness of peer fights or peer bullying, and victimization or perpetration of peer violence.

Lastly, binary logistic regression models or Pearson's chi-squared test were used to examine which covariates were potentially associated with reported experience of peer violence and IPV perpetration and victimization, to identify which covariates to include in the model. Finally, gender norm indices were added to these models as the main independent variable of interest and were adjusted for the selected covariates to examine associations with violence-related outcomes. Crude and adjusted odds ratios (controlled for sex and age) were obtained, together with 95% confidence intervals (CIs) and p-values. Log likelihood ratio was used to assess the goodness of the logistic regression models for each key outcome variable (HIV prevention and pregnancy avoidance knowledge scores). The lowest log likelihood ratio was considered as the best-fit model in this analysis.

3.7.1.6 ACEs, violence experiences, and gender norms

Once the ACE variables were validated by PCA and EFA methods, descriptive statistics disaggregated by age and sex were analyzed, using Student's *t*-test. Using binary logistic regression models and/or a Pearson's chi-squared test, the association was then explored between a history of ACEs and peer violence perpetration and victimization (binary categorical variables), respectively. Gender norm scores, adjusted for ACEs and other selected covariates, were then integrated in the multivariate logistic regression models (see Chapter 7). Finally, ACEs' effects on peer violence perpetration and victimization were tested through multiple regression models for different types of adverse events. The test for model fitness used AIC and log likelihood ratios. A similar methodology was applied to explore the associations between IPV perpetration or victimization with gender norms and with ACEs.

3.7.1.7 Depression symptoms, violence, and gender norms

Corresponding with RQ 6, this analysis assessed possible associations between the overall depression score (the number of symptoms reported) and gender norm scores, as well as how ACEs and other covariates influenced this association. Descriptive statistics analyzed depression symptoms and other variables such as substance use, overall health status, body comfort score, and the onset of puberty.

To build a model, I first explored the association between the depression symptom and the gender norm scores, using the depression symptoms as a continuous variable. In parallel, I assessed associations between exposure to ACEs (by type of ACEs) and reported depression symptoms. Subsequently, I constructed multivariate linear regression models, using the depression score as the outcome variable; firstly adjusted for selected covariates, including ACEs; and secondly, adding selected gender norm scores to the model. In addition to sex and age, the covariates included the mean score for body comfort, on relationship power imbalance, with peer, family, and community factors as possible confounders. Finally, the analysis examined possible mediation effects of gender norm scores for the association between ACEs and depression.

3.7.2 Measures

As illustrated in Table 3. 2, this research project used the composite indices (scores) related to gender norm as the main outcome variables. The secondary outcome variables were: 1) empowerment scores; 2) knowledge on pregnancy avoidance and HIV; 3) violence perpetration and victimization (peer violence and IPV) during the previous six months; 4) ACEs; and 5) depression symptoms. The covariates (independent variables) of interest are presented, defined and explained in Table 3. 6 in Appendix 1. Specific covariates are presented in each of the chapters on results (Chapters 4–8).

Table 3. 2: Main outcome variables used in this analysis

Category/type	Outcome variables	Research questions (RQs)
Gender norm composite mean scores (continuous variables)	- Gender stereotypical trait (GST) - Gender stereotypical roles (GSR) - Adolescents' romantic expectations (ARE) - Sexual double standards (SDS) - Gender equitable roles and features (GERF)* - Gender views on adolescents' SRH (GASRH)* - Gender stereotypical views (GSV)* (*newly created for this study)	RQ 1–5
Empowerment scores (continuous variables)	- Voice score - Freedom of movement score - Decision-making score - Decision-influence score	RQ 2

https://etd.uwc.ac.za/

Category/type	Outcome variables	Research questions (RQs)
o **SRH knowledge (continuous variables)** o **Sexual and romantic relationships (binary variable)**	- Pregnancy knowledge score - HIV knowledge score - Have ever experienced sexual intercourse (binary) - Have ever experienced a sexual touch (binary) - Past or current romantic relationships (binary)	RQ 3
Violence-related variables (binary variables)	- Experience of peer violence during the last six months (teased, bullied or threatened, physical violence victimizations by peers, engaged in perpetration of physical violence) (binary: yes/no) - Experience of IPV (all forms) with the current partner (victimization and perpetration) (binary: yes/no)	RQ 4 and RQ 5
Depression symptoms or score (continuous variable)	The depression symptom score measured by the number of depression symptoms or anxiety (total 6 items) reported by EAs	RQ 6

3.7.2.1 Gender norm composite scores

This study used four gender norm scores that were developed by the larger study (Table 3. 7 in Appendix 1) and three new gender norm scores that were developed through the current analysis (Table 3. 8 in Appendix 1). The four gender norm scores were: gender stereotypical traits (GST), adolescent romantic expectations (ARE), sexual double standards (SDS), and gender stereotypical views (GSV). The GST score measured EAs' perceptions towards male toughness and female vulnerabilities, while GSR asked about the EAs' views on traditional male power over household decisions (Blum et al., 2021). ARE asked about asked about perceptions that normalize the boys' and girls' having a girlfriend or a boyfriend at their age (Moreau, Li, De Meyer, et al., 2019). Finally, SDS measured boys' and girls' gender expectations in sexual relationships (Kågesten et al., 2021).

Three additional gender norm scores which were newly developed through this study included: gender views on ASRH (GASRH), gender stereotypical roles (GSR), and gender equitable roles and features (GERF). GASRH measured the EAs' openness to have sexual intercourse in two instances: 1) use of a measure to prevent early pregnancy; and 2) existence of "true love" in the relationship. GSR was more specifically about men's and women's roles in the household and society. Finally, the GERF (measured inversely, or a higher score meaning most equal) asked about the EAs' views on inequitable or equitable gender features or roles. All the gender-related

questions in the questionnaire used the five-point Likert scale referred to earlier. As cell counts were low in some of the categories, these responses were recoded into a binary categorical variable, with the first two coded as "yes", and the remaining three categories coded as "no". Once each of the items or variables was coded, a mean score was constructed for each of the gender norm scores.

3.7.2.2 Empowerment scores

The empowerment scores used in this study are summarized in Table 3. 9 in Appendix 1. These included four different composite scores: freedom of movement; voice; decision-making; and decision-influence, which is EAs' influence on when to leave school, when to marry, and whom to marry. Detailed results of this validation process are described in section 5.1. The correlation among empowerment scores in four different domains are subsequently explored, followed by multivariate linear regressions, to examine associations between the empowerment scores and the gender norm composite scores.

3.7.2.3 SRH knowledge variables

As the secondary outcome variables, this analysis focused on two knowledge scores: pregnancy avoidance and HIV prevention. As illustrated in Table 3. 10 in Appendix 1, the pregnancy avoidance score constituted six variables, and the HIV prevention score four variables. For each of these variables, a score of "1" was assigned to the correct answer, and a score of "0" to the incorrect answer. To obtain the mean score, a sum of the score for each of the variables was divided by the number of the variables to construct the respective knowledge scores.

3.7.2.4 Violence and ACE variables

Related to violence, the outcome variables included: 1) reported perpetration of or victimization through bullying or peer violence and 2) reported perpetration of, or victimization through, IPV, with the current partner during the same period. Exposure to peer violence was measured through questions about the respondents' experience of bullying, threatening, undesired physical fights or hurts – hitting and slapping – during the six months prior to the survey. These variables

89

were combined, and a binary categorical variable ("yes" or "no") was created separately for peer violence perpetration and victimization.

As for the IPV variable, the original GEAS questionnaire that was validated in Cape Town used four selected items from the World Health Organization (WHO)'s Multi-country Study on Women's health and Domestic Violence against Women (Garcia-Moreno et al., 2005a, 2005b). These items were also used in the DHS across low- and middle-income countries as the standard questionnaire (Yount et al., 2022). For IPV victimization, the questions asked if the current partner had: 1) ever thrown something at the participant; 2) ever pushed, shoved, or grabbed the participant; 3) ever slapped the participant in the face or head with an open hand; or 4) ever hit the participant. The same four items were asked for IPV perpetration of the respondent, that is, if she or he has ever done these violent acts to the current partner. In the analysis step, these variables were coded as binary categorical variables ("ever" or "never") for IPV perpetration or victimization, respectively.

As part of exposure to violence, this study used the ACE questions developed for the GEAS and validated through a pilot study. These questions were based on those defined by the Center for Disease Control and Prevention (CDC)'s Kaiser Permanent ACE Study (2021). Specifically, this study measured 11 types of individual and household ACE items. Table 3. 11 in Appendix 1 compares the CDC's ACE classification and the ACE measures that were used in the Cape Town site. In this analysis, the ACE variable was used in categorical variables: a history of 0–2 ACEs, 3–4, and 5 or more. It should be noted that the questions on ACEs did not specify the period during which the respondents must report these events, but they were asked: "as a child, have you ever experienced…?" for each of the 11 items.

3.7.2.5 Depression symptoms

The study's tool, based on the GEAS's measures for depression symptoms, used the Child and Adolescent Psychiatric Assessment (CAPA) tool (Angold et al., 1995; The Duke University Developmental Epidemiology, 2022) and adjusted them to the specific age range (EA) of participants (Blum et al., 2019). The measures were pre-tested and validated by GEAS in other sites. The questionnaire measures were further pre-tested and validated in Cape Town. In the

90

final questionnaire, depression symptoms were explored through six variables: 1) In general, I see myself as a happy person; 2) I blame myself when things go wrong; 3) I worry for no good reason; 4) I am so unhappy I can't sleep at night; 5) I feel sad; and 6) I am so unhappy that I think of harming myself (Table 3. 12 in Appendix 1). Each item was measured on a five-point Likert scale as for other questions, with the score of five being the strongest agreement on depression symptoms ("agree a lot") and the score of one being the weakest agreement ("disagree a lot"). For question 1 above, the score was reversely coded (i.e. the response: "disagree a lot" was coded as score of five and "agree a lot" was coded as one). This was due to the way in which the question was asked in the GEAS original questionnaire (positive statement), which was retained as it is in the Cape Town questionnaire. Each item was measured on the five-point Likert scale and scores were aggregated into the mean depression score.

3.7.2.6 Covariates with focus on the composite index scores

As part of the key socio-economic characteristics, a household wealth index was used in this analysis. This study used the same variables for the wealth index as the broader GEAS (Table 3. 13 in Appendix 1). Due to the smaller sample size of the Cape Town dataset, the wealth index was used in tertile categories (i.e. bottom 33 percentile, 34–66 percentile, and top 33 percentile), rather than quintile groups. Related to romantic relationships, two composite scores were used in the analysis: power imbalance score (Table 3. 14 in Appendix 1) and the relationship intimacy scores as part of the covariates (Table 3. 15 in Appendix 1). These scores were reported only by those who had been in a romantic relationship. Another study composite score was the body comfort score that measured the EAs' satisfaction towards their body and development (Table 3. 16 in Appendix 1). All these composite scores were validated using the polychoric PCA and EFA and obtained the acceptable level of Cronbach's alpha (above 0.70, except 0.60 for the body comfort score).

3.8   Reliability and validity of the study

Validity and reliability are crucial concepts in quantitative research. Both are interconnected and complementary conditions for obtaining quality results, as they refer to different aspects of the measures or study instruments (Sürücü & Maslakçı, 2020). Reliability is the consistency of a

measurement that produces the same results repeatedly across different studies or sites (Howell et al., 2021; Chiang et al., 2021). Therefore, this is a key element to ensure the generalizability of research findings. Validity is defined as the extent to which a score, or a measure captures the construct that it is supposed to measure (Adcock & Collier, 2001). Key elements of the reliability and validity that are applicable to this study are highlighted below.

- **Internal consistency (as a part of the reliability):** This study assessed internal consistency and validity of the measures related to gender norms and other composite scores through a series of exploratory statistical analyses such as the PCA and EFA. Once the validity of gender composite indices was tested, correlations were assessed between different gender norm measurements, to identify correlated measures. These were removed from some of the analysis, to avoid overlapping measurements.

- **Content validity:** This type of validity (also called face validity) ensures that the measures cover the entire domain of a specific variable (Heale & Twycross, 2015). This study used four gender norm composite scores for different dimensions of gender norms, which had been developed and validated by the main GEAS across multi-country sites. Furthermore, the thorough analysis of the questionnaire variables related to gender views or norms allowed the study to identify three additional, new gender norm composite scores. This ensured content validity, since these measures covered comprehensively the different domains of gender norms that were relevant to the study research questions.

- **External validity:** The use of gender norm composite indices, which were validated in different GEAS sites, contributed to obtain strong internal scale reliability. In addition, using a multi-phased, randomized sampling ensured the representativeness of this study's sample for EAs attending randomly selected schools in low socio-economic urban areas of Cape Town.

- **Criterion validity:** This validity is classified in three categories: convergent, divergent, and predictive validity (Heale & Twycross, 2015). Although the level of correlation varied among different gender norm scores that were used in this study, it mostly correlated to a limited extent (Pearson's correlation coefficient < 0.30). This suggests the added value of using all the gender norm scores to measure different aspects of the same construct (gender norms).

- **Construct validity:** This study empirically assessed logical associations among individual variables retained in each composite index (Sürücü & Maslakçı, 2020) to ensure theoretical validity of the construct that the indices intended to measure. Homogeneity (Heale & Twycross, 2015) across the instruments (gender norm scores) was tested through correlation and considered in the analysis. Similarly, convergent validity (Sürücü & Maslakçı, 2020) was assessed using factor loading and Cronbach's alpha for each of the scores identified through the analysis. The same process was applied to other composite scores, such as empowerment scores.

- **Data validity**: The use of CASI in data collection reportedly improves social desirability bias through self-administration and anonymity and, thus, may contribute to increased data validity (CDC-Division of Global HIV and TB, 2010).

3.9   Ethical considerations

EAs are considered as a vulnerable study population due to their age, which raises several ethical concerns, especially when they are asked about sensitive topics (Global Early Adolescent Study, 2021; Global Early Adolescent Study & Save the Children, 2022). This study addressed these concerns through: 1) providing sufficient information on the study procedure, confidentiality and anonymity, and researchers' contact information to parents/caregivers and eligible learners; 2) having a study coordinator, trained in stress management and with experience in conducting research with young participants, available during the data collection period; 3) assuring participants and their guardians of the voluntary nature of the participation, and that the interviews would be interrupted immediately in case of emotional distress.

During the initial meetings with selected schools, in consultation with the principals and teachers, the study team identified appropriate actions to deal with these potential ethical issues. They addressed how to handle any open disclosure of recent or ongoing exposure to violence; how to ensure physical safety or confidentiality of learners who reported these issues; and how to better provide psychosocial services, with the learner's consent. The study team also developed a list of non-government organizations (NGOs) and local institutions that provide services to adolescents.

Prior to the consent process, eligible learners and their guardians were fully informed about the study by the informational fact sheet translated in local languages (Appendix 7) and through an explanation by the teachers (focal points for the study). A copy of the informational sheet and a parental consent form were handed out to the learners who brought them to their homes. Parents or guardians of eligible learners were asked to review the informational sheets, sign a written consent form, and send it back to schools if they agreed to their child's participation. Once the parental consent was obtained, their children (learners) were also requested to submit an assent form if they wished to participate in the study.

To ensure confidentiality, data collection took place in a private safe space in schools after school hours. The questionnaire loaded on the tablet incorporated a set of questions for the field workers to review at the end, with an automatic alert. In cases where a participant reported any serious issues (e.g. violence, threats, mental health, etc.), the field workers immediately reported to the study coordinator and informed the participants about available referral services. Another ethical consideration was the duration of time required to respond to the questionnaire. To minimize this inconvenience, data collection was conducted in schools after school hours, and compensations in the form of a gift card (i.e. US$5.00) and snacks were provided to participants.

Throughout the study, a respondent's unique identifier number was used in lieu of their name to allow anonymous and confidential data collection, storage, and analysis. Signed consent and assent forms were kept in a locked cabinet in the principal investigator's office and were delinked from the data. Once the dataset became available for analysis, I kept password-protected data files on my private computer for analysis purposes. All data will be kept for five years after the completion of the study and then destroyed.

The GEAS's principal investigators initially obtained an ethical approval from the Institutional Review Board (IRB) of the JHU and the WHO's Ethical Review Board, including the Cape Town site. Locally, the study was approved by UWC's Biomedical Research and Ethics Committee (BMREC) in October 2017 (BM17/8/17), which was renewed annually (Appendix 7). Specifically for this PhD research project, permission was obtained from UWC's GEAS investigators to analyze the quantitative data. In 2018, my PhD proposal was initially approved

by BMREC at UWC. Permission was subsequently renewed in 2019 and in 2020 (updated in 2022), which is valid until 15 May 2023 (Appendix 7).

3.10 Conclusion

This chapter presented the methodology used in this study, including the study setting, the study population, sampling, and the data collection and analysis methods. This chapter also discussed the validity and reliability of the study and its ethical considerations. In the following chapter, I describe key results from the data analysis, aligned to the research objectives.

PART II: RESULTS SECTION

This part of the thesis presents the key results from the analysis of the quantitative data that were collected from a sub-set of 569 early adolescent (EA) learners aged 12–14 in impoverished areas of Cape Town. The section consisted of five individual chapters, organized around different research questions (RQs).

Chapter 4 presents the main socio-demographic characteristics of the EAs surveyed.

Chapter 5 addresses RQs 1 and 2; presenting factors are associated with EAs' gender norms, using the socio-ecological model (RQ 1), including their associations with reported empowerment scores along different dimensions (RQ 2).

Chapter 6 summarizes the key findings in response to RQ 3, focusing on the potential associations between EAs' gender norms and knowledge, perceptions, attitudes, and behaviors toward early pregnancy avoidance and HIV prevention, as well as sexual activities and romantic relationships.

Chapter 7, which is aligned with RQs 4, 5, and 6, presents the associations between EAs' gender norms and recent experiences of peer violence and intimate partner violence (IPV). It also reports on the results related to ACEs and their association with gender norms and with recent experience of peer violence among EAs.

Chapter 8 assesses correlations between gender norms and reported depression symptoms among EAs. This final chapter in this section on results reports the findings on potential relationships between depression symptoms and violence (ACEs and recent peer violence), and how gender norms potentially mediate these associations. Each of the five chapters in this part of the thesis starts with a sub-section that briefly summarizes specific analysis methods and measures that were described in detail in section 3.7.

CHAPTER FOUR: KEY CHARACTERISTICS

Chapter 4 has two main sub-sections. After presenting specific analytical methods and variables used in this chapter (4.1), sub-section (4.2.1) summarizes the socio-economic and demographic characteristics, which are presented by different levels of the socio-ecological model (4.2.1). Sub-section 4.2.2 then presents early adolescents (EAs)' reported sexual and romantic relationships and comparison by sex and age (for some variables).

4.1 Specific analysis strategies and measures

As explained in section 3.7, the analysis first assessed the descriptive statistics of socio-economic and demographic characteristics selected from different levels of the socio-ecological model: individual, family, peers, schools, neighbors, and access to information and communication. The main covariates or variables used in this chapter are listed in Table 4. 11 in Appendix 2. Descriptive statistics are presented for each of the covariates by the number of responses and the percentage against total participants, stratified by sex. Student's *t*-test or Fisher's Exact Test was used to assess any significant differences in responses among boys and girls or by age (as a binary categorical variable: 11–13 years old and 14 years old).

An overview of the development of the composite indices and their validation is explained in sub-section 3.7.2. Throughout the analysis, the household wealth index was used as a measure of households' socio-economic status. A list of 28 variables/questions (Table 3. 13 in Appendix 1) was used for the household wealth index. Missing observations were dropped from each of the 28 variables. The scores from each item were then aggregated into one score. Thereafter, the score was divided into terciles and coded into three categories: 1 – "bottom 33 percentile," 2 – "middle tercile, or 34–66%", 3 – "top tercile, 67% or higher". The use of a tercile was considered appropriate to ensure a sufficient cell count in each category, given the small sample size from the Cape Town site.

EAs' positive perceptions of neighborhood social cohesion was composed of four variables that were related to EAs' perceptions towards positive and caring attitudes of the community where they lived. These questions, which were taken from the GEAS's standard questionnaires to keep

97

the variables harmonized, included:: 1) "People in my community look out for, and help their neighbors," 2) "People in my community can be trusted," 3) "People in my community know who I am," and 4) "People in my community care about me". If EAs responded "yes" to all the four items, their view of social cohesion was considered highly positive. The number of affirmative or positive answers ("yes") was counted and categorized into 0–2 or 3–4 items out of a total of four questions.

The overall composite scores for power balance and intimacy in relationships, and their validation processes, have been described in sub-section 3.6.2. The power imbalance score used the four variables that ask about power imbalances in current or past relationships (Table 3. 14 in Appendix 1). The relationship intimacy score was created using the six variables that asked about intimate or close present or past relationships (Table 3. 15 in Appendix 1). The response to each question was measured on a five-point Likert scale, as described in sub-section 3.7.2. The individual score for each of these items was aggregated into a mean score.

4.2   Results

4.2.1   Socio-economic and demographic characteristics

4.2.1.1 Individual characteristics

Table 4. 1 shows a summary of the socio-economic and demographic characteristics of the participants. Out of 569 EAs, 337 were girls (59.23%) and 232 were boys (40.77%). When asked about EAs' sexual identity, 95.13% of 226 boys reported that "they feel 100% or mostly a real boy", indicating that they felt masculine (as their biological sex). Among 331 girls, 91.54% answered that "they were 100% or mostly a real girl", or feminine. A total of 12 EAs (6 girls and 6 boys) responded "don't know" or "prefer not to answer". Only four girls reported that "they feel 0% a real girl", indicating that they may belong to a sexual identity other than their biological sex (female), or LGBTIQ+ (Lesbian, Gay, Bisexual, Trans, Intersex, Queer and others). Given a very low proportion of the study participants who reportedly felt belonging to LGBTIQ+ population, this variable could not be used in the analysis.

98

The age range was between 11 and 14 years old, with the mean age of 13.55 years old. Since the recruitment process took place from the older age (14 years old) to the younger age group, almost 60% of the EAs belonged to 14 years old. More than seven out of 10 participants (71.35%) were black Africans, approximately 26% were Coloured, and 2.7% were white. The majority of the study population reported more than one language as their mother tongue. The survey language chosen by the participants (isiXhosa, English or Afrikaans) was, therefore, considered as the main maternal language in this analysis. No significant differences were observed in participants' age, ethnicity, and survey languages by sex.

Reported migration status and household wealth indices showed significant differences by sex. Boys were more likely to be born in Cape Town (81.50%) compared to girls (72.59%) and the difference was statistically significant ($p = 0.015$). More girls than boys came from the medium tertile of the wealth index (36.30% vs 28.64% respectively), while more boys than girls belonged to the richest tertile (40.38% vs 28.38%; $p < 0.050$). Christianity was reported as their main religion by 87% of participants. Only 6% of the participants reported no religion (not shown in Table 4.1). The vast majority reported attending church frequently, showing a high level of religiousness among the participants.

Table 4. 1: Socio-economic and demographic characteristics of early adolescents by sex (N = 569)

Variables	Overall (N = 569) N (%)	Boys (N = 232) N (%)	Girls (N = 337) N (%)	P-value
Mean age +/- SD (range) N = 569	13.55 +/- 0.62	13.57 +/- 0.63	13.53 +/- 0.62	
11 years old	1 (0.18)	0 (0.00)	1 (0.30)	
12 years old	37 (6.50)	18 (7.76)	19 (5.64)	0.429
13 years old	180 (31.63)	63 (27.16)	117 (34.72)	
14 years old	351 (61.69)	151 (65.09)	200 (59.35)	
Ethnicity (N = 555)				
Black African	396 (71.35)	157 (68.56)	239 (73.31)	0.381
Coloured	144 (25.95)	64 (27.95)	80 (24.54)	
White	15 (2.70)	8 (3.49)	7 (2.15)	
Survey language (N = 569)				
English	218 (38.31)	92 (39.66)	126 (37.39)	0.766
Afrikaans	130 (22.85)	54 (23.28)	76 (22.55)	

Variables	Overall (N = 569) N (%)	Boys (N = 232) N (%)	Girls (N = 337) N (%)	P-value
IsiXhosa	221 (38.84)	86 (37.07)	135 (40.06)	
Migration status Adolescent born in Cape Town (N = 559)	426 (76.21)	185 (81.50)	241 (72.59)	**0.015***
Father born in Cape Town (N = 442)	152 (34.39)	72 (39.56)	80 (30.77)	0.055
Mother born in Cape Town (N = 541)	236 (43.62)	106 (48.18)	130 (40.50)	0.077
Frequency of attending church (N = 528)				
Never	31 (5.87)	17 (8.06)	14 (4.42)	
Once a month	43 (8.14)	18 (8.53)	25 (7.89)	0.312^
Twice to three times a month	142 (26.89)	58 (27.49)	84 (26.50)	
Every week or more	312 (59.09)	118 (55.92)	194 (61.20)	
Wealth index tertile (N = 516)				
Bottom tertile (the poorest)	173 (33.53)	66 (30.99)	107 (33.53)	
Medium tertile (middle)	171 (33.14)	61 (28.64)	110 (36.30)	**0.016***
Upper tertile (the richest)	172 (40.38)	86 (40.38)	86 (28.38)	
Mother's education level (N = 523)				
Never/up to primary completed	60 (11.47)	26 (12.04)	34 (11.07)	
Some secondary completed	177 (33.84)	73 (33.80)	104 (33.88)	0.972
Secondary completed	180 (34.32)	75 (34.72)	105 (34.20)	
Trade/vocational school, or university	106 (20.27)	42 (19.44)	64 (20.85)	

**p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

4.2.1.2 Family or household contexts

Table 4. 2 describes selected family characteristics. Slightly over half (51.23%) lived with both parents and the rest lived with one of the parents, or any other caregiver. Among those who lived with only one of their parents, 86% of them resided with their mother only, indicating an absent father was common in the study population. The majority of the study population (97.3%) reported having more than one sibling; and of those, 73.13% had three or more siblings, indicating a fairly high fertility rate of the mothers of this study population. Among those who had siblings, nearly 80% reported having both brother(s) and sister(s). More than a quarter (about 28%) of 411 EAs who had a female older sibling (s) reported that their sister (s) became pregnant prior to age 19. Girls were significantly more likely to report their older sisters getting pregnant as an adolescent (prior to 18 years old) than boys ($p < .05$).

Table 4. 2: Family characteristics among early adolescents by sex (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Household composition (N = 568)				
Both parents	291 (51.23)	122 (52.81)	169 (50.15)	
One parent only	194 (34.15)	77 (33.33)	117 (34.72)	0.859
Grandparents	33 (5.81)	14 (6.06)	19 (5.64)	
Others (no parents or grandparents)	50 (8.80)	18 (7.79)	32 (9.50)	
One parent only (N = 194)				
Mother only	163 (84.02)	62 (80.52)	101 (86.32)	0.280
Father only	31 (15.98)	15 (19.48)	16 (13.68)	
Siblings (N = 562)				
No siblings	15 (2.67)	9 (3.95)	6 (1.80)	
1–2 siblings	136 (24.20)	52 (22.81)	84 (25.15)	0.442
3–5 siblings	239 (42.53)	98 (42.98)	141 (42.22)	
6 or more siblings	172 (30.60)	69 (30.26)	103 (30.84)	
Gender of siblings (N = 547)				
Sisters only	54 (9.87)	20 (9.13)	34 (10.37)	
Brothers only	60 (10.97)	18 (8.22)	42 (12.80)	0.194
Both brothers and sisters	433 (79.16)	181 (82.65)	252 (76.83)	
Have your sister(s) ever gotten pregnant before 19 years old? (N = 411)				
Yes	116 (28.22)	38 (22.49)	78 (32.23)	
No	295 (71.78)	131 (77.51)	164 (67.77)	**0.030***

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

Table 4.3 summarizes the relationship and communication characteristics of EAs with their main caregiver, including parental or caregiver's expectations of their daughters or sons in different aspects of life (e.g. education, marriage, and having a boy/girlfriend). Overall, nearly 65% of EAs feel close to their main caregiver, including parents. Caregiver's or parents' awareness level of their children (EAs) was also reportedly high. Regarding parental or main caregiver's expectations about the education of their daughters or sons, approximately 78% of the EAs reported that their parent or caregiver expected them to complete university or post-graduate

101

education. Parents or main caregivers of girls were significantly more likely to expect their daughters to complete university or post-graduate education, compared to those of boys.

Parents or caregivers of boys were more likely to give them freedom to decide on the timing of their marriage than girls, while parents of girls were significantly less likely to expect them to marry than those of boys. Main caregivers or parents of boys were significantly more likely (p < 0.001) to approve of them having a boyfriend or girlfriend than those of girls.

Table 4. 3: Parental expectations, relationships, and communication with the main caregivers by sex (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Connectedness with the main caregiver (including parents)				
Feels close to the main caregiver	368 (64.67)	152 (65.52)	216 (64.09)	0.727
Main caregiver's awareness (knows friends by name, their grades, where adolescent is)	412 (72.41)	169 (72.84)	243 (72.11)	0.847
Parental/ caregiver's expectations: education (N = 553)				
Secondary or high school	94 (17.00)	50 (22.52)	44 (13.29)	
College, trade, or technical school	29 (5.24)	15 (6.76)	14 (4.23)	**0.005****
University, postgraduate, or above	430 (77.76)	157 (70.72)	273 (82.48)	
Parental/ caregiver's expectations: marriage (N = 513)				
After primary or secondary school	24 (4.68)	14 (6.60)	10 (3.32)	
After I graduate from high school	120 (23.39)	50 (23.58)	70 (23.26)	**0.009**^**
When I decide I want to marry	328 (63.94)	140 (66.04)	188 (62.46)	
They don't expect me to marry	41 (7.99)	8 (3.77)	33 (10.96)	
Parental/caregiver's approval on having a boyfriend or girlfriend at current age (N = 498)				
Yes (very true or somewhat true)	205 (41.16)	128 (65.98)	77 (25.33)	**< 0.001*****
No (not very true or not at all true)	293 (58.84)	66 (34.02)	227 (74.67)	
Communication with parent or the main caregiver Comfortable talking with caregiver(s): "very comfortable" or "somewhat comfortable" to all of three categories below.	294 (51.67)	127 (54.74)	167 (49.55)	0.224
Comfortable talking with the main caregiver on:				
Things that worry you (N =556)	448 (80.58)	189 (83.63)	259 (78.48)	0.132
Changes to your body (N = 554)	409 (73.83)	170 (76.58)	239 (71.99)	0.229
Problems with your boy or girlfriend (N = 367)[+]	249 (67.85)	123 (74.55)	126 (62.38)	**0.013***

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test; [+]A high number of missing observations is because this question was asked for EAs who are currently in a romantic relationship only (69.1% of total EAs)

Regarding parent-adolescent communication, slightly more than half of boys and nearly half of girls responded that they feel very comfortable, or somewhat comfortable, in communicating with their main caregivers on all three items: 1) things that worry me; 2) changes with my body; and 3) problems with my boyfriend or girlfriend. Among these three items, "problems with my boyfriend or girlfriend", if the EA was in a romantic relationship, was the least comfortable issue for them to discuss with their main caregivers, especially among girls. EAs felt most comfortable talking to their caregivers on things that worry them. For the item "problems with boyfriend or girlfriend," the percentage of missing observations was high, given that 176 participants (30.9% of the total sample) are currently not in a romantic relationship.

4.2.1.3 Peer and school environments

Table 4. 4 (in the next page) shows the characteristics of peers (close friends). Boys were significantly more likely to have mixed-sex friends (both male and female friends) than girls. With respect to peers' perceptions, over 43% of the EAs reported that their close friends considered the importance of avoiding pregnancy. Compared to boys, a significantly higher proportion of girls reported that their close friends considered the importance of studying hard and of pregnancy prevention. In contrast, compared to girls, boys' close friends were significantly more likely to consider the importance of having a boyfriend or girlfriend or having a sexual intercourse than girls.

In terms of risky behaviors, a quarter of the EAs reported that most or all their close friends drank alcohol, which appeared to be more common than smoking among peers. Furthermore, slightly over 30% of the participants reported that many of their close friends had initiated sexual intercourse. A significantly higher proportion of boys (nearly 43%) reported that some or many of their peers having had sexual intercourse, compared to girls (approximately 23%).

Table 4. 4: Peers' characteristics reported by early adolescents by sex, Cape Town (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Number of male friends – yes, % (N = 560)				
0	134 (23.93)	20 (8.66)	114 (34.65)	
1–3	277 (49.46)	122 (52.81)	155 (47.11)	**<0.001***
> 3	149 (26.61)	89 (38.53)	60 (18.24)	
Number of female friends – yes, % (N = 564)				
0	74 (13.12)	56 (24.45)	18 (5.37)	
1–3	308 (54.61)	104 (45.41)	204 (60.90)	**<0.001***
> 3	182 (32.27)	69 (30.13)	113 (33.73)	
Have both female and male friends – yes, % (N = 569)	372 (65.38)	165 (71.12)	207 (61.42)	**0.017***
Average time spent with friends weekly – yes, % (N = 536)				
Never	31 (5.78)	11 (5.07)	20 (6.27)	
1–2 times/week	162 (30.22)	43 (19.82)	119 (37.30)	
3–4 times/week	105 (19.59)	47 (21.66)	58 (18.18)	**<0.001***
Nearly every day	238 (44.40)	116 (53.46)	122 (38.24)	
Most or all your close friends think that it is important to… – yes, % (N = 569)				
Study hard	423 (74.34)	157 (67.67)	266 (78.93)	**0.003***
Have a boyfriend or girlfriend	176 (30.93)	98 (42.24)	78 (23.15)	**<0.001***
Have sexual intercourse	74 (13.01)	54 (23.28)	20 (5.93)	**<0.001***
Avoid pregnancy	246 (43.23)	84 (36.21)	162 (48.07)	**0.005***
Perceived peers' risk behaviors – yes, % (N = 569)				
Most/all close friends have smoked (%)	34 (5.98)	18 (7.76)	16 (4.75)	0.136
Most/all close friends have drunk alcohol (%)	138 (24.25)	57 (24.57)	81 (24.04)	0.884
Some/many close friends have had sex (%)	175 (30.76)	99 (42.67)	76 (22.55)	**<0.001***

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

EAs' school-related characteristics are summarized in Table 4. 5. Nearly all (95%) of the learners were at or above age for their expected education level. Therefore, this variable was excluded from the analysis. Girls tend to set higher expectations (to attain tertiary education) than boys, with statistically significant differences.

Slightly half the learners reported the sex of teachers in the schools to be mixed (there were both women and men), while the rest reported that they only had female teachers. Regarding school safety, approximately 43% of the learners had sometimes or often felt threatened (of being attacked, bullied, or hurt in school, or during commuting from or to school) during the previous

104

year, with no statistically significant difference by sex. The majority (95.27%) of the participants reported that sometimes, or most of the time, they had someone (an adult) who really cared about them in schools. Basic school infrastructure was mostly available to the learners. For instance, more than 90% of the participants had access to functional toilets or latrines with doors, and approximately 74% of them reported the availability of potable water systems in their schools.

Table 4. 5: School- and education-related characteristics by sex, Cape Town (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Current school grade (N = 568)				
7th grade	128 (22.54)	59 (25.54)	69 (20.47)	
8th grade	257 (45.25)	104 (45.02)	153 (45.40)	0.286
9th grade	183 (32.22)	68 (29.44)	115 (34.12)	
Educational expectation: I expect to complete… (N = 552)				
Quit school earlier (prior to completing the primary)	1 (0.18)	1 (0.44)	0 (0.00)	
Primary or secondary school	94 (17.03)	48 (21.05)	46 (14.20)	
Vocational training, college, or technical diploma	105 (19.02)	44 (19.30)	61 (18.83)	**0.007^****
Graduate degree (university, master's, or doctorate)	352 (63.77)	135 (59.21)	217 (66.98)	
School safety: felt unsafe or threatened when you were on the way to school or in school in the last year (e.g. afraid of being attacked, bullied or being hurt) (N = 554)				
Rarely or never	316 (57.04)	126 (56.00)	190 (57.75)	
Sometimes or often	238 (42.96)	99 (44.0)	139 (42.25)	0.683
Sex of the teachers in your school (N = 552)				
Mostly women	224 (40.58)	90 (39.65)	134 (41.23)	
Mostly men	29 (5.25)	18 (7.93)	11 (3.38)	0.062
Both women and men	299 (54.17)	119 (52.42)	180 (55.38)	
Have an adult (teacher or someone else) who really cares about you in school (N = 528)				
No, they don't really care.	25 (4.73)	10 (4.63)	15 (4.81)	
Yes, some or most of the time	503 (95.27)	206 (95.37)	297 (95.19)	0.925
School infrastructure (availability in your school for your use)				
Toilets/latrines with doors (N = 536)	484 (90.30)	193 (89.35)	291 (90.94)	0.543
Running water (N = 533)	394 (73.92)	155 (71.20)	239 (75.87)	0.217

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

105

4.2.1.4 Neighborhood characteristics

Two variables linked to neighborhoods or communities, and related to social cohesion and community safety, were selected for further regression analysis, with gender norms. These measured by EAs' perceptions towards community's mutual support, trustfulness, caring attitudes towards them, and if people in the community knew them by names (Table 4. 6). For three out of four questions on positive social cohesion, a significantly higher proportion of boys had positive responses, compared to girls. For instance, boys were significantly more likely to agree that "People in my community look out for, and help their neighbors" and "People in communities know who I am".

In general, over three-quarters of participants reported they felt threatened in at least one of the following places in the previous year: school, the classroom, commuting to schools, or communities (results not shown in Table 4. 6). Slightly over half of the respondents had felt threatened or unsafe in communities during the previous 12 months. The main reason (reported by over 30% of the respondents) was the presence of gangsters or drug dealers. Boys were significantly more likely to have felt threatened in schools than girls, while more girls tended to have felt unsafe while commuting to or from school. Overall, nearly a third identified gangsters or drug dealers as the main reason for insecurity in their communities.

Table 4. 6: Neighborhood characteristics and safety by sex, Cape Town (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Neighborhood social cohesion ("agree" means those who responded totally or somewhat agree)				
% who agree with "People in my community look out for and help their neighbors"	390 (68.54)	176 (75.86)	214 (63.50)	**0.002***
% who agree with "People in my community can be trusted"	249 (43.76)	108 (46.55)	141 (41.84)	0.266
% who agree with "People in my community know who I am"	436 (76.63)	199 (85.78)	237 (70.33)	**<0.001*****
% who agree with "People in my community care about me"	331 (58.17)	151 (65.09)	180 (53.41)	**0.006****
Positive neighborhood perception (agreed on all four items)	166 (29.17)	72 (31.03)	94 (27.89)	0.418
Felt unsafe or threatened in community in the past year (yes, %)	305 (53.60)	127 (54.74)	178 (52.82)	0.651
The place where I felt threatened (multiple choices)				
Everywhere at school	45 (14.75)	26 (20.47)	19 (10.67)	**0.022^***

106

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
In my classroom	37 (12.13)	20 (15.75)	17 (9.55)	0.102
On the way to or from school	151 (49.51)	61 (48.03)	90 (50.56)	0.663
In my community	94 (30.82)	40 (31.50)	54 (30.34)	0.829
Felt unsafe or threatened in community because of…				
Gangsters or drug dealers	184 (32.34)	81 (34.91)	103 (30.56)	0.276
Boys or girls my age	43 (7.56)	16 (6.90)	27 (8.01)	0.621
Other adults	43 (7.56)	13 (5.60)	30 (8.90)	0.143
Other (e.g. animals, car accidents)	54 (9.49)	14 (6.03)	40 (11.87)	**0.020***

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

4.2.1.5 Utilization of ICT and media

Table 4. 7 presents EAs' utilization of television (TV), social media, mobile phone, and other information and communication technology (ICT) as communication tools with their peers, and their exposure to pornography. Nearly two-thirds of the EAs (63%) owned a mobile phone, three-quarters had a social media account (e.g. Twitter, Instagram, WhatsApp, or Facebook), and 58% had access to their own TV. In terms of the frequency of ICT or media use, girls were more likely to spend significantly longer hours (4–5 hours or longer) on online technologies, compared to boys (p = 0.039). Approximately 36% of the EAs reported watching pornography sometimes or often, with a significantly higher proportion of boys (slightly more than half) than girls.

Table 4. 7: Utilization of ICT and pornography among early adolescents by sex, Cape Town (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
On a typical day, how many hours in total do you spend watching TV or movies? (N = 560)				
None	31 (5.54)	13 (5.65)	18 (5.45)	
About 1 hour or less	128 (22.86)	50 (21.74)	78 (23.64)	0.844
About 2–3 hours	217 (38.75)	94 (40.87)	123 (37.27)	
About 4–5 hours or longer	184 (32.86)	73 (31.74)	111 (33.64)	
On a typical day, how many hours in total do you spend using social media, chatting with friends online, playing computer games, or using other interactive media? (N = 467)				
None	66 (14.13)	23 (11.73)	43 (15.87)	**0.039***
About 1 hour or less	103 (22.06)	55 (28.06)	48 (17.71)	

107

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
About 2–3 hours	152 (32.55)	64 (32.65)	88 (32.47)	
About 4–5 hours or longer	146 (31.26)	54 (27.55)	92 (33.95)	
How often do you contact your friends using texting or other social media? (N = 536)				
Never (including "do not have a phone")	119 (22.20)	38 (17.84)	81 (25.08)	
Less than weekly	124 (23.13)	52 (24.41)	72 (22.29)	0.118
Weekly	101 (18.84)	48 (22.54)	53 (16.41)	
Daily	192 (35.82)	75 (35.21)	117 (36.22)	
How often do you talk to your friends directly by phone or computer (N = 535)				
Never (including "do not have a phone")	123 (22.99)	41 (19.16)	82 (25.55)	
Less than weekly	154 (28.79)	68 (31.78)	86 (26.79)	0.267
Weekly	116 (21.68)	50 (23.36)	66 (20.56)	
Daily	142 (26.54)	55 (25.70)	87 (27.10)	
Have you watched pornography? (N = 535)				
No (rarely or never)	341 (63.74)	100 (45.66)	241 (76.27)	<0.001***
Yes (sometimes or often)	194 (36.26)	119 (54.34)	75 (23.73)	

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

4.2.2 Sexual activities and romantic relationships

4.2.2.1 Sexual attitudes and experiences

Table 4. 8 presents reported past or current romantic relationships and sexual history. Among the 479 participants responding to these questions, nearly a half were in a current romantic relationship, and an additional a fifth had been in such a relationship in the past. Boys were significantly more likely to be in an ongoing romantic relationship than girls. Fifty-four respondents answered that they were married or had been engaged to get married. However, this finding is unlikely to reflect the reality of the study site, given the existing laws and policy that prohibit marriage of minors less than 18 years old. Discussion with fieldworkers confirmed that this was likely an error, which only affected a small number of participants (further discussed in Chapter 9: discussion).

Among 507 EAs who responded to this question, 20.21% had initiated sexual intercourse, while 21.27% of 512 EAs had experienced their private parts being touched or had touched someone's

108

private parts. Boys were significantly more likely to have initiated sexual intercourse than girls (approximately 37% and 34% of boys respectively, having initiated sexual intercourse or having experienced a sexual touch). Compared to a sexual intercourse or sexual touch, EAs were less likely to have experienced anal sex, which was reported by nearly 24% of boys and less than 5% of girls. Among 115 adolescents who had experienced sexual intercourse, slightly more than 65% reportedly used a contraceptive method at their first sex.

Table 4. 8: Romantic and sexual relationships and experiences by sex

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N =337) N (%)	P-value
How important is it for you to have a boyfriend or girlfriend right now? N (%), (N = 569)				
Very important or somewhat important	197 (34.62)	121 (52.16)	76 (22.55)	**< 0.001*****
Romantic relationships (N = 479)				
Never	108 (22.55)	21 (10.34)	87 (31.52)	
Past romantic relationships	90 (18.79)	28 (13.79)	62 (22.46)	**< 0.001*****
Currently have a boyfriend or a girlfriend	227 (47.39)	124 (61.08)	103 (47.39)	
Engaged or married	54 (11.27)	30 (14.78)	24 (8.70)	
Sexual history – yes, %				
Ever had sexual touch (N = 512)	121 (21.27)	78 (33.62)	43 (12.76)	**< 0.001*****
Ever had sexual intercourse (N = 507)	115 (20.21)	85 (36.64)	30 (8.90)	**< 0.001*****
Ever had oral sex (N = 445)	53 (9.31)	37 (15.95)	16 (4.75)	**< 0.001^*****
Ever had anal sex (N = 432)	71 (12.48)	55 (23.71)	16 (4.75)	**< 0.001^*****
Age of the first sexual intercourse (onset) (N = 97)				
7–10 years old or younger	14 (14.43)	10 (13.51)	10 (17.39)	
11–12 years old	24 (24.74)	21 (28.38)	3 (13.04)	0.328^
13–14 years old	59 (60.82)	43 (58.11)	16 (69.57)	
Contraceptive use at the first sex – yes, %, (N = 115)	75 (65.22)	52 (61.18)	23 (76.67)	0.181^
Relationship for the first-time you had sexual intercourse (N = 112)				
Boyfriend/girlfriend or other friend from school/community	88 (78.57)	65 (79.27)	23 (76.67)	0.797^
Others (relatives, strangers, teacher, etc.)	24 (21.43)	17 (20.73)	7 (23.33)	
Age of the partner of the first-time sexual intercourse (N = 112)				
Younger	10 (8.93)	10 (12.20)	0 (0.00)	
Same age	68 (60.71)	57 (69.51)	11 (36.67)	
Older by 1–2 years	21 (18.75)	8 (9.76)	13 (43.33)	**< 0.001^*****
Older by 3–4 years	5 (4.46)	1 (1.22)	4 (13.33)	
Older by 5 or more years	8 (7.14)	6 (7.32)	2 (6.67)	
Reason for the first-time sex (N = 101)				
I wanted to show love, or I was curious	31 (30.69)	20 (25.64)	11 (47.83)	

109

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N =337) N (%)	P-value
Peer pressure/felt obliged by my partner	18 (17.82)	14 (17.95)	4 (17.39)	0.107^
Physically or verbally threatened (or use of drug/alcohol)	52 (51.49)	44 (56.41)	8 (34.78)	

*p < 0.05; **p < 0.01; ***p < 0.001; ^ results from Fisher's Exact Test

Although the difference was statistically insignificant, girls were more likely to have used a contraceptive method (nearly 77%) than boys (approximately 62%). In terms of the age of sexual onset, approximately 60% of sexually active EAs (N = 97) initiated sex between 13 and 14 years old, and nearly 25% between 11 and 13 years old. Although it was a minority, 14 EAs had initiated sexual intercourse between 7 and 10 years old or younger. It should be noted that the percentage of missing observations for sexual history was higher than other questions asked in the study, once again likely due to the sensitivity of the questions.

The sample size for the question related to characteristics of partners at the first time of having sex was extremely limited, especially for girls (82 boys and 30 girls). Girls were significantly more likely to have had a partner who was older than themselves at first-time sex, compared to boys, although the age difference was only 1–2 years, for the majority. Just over half of 101 EAs reported that they were threatened or forced to have sex. Boys were more likely to report forced first-time sex than girls, but the association was statistically insignificant (approximately 56% vs 35%).

4.2.2.2 Power imbalance and intimacy scores in romantic relationships

Table 4. 9 presents a mean score for the power imbalance for participants who had been in a past or current romantic relationship, with scores for each of the five variables that were used to construct this score. Among the 367 EAs in a past or current romantic relationship who provided valid responses, the power imbalance mean score was 3.20 out of a total score of five (95% CI: 3.09, 3.32) and the median was 3.40 (standard deviation, or SD: 1.20). Overall, this group reported a score of over 3.0 (exceeding 2.5, which is at 50% of the total score), which indicated unbalanced power relationships in romantic relationships. Boys' mean power imbalance scores were significantly higher than girls (3.45 vs 2.96, respectively), showing unbalanced power

110

relationships with their partners compared to girls. At an individual variable level, boys were significantly more likely to report being influenced in their behavior by their female partners.

Table 4. 9: Mean scores of the power imbalance score in romantic relationships among early adolescents by sex (N = 367)

Variables	Mean power imbalance scores (range: 1–5)			P-value
	All [95% CI]	Boys (N = 180) [95% CI]	Girls (N = 187) [95% CI]	
There are times when my partner cannot or could not be trusted.	3.44 [3.28, 3.60]	3.48 [3.26, 3.69]	3.39 [3.17, 3.62]	0.594
I sometimes do/did things because my partner is/was doing them.	3.03 [2.86, 3.20]	3.39 [3.12, 3.62]	2.69 [2.49, 2.92]	< 0.001***
My partner often influences/influenced what I do/did.	3.23 [3.07, 3.40]	3.46 [3.23, 3.69]	3.01 [2.79-3.23]	0.0047**
I sometimes do/did things because I don't/didn't want to lose my partner's respect.	3.39 [3.23, 3.55]	3.84 [3.63, 4.05]	2.95 [2.72, 3.19]	< 0.001***
My partner sometimes wants/wanted to control what I do/did.	2.91 [2.74, 3.07]	3.13 [2.89, 3.37]	2.69 [2.46, 2.93]	0.108
TOTAL mean score: power imbalance in relationships (out of a total of 5)	3.20 [3.09, 3.32]	3.45 [3.29, 3.60]	2.96 [3.09, 3.32]	< 0.001***

*p < 0.05; **p < 0.01; ***p < 0.001; 95% CI (95% confidence interval). Score ranges 1–5, with 5 as the most imbalanced power relationships.

Table 4. 10 presents the mean and median for the intimacy in relationship score by sex, which measured the closeness of the participant with the partner. The mean intimacy score among 368 EAs who were in a current or past romantic relationship, with valid responses, was 4.08 (95% CI: 4.0, 4.16), with the median of 4.17 (SD: 0.82), out of the total score of six. Boys reported a slightly higher intimacy score than girls, although the difference remained insignificant.

Table 4. 10: Intimacy score in romantic relationships by sex, Cape Town (N = 368)

Variables	Mean intimacy scores (range: 1–6)			P-value
	All [95% CI]	Boys, N = 180 [95% CI]	Girls, N = 188 [95% CI]	
My partner makes/made me feel good about myself in a way my friends can't/couldn't.	4.34 [4.23, 4.45]	4.38 [4.22, 4.53]	4.30 [4.16, 4.45]	0.474
I feel/felt comfortable talking with my partner when I have/had a problem.	4.01 [3.88, 4.14]	4.12 [3.94, 4.30]	3.90 [3.71, 4.10]	0.101
My partner cares/cared about me.	4.40 [4.30, 4.51]	4.42 [4.27, 4.58]	4.38 [4.24, 4.53]	0.730
I would/would have rather be/been with my partner than anyone else.	3.83 [3.68, 3.97]	3.90 [3.70, 4.10]	3.75 [3.54, 3.96]	0.311

111

Variables	Mean intimacy scores (range: 1–6)			P-value
	All [95% CI]	Boys, N = 180 [95% CI]	Girls, N = 188 [95% CI]	
My partner always seemed/seems to be on my mind	4.06 [3.93, 4.18]	4.16 [3.98, 4.34]	3.95 [3.77, 4.13]	0.098
My partner and I are/were practically inseparable.	3.88 [3.75, 4.01]	3.95 [3.77, 4.13]	3.82 [3.64, 4.00]	0.325
TOTAL Intimacy in relationships score (out of a total of 6)	4.08 [4.0, 4.16]	4.15 [4.02, 4.27]	4.01 [3.89, 4.12]	0.11

*p < 0.05; **p < 0.01; ***p < 0.001; 95% CI (95% confidence interval). The higher the intimacy score, the stronger the intimacy level in current or past romantic relationships.

4.3   Conclusion

This chapter presented the key socio-economic demographic characteristics and sexual activities/ romantic relationships of participants in the study, aligning these with the socio-ecological model. There were some differences in key characteristics by sex; for instance, the attitudes of the parents or main caregivers on their children having a boyfriend or girlfriend, or on deciding when they should marry. Girls were more likely to consider it important to avoid pregnancy and study hard than boys, while a higher proportion of boys than girls considered having a romantic relationship important.

Although the prevalence of the onset of sexual intercourse in this young population was only 20%, a significantly higher proportion of boys (almost 40%) reported this than girls. Our results suggest that boys were more likely to report a higher power imbalance score (being influenced by their partner) than girls in their current romantic relationship. Boys reported a significantly higher intimacy score in romantic relationships than girls.

In the next chapter, I discuss the results for research questions one and two (RQ 1 and RQ 2), aligned with factors in the socio-ecological model associated with gender norm and empowerment scores.

CHAPTER FIVE: GENDER NORMS AND EMPOWERMENT SCORES

Chapter 5 is organized into two sections. Section 5.1 briefly describes specific analytical methods and measures that were used in the data analysis presented in this chapter, while section 5.2 focuses on the results corresponding to the following two research questions (RQs):

- **RQ 1:** What factors across the socio-ecological model (e.g. individual, family, peers, schools, communities, and media/communications) affect EAs' gender norms and perceptions?
- **RQ 2:** Are more equitable gender norms associated with higher empowerment scores among EAs, measured in different dimensions (i.e. decision, freedom of movement, "voice" – which is freedom or autonomy to express their views – and influence)?

Section 5.1 also presents a summary of the results from validation processes of the gender norm scores that were developed by the broader Global Early Adolescent Study (GEAS), and identification of potential new gender norm scores. In addition, it also describes the validation of the empowerment scores and a new empowerment score that was identified and created through this research project. Section 5.2 is divided into three parts. Sub-section 5.2.1 summarizes the descriptive statistics of the gender norm composite scores, and sub-section 5.2.2 describes the empowerment scores and their associations with the gender norm scores (RQ 2). Followed by this, sub-section 5.2.3 presents the results from the analysis that explored the factors associated with the gender norm scores. Since RQ 2 (associations between gender and empowerment scores) was part of the pre-analysis step for RQ 1 (factors that were associated with the gender norms), the results corresponding to RQ 2 are presented prior to the results for RQ 1.

5.1 Analysis strategies and measures

5.1.1 Gender norm scores

The first step was to validate the four gender norm indices (Box 1) developed by John Hopkins University (JHU) for the broader GEAS's cross-country analysis, with the Cape Town dataset. As described in sub-section 3.6.1.2, the validation process used the polychoric principal component analysis (PCA) and exploratory factor analysis (EFA). The polychoric PCA and EFA were initially run with a sample with complete cases[26] only, from which those who gave an invalid response to at least one of the variables that construct a gender norm index/score (incomplete cases) were excluded. However, given that excluding the incomplete cases reduced the sample size by between 10 and 17%, depending on the gender norm scores, the same analysis was run with the sample with incomplete cases, to compare the results with the complete case analysis. In this sample with incomplete cases, those who responded to at least one of the variables that constitute a gender norm index were included in the analysis, and a score of "0" was given to invalid responses. Only those who did not provide a valid response to all the variables that constitute a gender norm score were excluded.

Box 1: Definitions of the gender norm composite indices developed by the GEAS

Four gender norm-related composite indices that were developed by JHU for the GEAS multi-country analysis and validated in this study are as follows:

- o **Gender stereotypical traits (GST):** Measure the perceptions towards stereotypical traits such as "male toughness" versus "female vulnerability".
- o **Gender stereotypical roles (GSR):** Measure the perceptions of gender stereotypical roles, for example, male as a provider and decision-maker for households versus female as caregiver, responsible for household chores, and subordinate to her husband or male partner.
- o **Sexual double standards (SDS):** Capture the gender stereotypical standards in romantic or sexual relationships for boys and girls that are mostly related to masculinity.
- o **Adolescents' romantic expectations (ARE):** Measure a degree to which adolescent girls and boys perceive romantic relationships (expectations) in their daily lives.

Note: A higher score means a greater endorsement (or less equitable) of stereotypical gender norms.

---

[26] Complete cases include only the samples or the EAs who gave a valid response to all the variables used in the construction of a gender norm score.

Table 5. 1 summarizes the results from the PCA and the EFA for the four gender norm indices (complete cases only), using the same variables that constitute each of the scores, as proposed by JHU for the larger GEAS. The analysis concluded that all four of the gender norm composite scores were valid and reliable to use in the analysis with the dataset from Cape Town. Also, the PCA/EFA results with complete and incomplete cases did not differ significantly in terms of the validation results.

Table 5. 1: Results from the PCA/ EFA – validation of four gender norm indices developed by the GEAS (complete cases only)

	Cronbach's alpha	% of Variance explained by a factor
Gender stereotypical trait (GST) (N = 529)		
Boys should be raised tough so they can overcome any difficulty in life.		
Girls should avoid raising their voice to be ladylike.		
Boys should always defend themselves, even if it means fighting.	0.730	
Girls are expected to be humble.	(95% CI lower limit: 0.700)	39.47%
Girls need their parents' protection more than boys.		
Boys who behave like girls are considered weak.		
It's important for boys to show they are tough. even if they are nervous inside.		
Gender stereotypical roles (GSR) (N = 518)		
A woman's role is taking care of her home and family.		
A man should have the final word about decisions in the home.	0.728	
A woman should obey her husband in all matters.	(95% CI lower limit: 0.694)	55.19%
Men should be the ones who bring money home for the family, not women.		
Sexual double standards (SDS) (N = 513)		
Girls are the victims of rumors if they have boyfriends.		
Boys tell girls they love them, when they don't.		
Adolescent girls should avoid boys because they trick them into having sex.	0.759	
Boys have girlfriends to show off to their friends.	(95% CI lower limit: 0.731)	46.87%
Adolescent boys lose interest in a girl after they have sex with her.		
Adolescent boys fool girls into having sex.		
Adolescent romantic expectations (ARE) (N = 534		
It's normal for a boy your age to want a girlfriend.		
It's normal for a girl your age to want a boyfriend.	0.728	
A girl should be able to have a boyfriend if she wants to.	(95% CI lower limit: 0.695)	55.17%
A boy should be able to have a girlfriend if he wants to.		

Note: Cronbach's alpha > = 0.700 is considered as a cut-off for internal validity score.

Table 5. 2: Final results from the PCA/ EFA with 27 variables (complete cases, N = 399)

Thematic areas/ variables (questions)	Factor 1 Gender equitable roles and features (GERF)	Factor 2 Gender view on ASRH (GASRH)	Factor 3 Gender stereotypical views (GSV)	Factor 4 Gender equitable view on homo-sexuality
It is OK for an adolescent girl to have sex as long as she avoids getting pregnant.		x		
In general, a girl should only have sex with someone she loves.		x		
Most of the time, if an adolescent girl says "no" to sex, her boyfriend will dump her.				
It is OK for an adolescent boy to have sex as long as he avoids getting a girl pregnant.		x		
In general, a boy should only have sex with someone he loves.		x		
It's the girl's responsibility to prevent pregnancy.				
Women who carry condoms on them are easy.				
Girls should be proud of their bodies as they become women.				
A real man should have as many female partners as he can.			x	
Men are always ready for sex.				
Boys and girls should be equally responsible for household chores.				
The expectations of the community regarding taking care of siblings should be the same for boys and girls.	x			
Physical appearance is as important for boys as for girls.	x			
It's OK that boys polish their nails.				
It's normal that girls play soccer.	x			
Boys who wear pink are ridiculous.				
Girls should wear skirts and dresses.				
Boys who don't like sports are not real boys.			x	
Girls should be interested in make-up.			x	
It is OK to tease a girl who acts like a boy.			x	
It is OK to tease a boy who acts like a girl.			x	
Boys who are attracted to other boys should be treated the same as everyone else.	x			
Girls who are attracted to other girls should not be teased.	x			
Parents should treat their daughter the same whether she loves a boy or a girl.	x			
Girls who are attracted to other girls should be treated the same as everyone else.				x
Boys who are attracted to other boys should not be teased.				x
Parents shoud treat their son the same whether he loves a boy or a girl.				x
The % of variances explained by the model (factor)	0.190	0.330	0.400	0.450
Cronbach's scale reliability (95% CI's lower limit)	0.836 (0.819)	(0.805)	0.751 (0.722)	0.758 (0.726)

Color legend: Gender equitable roles and features (GERF) score   Gender views on ASRH (GASRH) score
Gender stereotypical views (GSV) score   Gender equitable view on homosexuality

The next step was to construct new gender norms indices, using the similar methodologies as the validation of the JHU's gender norm scores. The polychoric PCA and FEA were run with all 27 items, first with a sample with complete cases only (N = 399), and subsequently with a sample that included incomplete cases (those who responded to at least one of the variables). As

116

summarized in Table 5. 2 above, the original 27 variables related to gender norms could be summarized into 18 variables across four factors or gender composite indices, with reasonable reliability (Cronbach's alpha of 0.70 or above).

Subsequently, correlations were examined between different gender norm scores, including those that were newly developed through this analysis (Table 5. 12 in Appendix 3). A correlation between two gender norm scores at or above 0.40 was considered strong, indicating that two scores may measure a similar aspect of the gender norms. The correlation analysis showed a correlation at above 0.40 between the gender stereotypical roles (GSR) and gender stereotypical views (GSV) (correlation coefficient of 0.462); gender stereotypical traits (GST) and GSR (coefficient: 0.418); and gender views on ASRH (GASRH) and GSV (0.408). This indicated that these scores may measure a similar concept for the gender norms. The strongest correlation (above 0.50) was observed between the score on homosexuality/diverse sexual orientation and gender equal roles and features (GERF) score. Therefore, this score was excluded from the subsequent analysis. Box 2 presents the definitions of the three new gender norm scores.

Box 2: Definitions of the three new gender norm composite indices

- **Gender equitable roles and features (GERF):** Measures adolescents' views on gender equality indifferent spheres such as equal treatment in communities or households and same sexual relationships. Unlike other gender norm indices above, the higher score means more equitable gender norms.

- **Gender views on adolescents' SRH (GASRH):** Captures EAs' perceptions towards sexual behaviors and promiscuity. This score measures the adolescents' openness to sexual intercourse, under the condition that they prevent a pregnancy and/or they feel true love for their partners. Two questions were asked to females and males respectively: 1) It's OK for boys or girls to have sex, as long as they prevent pregnancy; and 2) Boys or girls should have sex only with someone whom they love.

- **Gender stereotypical views (GSV):** Measures gender stereotypical views, such as a true man should have multiple sexual partners, boys should play soccer, and girls should be interested in make-up. The questions also asked if it is OK to tease boys who act like girls, and vice versa. As with the case of GEAS's gender norm scores, a higher GSV score indicates less equitable gender norms.

Note: For GERF, a higher score means more equitable gender norms, while for GSV, a higher score indicates less equitable gender norms. For GASRH, a higher score illustrates more openness of the EAs to have sex when they use measures to prevent pregnancy, and they feel true love in a romantic relationship.

117

Once the gender norm scores were validated**,** means, mediums, standard deviation, and ranges were calculated for each gender norm index. The score on adolescent romantic expectations (ARE) observed the least number of incomplete cases (those who missed at least one of the variables that construct the gender score), or 6.15% of the total sample, while the GERF score had the largest number of incomplete cases: N = 97 or 17.0% of the total sample (Table 5. 10 in Appendix 3). However, when the distribution and mean scores were compared, results for the sample with incomplete cases were similar to results for the sample with complete cases only (Table 5. 11 in Appendix 3). This justified the use of the gender norm scores for the sample that included both complete and incomplete cases, in the subsequent analysis.

Finally, the skewedness of each gender norm score was assessed (Figure 5. 1 and Figure 5. 2 in Appendix 3). Given that all the gender norm scores did not follow a normal distribution and was skewed positively or negatively, the use of a mean score (rather than categorical variables) was used in the subsequent analysis to maintain precision in the results.

5.1.2 Empowerment scores

In this analysis, different domains of empowerment scores that were constructed and used by the GEAS (Zimmerman et al., 2019, 2021) were validated by the PCA/EFA and Cronbach's alpha (see sub-section 3.6.1). The results are presented in Table 5. 13 in Appendix 3. All three scores (freedom of movement, voice, and decision-making) showed a reasonable level of internal scale reliability, using Cronbach's alpha. In addition, this analysis validated a score on decision-influence, which was excluded by the JHU from the analysis, due to an increased proportion of missing observations. Once this verification was concluded, descriptive statistics of each of the empowerment scores (mean score, SD, and 95% confidence interval) were conducted by sex. The *t*-test was used to detect statistically significant differences between the mean empowerment scores by sex at p-value < 0.05.

Subsequently, a multivariate linear regression model was constructed for each of the empowerment scores, first with gender norm scores (as independent variables) only, and then adjusted for the selected covariates. Potential multicollinearity among the independent (or

118

predicting) variables was assessed, using variance inflation factors (VIFs). Results were presented as correlation coefficients, corresponding to 95% CI and p-values.

5.1.3 Factors associated with gender norms across the socio-ecological model

A multivariate linear regression model was constructed for each of the gender norm scores, adjusting for covariates of interest (independent variables), to detect whether there were significant associations. As described in section 3.7, selected covariates (independent or predicting variables) were progressively added to the model from each level of the socio-ecological model, starting at the individual, family, peers, school, neighbor, and media levels. As a robustness check of the multiple linear regression models, potential correlations and multicollinearity among the variables were assessed, using VIFs.

As explained in sub-section 3.6.1, selection of the best linear regression model was based on goodness of fit, using Akaike's information criterion (AIC). The lowest AIC was used to identify the best-fit model. Another measure of goodness of fit in the analysis was the adjusted R^2, as described in sub-section 3.6.1. The section on results (5.2) presents only the models with the highest adjusted R^2 values and the lowest AIC, with coefficients, corresponding to 95% CI, and the p-values. Coefficients, derived from multivariate linear regression models, describe the positive or negative linear relationship between the dependent or outcome variable (gender norm scores) and the independent or predicting variables (covariates). These values indicate changes in the gender norm score, given a one-unit change in the independent variable.

5.2 Results

This section is divided into three sub-sections. Sub-section 5.2.1 describes different gender norm composite scores validated by this analysis, including the analysis by sex and age categories (RQ 1). The empowerment scores measured in different dimensions, disaggregated by sex, are summarized in sub-section 5.2.2, and followed by the results on potential associations with gender norms (RQ 2.). Finally, sub-section 5.2.3 presents factors across the socio-ecological model that influenced EAs' gender norm scores, based on the results from multivariate linear regression models (RQ 1).

119

5.2.1 The gender norm composite scores

5.2.1.1 Gender norm composite scores developed by the GEAS

Figure 5. 1 illustrates the proportion of the EAs who: 1) reported higher than the median score (unequal gender norms); 2) reported the median score; and 3) reported < median score (more equal). A median score was a preferred option over a mean score, given that it considers the skewedness of the sample distribution of the gender norm composite scores, which were not normally distributed. The highest proportion of the EAs who were classified as "unequal" was observed for the sexual double standards (SDS), followed by gender stereotypical roles (GSR).

Figure 5. 1: Distribution of unequal vs equal GST, SDS, ARE, and GSR scores, N = 569
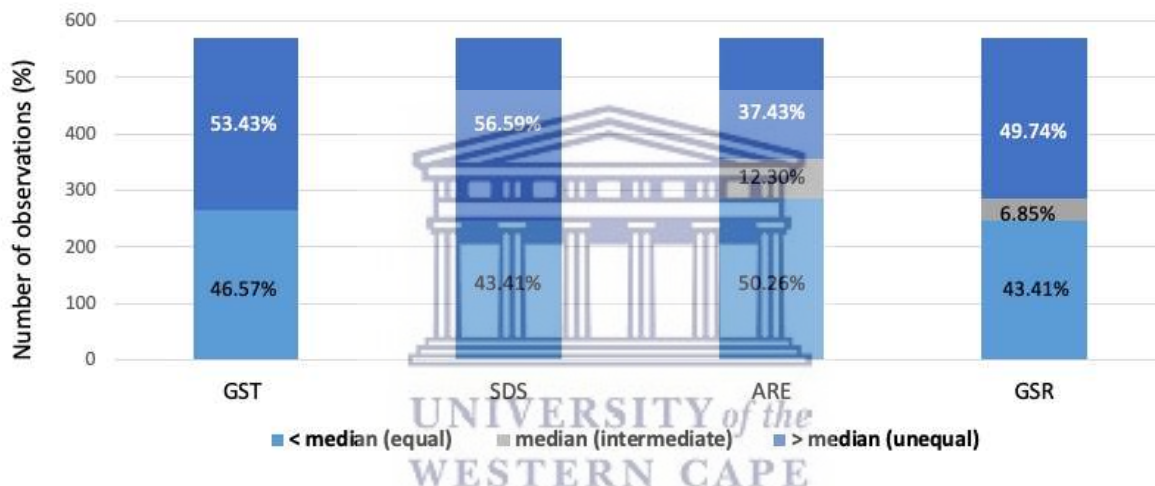
The differences in mean scores disaggregated by sex using the *t*-test are shown in Table 5. 3. For gender stereotypical traits (GST), GSR, and adolescents' romantic expectations (ARE), the boys' mean score was significantly higher than girls, indicating less equitable gender views among boys compared to girls ($p < 0.05$). In contrast, for the SDS, girls had a significantly higher (less equitable) score than boys (mean score: 4.32 for girls and 3.98 for boys; $p < 0.001$).

Table 5. 3: GEAS's gender norm scores among EAs by sex (with complete and incomplete cases)

Gender norm composite indices	Number of observations	Mean score (95% CI) Range: 1–5	Standard deviation (SD)	P-value
1. Gender stereotypical traits (GST) (N = 569) – total score: 7				
ALL	565	3.95 [3.88, 4.02]	0.86	--

120

Gender norm composite indices	Number of observations	Mean score (95% CI) Range: 1–5	Standard deviation (SD)	P-value
Boys	231	4.06 [3.96-4.17)	0.79	0.010*
Girls	334	3.87 [3.78- 3.97)	0.90	
2. Gender stereotypical (GSR) (N = 557) – total score: 4				
ALL	**557**	**3.62 [3.53-3.71)**	**1.09**	--
Boys	231	3.80 (3.67- 3.92)	0.96	**0.001***
Girls	326	3.49 (3.36-3.62)	1.15	
3. Sexual double standards (SDS) (N = 564) – total score : 6				
ALL	**564**	**4.16 (4.10-4.23)**	**0.81**	--
Boys	230	3.94 (3.82-4.05)	0.87	**< 0.001*****
Girls	334	4.32 (4.24-4.40)	0.73	
4. Adolescents' romantic expectations (ARE) (N = 567) – total score: 4				
ALL	**567**	**3.81 (3.72-3.89)**	**1.01**	--
Boys	231	3.94 (3.82-4.06)	0.94	**0.009***
Girls	336	3.72 (3.60-3.83)	1.04	

Higher score means more unequitable gender norms; ***p < 0.05; **p < 0.01; ***p < 0.001.**

Detailed analysis by sex for each of the variables that constitute the four gender norm scores developed by the GEAS is presented in Table 5. 14 in Appendix 3. For the variables that constitute the GST score, boys were significantly more likely than girls to agree with masculine-oriented gender norm stereotypes, such as "Boys should be raised tough", "Boys should always defend themselves, even if it means fighting", and "It is important for boys to show they are tough". For all these statements, more than 60% of boys, but only approximately 50% of girls agreed. This indicates that girls' perceptions towards gender norms may be more equal than boys. A similar tendency was observed for the GSR score, that boys were more likely to agree on males' main role in decision-making and the principal financial responsibility in the household, compared to girls.

Unlike other gender norm scores, girls were more likely to agree with the variables that construct the SDS score than boys. For instance, a significantly higher proportion of girls agreed with the statements regarding boys' promiscuity, such as using sex to trick girls and losing interest in a girl after having had sex ($p < 0.05$). Among the four variables that constitute the ARE, only one variable showed a significant difference by sex. Girls were significantly less likely to agree with the statement "A girl should be able to have a boyfriend if she wants to" than boys (54.57% vs

121

68.00%, $p < 0.01$). This indicates stronger conservativeness of girls in terms of having a romantic relationship, while 67.39% of boys agreed that they should be able to have a girlfriend if they wanted to. These gender norm composite scores of the GEAS were also assessed by binary age categories: 11–13 years old and 14 years old (Table 5. 16 in Appendix 3). For GST, GSR, SDS, and ARE, younger (11–13 years old) and older (14 years old) groups of the EAs reported a similar score with statistically insignificant difference.

However, for gender equal roles and features (GERF) and gender stereotypical views (GSV) scores, the mean score between girls and boys showed a statistically significant difference. For GERF, the 14-year-old group reported a more equitable (or higher) score compared to the 11–13-year-old group (mean score: 3.95 and 3.75 respectively; $p = 0.036$). Similarly, for GSV, the older age group (14 years old) reported more equitable gender views (or a lower score) than those aged 11–13 (2.57 and 2.80, respectively; $p = 0.013$). (It should be noted that for GERF, higher score means more equitable gender views, while for GSV, a higher score indicates less equitable gender norms.) These results suggest that as the EAs grew older (14-year-old group), they may have developed more equitable gender norms, compared to younger EAs (11–13-year-old group), at least for two of the gender norm scores (GSV and GERF).

5.2.1.2 Newly constructed gender norm composite scores

Table 5. 15 in Appendix 3 provides the analysis of individual items or variables that construct each of the three gender norm scores that were newly constructed in the current study. Two key findings can be highlighted from this analysis by sex. First, among the variables of the GASRH score, 35% of all respondents agreed that "It is OK for an adolescent girl to have sex, as long as she avoids getting pregnant", whereas, when the same statement was asked of boys, 43% of them agreed. Of the three gender norm scores, EAs reported the lowest level of agreement for the variables that constitute the GSV score, indicating greater endorsement of unequal gender views. Boys were more likely to agree with these gender stereotypical views than girls, with a statistically significant difference for all these variables that constituted the GSV.

Figure 5. 2 below describes the distribution of equal or unequal scores (using the median as the cut-off point) for three of the gender norms that were newly developed through this analysis. As

122

described above, GSV showed the most unequal gender norms among three scores, with more than 80% of the EAs scoring higher than the median score (greater agreement to these stereotypical views). Nearly 47% of the participants scored higher than the median score for GASRH and 50% for GERF, indicating that their opinions were divided into equal or unequal gender views. For GASRH, a higher score meant that the EAs were more open to having sex if they were taking prevention measures against adolescent pregnancy or felt true love for their partners. For GERF, a higher score indicated greater agreement with equal gender roles and preference (e.g. color, sport, etc.).

Figure 5. 2: Distribution of equal vs unequal GASRH, GSV, and GERF scores (N = 569)
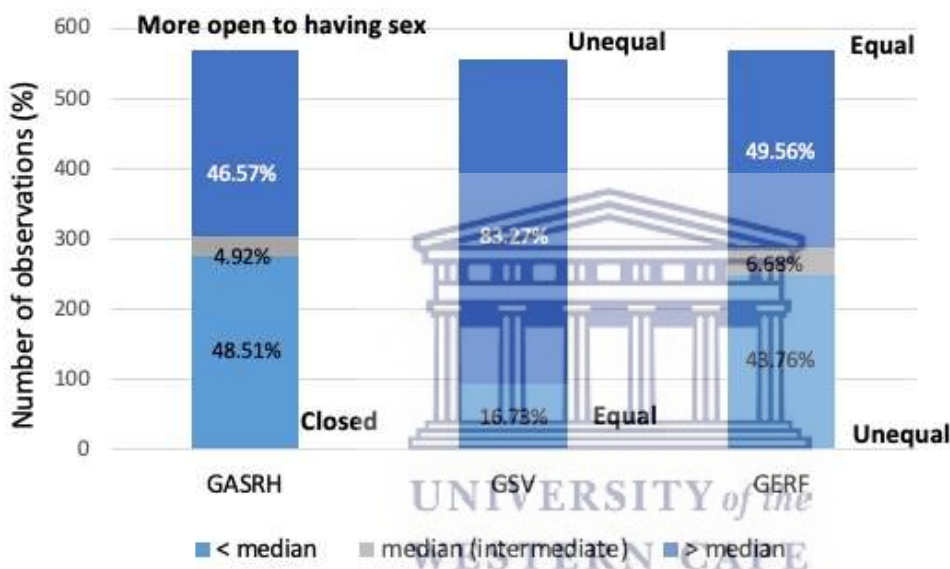
Sex means sexual intercourse. Definition- GASRH: gender views on ASRH (open to having sexual intercourse under the conditions that they avoid pregnancy or feel true love); GSV: gender stereotypical views; GERF: gender equitable roles and features (a higher GERF score means more equal gender norms). **Note:** A higher GASRH score indicates "more open to having sexual intercourse if they prevent themselves from pregnancy and feel true love in their relationship" while a lower GASRH score means closed or less open.

Table 5. 4 shows that boys scored significantly higher for GASRH than girls (3.47 vs 2.94 respectively; $p < 0.001$). This indicates that compared to girls, boys are more likely to approve of having sex at this age; provided they would use measures to avoid the partner getting pregnant, or that they love their partner. The mean score for GERF for girls compared with boys (3.93 vs 3.76 respectively; $p = 0.034$), indicates significantly more equitable gender views among girls than boys. Similarly, for GSV, girls reported significantly lower or more equitable views (or disagreement with traditional gender stereotypes) than boys. Girls having more equitable

123

perceptions towards gender norms was previously reported for GST, GSR, and ARE (Table 5. 14 in Appendix 3). The mean scores for GASRH, GERF, and GSV were also analyzed using two age categories: 11–13 years or 14 years old (Table 5. 16 in Appendix 3). This binary variable for the age was created based on the proportion of the study participants by age, for which nearly 60% were 14 years old at the time of survey, and the rest were between 11-13 years old. The 14-year-old group reported significantly more equitable gender views for GERF and GSV scores, compared to those aged 11–13 years (p = 0.036 for GERF and p = 0.013 for GSV). Also, among the seven gender norm scores assessed (including those that were developed by the GEAS), only these scores showed a significant age difference. This indicates that these two gender scores may be more appropriate to measure changes or impacts of the gender-transformative programs by age.

Table 5. 4: Summary statistics for three new gender norm indices by sex (including incomplete cases)

Gender norm composite indices	Number of observations	Mean score (95% CI) Range: 1–5	Standard deviation (SD)	P-value
Gender views on adolescents' SRH (GASRH) (N = 556) – total score: 4				
All	556	3.16 (3.05–3.26) 0.79	1.27	--
Boys	230	3.47 (3.32–3.61)	1.10	**<0.001***
Girls	326	2.94 (2.79–3.08)	1.34	
Gender equitable roles and features (GERF) (N = 551) – total score: 6				
All	551	3.86 (3.78–3.94) 0.643	0.94	--
Boys	226	3.76 (3.64–3.87)	0.89	**0.034***
Girls	325	3.93 (3.82–4.03)	0.96	
Gender stereotypical views (GSV) (N = 563) – total score: 5				
All	563	2.66 (2.57–2.75) 0.532	1.06	--
Boys	231	2.96 (2.84–3.09)	1.00	**<0.001***
Girls	332	2.44 (2.33–2.56)	1.05	

Note: a higher GASRH indicates EAs' openness to having sexual intercourse. For GERF, a higher score means more equitable gender views and for GSV, a higher score means less equitable (or more unequitable) gender views. ***p < 0.05; **p < 0.01; ***p < 0.001**

5.2.2 Empowerment scores and gender norms

5.2.2.1 Empowerment scores in different dimensions

The empowerment scores were measured in four dimensions: freedom of movement, voice, decision-making, and decision-influence (influence on life decisions) scores. The number of missing observations was less than 10% of the total sample, except for the mean score on decision-influence, which had the highest number of missing observations across the four scores (loss of 10.5% of the total sample).

Table 5. 17 in Appendix 3 shows that for all the four empowerment scores, the mean score and SD for two samples, including or excluding missing values (incomplete vs. complete cases), were significantly different. Therefore, in this analysis, the use of mean scores derived from the sample with complete cases only was considered as the most appropriate to provide an accurate measure of the empowerment scores and their associations with gender norm scores.

As illustrated in Figure 5. 3, the sex difference in empowerment mean scores was statistically significant only for the freedom of movement score, but not for other scores. Girls reported significantly lower freedom of movement than boys (2.24 vs 2.63, respectively, $p < 0.001$), showing restricted movement or outside activities compared to their male counterparts. The age difference was significant for freedom of movement, but not for other empowerment domains, as presented in Table 5. 18 in Appendix 3. For this score, those who were 14 years old reported a significantly higher score compared to those who were aged between 11-13 (2.56 vs 2.40; $p < 0.05$). This indicates that freedom of movement is an agency that can be strengthened as EAs transition from EA to late adolescents.

Analysis of the individual variables (Table 5. 5) shows that for four out of five variables that constitute this score, girls reported a significantly lower score than boys ($p < 0.05$). Girls had especially low scores for "going to party with boys and girls" and "visiting friends of opposite sex". For the decision-influence score, girls had a slightly lower mean score than boys (2.75 and 2.59 respectively). However, this difference was not statistically significant ($p = 0.086$).

Figure 5. 3: Empowerment scores in four domains by sex (converted scores, range: 0-1; complete cases only)
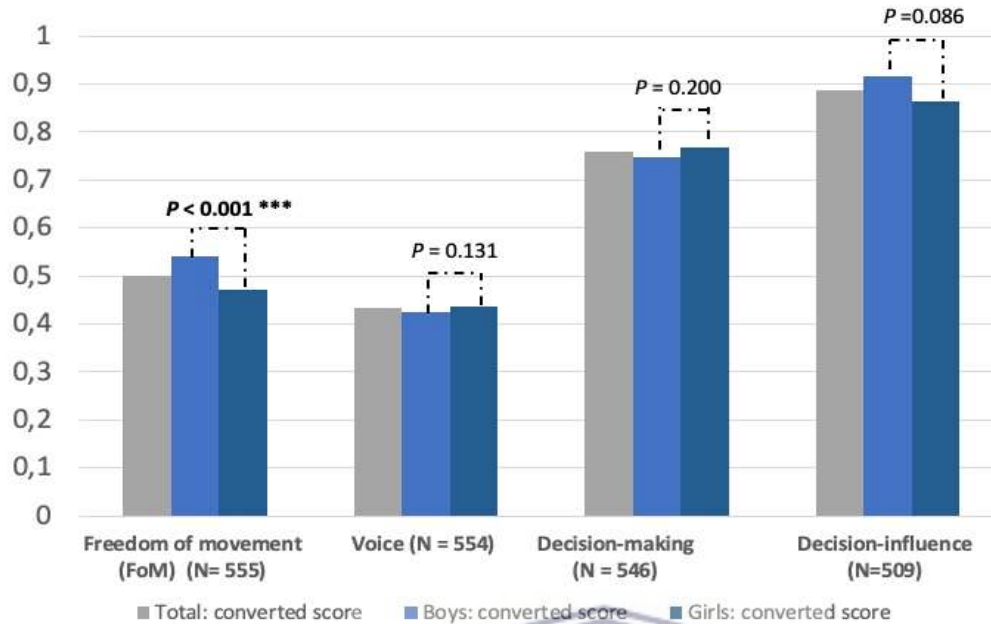
Table 5. 5: Descriptive statistics of the empowerment scores (complete cases only) by sex

Variable	Mean score [95% CI)	Mean score: Boys	Mean score: Girls	P-value
1. Freedom of movement: How often are you allowed to do the following?* (N = 555; 228 boys and 327 girls)				
Go to after-school activities (like sports clubs)	2.90 [2.81, 2.990]	3.03	2.81	**0.019***
Go to a party with boys and girls	2.07 [1.98, 2.16]	2.39	1.85	**<0.001***
Meet with friends after school	2.81 [2.73, 2.90]	2.93	2.73	**0.034***
Go to community center/movies/youth center	2.56 [2.47, 2.66]	2.67	2.49	0.055
Visit a friend of the opposite sex (e.g. visit a girl if you are a boy or visit a boy if you are a girl)	2.26 [2.16, 2.36]	2.66	1.98	**<0.001***
Freedom of movement (total score: 5) Mean score +/- SD [95% CI]	**2.50 +/- 0.73 [2.44, 2.56]**	**2.71 +/- 0.73 [2.61, 2.80]**	**2.36 +/- 0.70 [2.28, 2.43]**	**<0.001***
2. Voice: How often are the following statement true? *(N = 554; 228 boys and 326 girls)				
My parents or guardians ask for my opinion on things.	3.01 [2.92, 3.09]	2.90	3.08	**0.031***
My parents or guardians listen when I share my opinion.	3.08 [3.00, 3.17]	3.00	3.14	0.140
My friends ask my advice when they have a problem.	3.15 [3.08, 3.22]	3.02	3.24	**0.007****

126

Variable	Mean score [95% CI]	Mean score: Boys	Mean score: Girls	P-value
If I see something wrong in school or the community, I feel I can tell someone, and they will listen.	2.80 [2.72, 2.89]	2.81	2.80	0.921
I can speak up in class when I have a comment or question.	2.96 [2.87, 3.05]	2.92	2.99	0.434
I can speak up when I see someone else being hurt.	3.13 [3.05, 3.21]	3.09	3.15	0.480
I can ask adults for help when I need it.	3.28 [3.20, 3.35]	3.23	3.30	0.331
Voice (total score: 7) Mean score +/- SD [95% CI]	**3.03 +/- 0.72 [2.97, 3.09]**	**2.97 +/- 0.69 [2.88, 3.06]**	**3.06 +/- 0.74 [2.98, 3.14]**	0.131
3. Decision-making: How often are you able to make the following decisions on your own, without an adult? *(N = 546, 226 boys and 320 girls)				
What clothes to wear when you are not in school/working	3.08 [2.99, 3.17]	3.00	3.14	0.155
What to do in your free time	3.06 [2.98, 3.15]	2.98	3.12	0.118
What to eat when you are at home	3.12 [3.04, 3.20]	3.07	3.16	0.276
Whom you can have as friends	3.04 [2.96, 3.12]	3.01	3.06	0.623
Decision-making (total score: 4) Mean Score +/- SD [95% CI]	**3.04 +/- 0.80 [2.97, 3.10]**	**2.98 +/- 0.79 [2.88, 3.09]**	**3.07 +/- 0.80 [2.99, 3.16]**	0.200
4. Influence on life decisions (decision-influence): How much do you think you will influence the decision? *(N = 509, 218 boys and 291 girls)				
When to leave school	2.58 [2.47, 2.69]	2.59	3.14	0.838
When to marry	2.70 [2.59, 2.82]	2.83	2.60	0.054
Whom to marry	2.88 [2.77, 2.99]	3.16	3.06	0.160
Decision-influence (total score: 3): Mean Score +/- SD [95% CI]	**2.66 +/- 1.03 [2.57, 2.75]**	**2.75 +/- 0.99 [2.62, 2.88]**	**2.59 +/- 1.05 [2.47, 2.71]**	0.086

*Each question under the four dimensions was asked on a scale of four: 1– never, 2 – rarely, 3 – sometimes, 4 – often. **The number of missing observations for the mean score on influence on life decisions was the highest, compared to other scores. This may be the reason why the GEAS at the global level decided to exclude this aspect of the empowerment from their analysis. P-values are from the *t*-test for difference of mean scores by sex. **$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.**

5.2.2.2 Association between gender norms and empowerment scores

Table 5. 19 and Table 5. 20 in Appendix 3 present the Pearson's correlation coefficients between gender norms (for the sample with complete cases only vs the one that included incomplete cases) and each of the four types of the empowerment scores (complete cases only). The results of the correlations were similar for these two samples. Among the mean empowerment scores for

the four dimensions (decision, voice, freedom of movement, and decision-influence), the voice and decision-making scores were strongly correlated with GERF, with correlation coefficient or α of above 0.40 but not with freedom of movement and decision-influence scores. This suggests a positive correlation between a higher GERF score (more equal gender norms) and an increased score in two out of four empowerment dimensions: decision-making and "voice". The GERF score was, therefore, removed from multivariate linear regression models for the empowerment scores.

Table 5. 6 and Table 5. 7 summarize the results from multivariate linear regression models for empowerment and gender norm scores. Based on the adjusted R^2 value, the models for freedom of movement, voice, and decision-making scores models estimated more than 20% of the variance, respectively, which meet the minimum standard for a good model fitness in social research. However, for the decision-influence score, only 4% of the variance was explained by the adjusted model. This suggests a challenge in interpreting this score and identifying the factors that can significantly predict this score with a good model fitness.

Across the four types of the empowerment scores (decision, voice, freedom of movement, and decision-influence), GERF mean score showed a positive coefficient (adjusted coefficient β = 0.20, 0.31, 0.31, and 0.21, respectively; $p < 0.001$). This indicates that more equal perceptions towards gender roles and features can lead to a significantly higher empowerment score in all the four domains. With respect to other gender norm scores, the results showed different types of associations, depending on the dimensions of the empowerment scores. For instance, a higher SDS score (more unequal norms) indicated a decrease of 0.10 points in the freedom of movement mean score ($p < 0.05$), while a less equitable ARE score showed an increase of 0.07 points in the freedom of movement score ($p < 0.05$) in the adjusted models.

As illustrated in Table 5. 6 the freedom of movement score varied by sex and age category. Those who belonged to the 14-year-old category reported a significantly positive coefficient compared to those between 11 and 13 years old (adjusted β = 0.13, $p < 0.05$). In contrast, girls reported a significantly lower freedom of movement score than boys (adjusted β = -0.25, $p < 0.001$), reflecting a gender culture where boys are entitled to greater freedom of movement. Although age and sex were not significantly associated with the voice score, the interaction term

128

between the two variables was statistically significant ($\beta = 0.280$, $p < 0.05$). Girls aged between 11 and 13 reported the lowest negative coefficient (-0.13) for the voice score (the lowest voice score compared to boys 11–13 years old or girls 14 years of age), while a positive coefficient (0.08) was observed for girls in the 14-year-old category (a higher voice score). Boys who were in the 14-year-old category reported a negative coefficient (reduced voice score), compared to those who were between 11 and 13 years old ($\beta = -0.07$, $p \geq 0.05$).

The voice score was associated with GSR and GSV scores (adjusted β for GSR = 0.11, $p < 0.01$ and adjusted β for GSV = -0.08, $p < 0.05$) in addition to the GERF score (see Table 5. 6). However, while a higher or less equitable GSV decreased the voice score by 0.08 and a less equitable GSR score showed an increased voice score by 0.11. For the decision-making score (Table 5. 7), – apart from GERF – GASRH and GSV were significantly associated, with a coefficient of 0.10 ($p < 0.01$) and -0.09 ($p < 0.05$), respectively. Again, similarly to the voice score, a less equitable GSV score was associated with a decline of the decision-making score by 0.09, while a higher GASRH (more openness to sex if they prevented pregnancy or felt true love) was associated with an increased decision-making score by 0.10.

Compared to isiXhosa speakers, those who chose English as the survey language reported a significantly positive coefficient, or an increased freedom of movement score ($\beta = 0.14$, $p < 0.05$) (Table 5. 6) and the decision-making score ($\beta = 0.17$, $p < 0.05$) (Table 5. 7). Living with one parent, or without parents, was associated with a decreased empowerment score in all domains. However, the association was statistically significant only for the decision-making score ($\beta = -0.13$, $p < 0.01$). Finally, having friends of both sexes was associated with a significantly increased freedom of movement score, with a coefficient of 0.14 ($p < 0.05$).

Table 5. 6: Final multiple linear regression models for the empowerment (freedom of movement and voice) and gender norm scores

Variables	Freedom of movement (complete cases)		Voice (complete cases)	
	Adjusted for gender norms (N = 532)	Adjusted for gender norms + other covariates (N = 477)	Adjusted for gender norms (N = 531)	Adjusted for gender norms + other covariates (N = 480)
Gender norm mean score, continuous variables (with complete and incomplete cases)				
GST	0.08 [-0.01,0.16]	0.06 [-0.03, 0.15]	0.04 [-0.04,0.12]	0.02 [-0.06, 0.11]
GSR	0.05 [-0.02,0.11]	0.06 [-0.01, 0.13]	**0.10 [0.04,0.17]**[**]	**0.11 [0.04, 0.18]**[**]
SDS	**-0.15 [-0.23,-0.07]**[***]	**-0.10 [-0.18, 0.01]**[*]	-0.02 [-0.10,0.05]	-0.04 [-0.12,0.04]
ARE	**0.11 [0.05,0.17]**[***]	**0.07 [0.01, 0.14]**[*]	0.02 [-0.03,0.08]	0.03 [-0.04,0.09]
GERF[27]	**0.19 [0.13,0.26]**[***]	**0.20 [0.13, 0.27]**[***]	**0.31 [0.25,0.37]**[***]	**0.31 [0.25, 0.38]**[***]
GASRH	**0.07 [0.01,0.12]**[*]	0.05 [-0.01, 0.10]	0.00 [-0.04,0.05]	-0.01 [-0.06, 0.04]
GSV	0.04 [-0.03,0.10]	0.03 [-0.04, 0.10]	**-0.12 [-0.18,-0.06]**[***]	**-0.08 [-0.15,-0.01]**[*]
Age: 11–13 years	NA	**Ref**	NA	**Ref**
14 years		**0.13 [0.01, 0.26]**[*]		-0.07 [-0.262, 0.12]
Sex: Boys	NA	**Ref**	NA	**Ref**
Girls		**-0.25 [-0.38, -0.13]**[***]		-0.13 [-0.321, 0.062]
Interaction term: age x sex	NA	0.106	NA	**0.280**[*]
11-13 years old x boys	NA	**Ref**	NA	**Ref**
11-13 years old x girls				-0.13 [-0.32, 0.06]
14 years old x boys				-0.07 [-0.26, 0.12]
14 years old x girls				0.08 [-0.10, 0.26]
Survey language: Xhosa	NA	**Ref**	NA	**Ref**
English		**0.14 [0.00, 0.28]**[*]		0.06 [-0.07, 0.19]
Afrikaans		0.08 [-0.10, 0.26]		0.06 [-0.12, 0.23]
Living with one, or no parent (Ref: living with both parents)	NA	-0.11[-0.23, 0.01]	NA	-0.02 [-0.09, 0.05]

---

[27] For GERF, a higher score means more equitable gender norms, while for other scores, a higher score indicates less equitable norms.

Variables	Freedom of movement (complete cases)		Voice (complete cases)	
	Adjusted for gender norms (N = 532)	Adjusted for gender norms + other covariates (N = 477)	Adjusted for gender norms (N = 531)	Adjusted for gender norms + other covariates (N = 480)
Time spent with friends: 0–2 times/week	NA	**Ref**	NA	**Ref**
3–4 times/week		0.13 [-0.03, 0.30]		-0.09 [-0.25, 0.06]
nearly every day		0.07 [-0.06, 0.21]		-0.08 [-0.21, 0.05]
Having friends of both sex (Ref: No)	NA	**0.14 [0.01, 0.27]***	NA	0.08 [-0.05, 0.20]
R^2	0.177	0.264	0.219	0.239
Adjusted R^2	0.166	0.236	0.201	0.212

Values are coefficients (Ref: reference category = coefficient of 0.00). ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Complete cases indicate the EAs who responded to all the variables that constitute each of the empowerment scores. GST: gender stereotypical trait; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

Table 5. 7: Final multiple linear regression models for the empowerment (decision and influence) and gender norm scores

Variables	Decision-making (complete cases)		Decision-influence (complete cases)	
	Adjusted for gender norms (N = 532)	Adjusted for gender norms + other covariates (N = 477)	Adjusted for gender norms (N = 495)	Adjusted for gender norms + other covariates (N = 447)
Gender norms/mean score in continuous variables (with complete and incomplete cases)				
GST	-0.02 [-0.11, 0.07]	0.01 [-0.09, 0.10]	-0.02 [-0.15, 0.11]	-0.02 [-0.17, 0.12]
GSR	0.07 [-0.00, 0.14]	0.07 [-0.00, 0.15]	-0.08 [-0.19, 0.02]	-0.05 [-0.17, 0.06]
SDS	0.02 [-0.06, 0.10]	0.01 [-0.08, 0.10]	0.01 [-0.10, 0.13]	-0.01 [-0.15, 0.13]
ARE	-0.02 [-0.09, 0.04]	0.00 [-0.07, 0.07]	0.06 [-0.04, 0.15]	0.05 [-0.06, 0 .15]
GERF	**0.33 [0.26, 0.40]*****	**0.31 [0.23, 0.39]*****	**0.25 [0.14, 0.36]*****	**0.21 [0.09, 0.33]*****
GASRH	**0.10 [0.04, 0.15]*****	**0.10 [0.04, 0.15]****	0.08 [-0.00, 0.16]	0.08 [-0.01, 0.17]
GSV	-0.07 [-0.14, -0.00]*	**-0.09 [-0.16, -0.01]***	0.04 [-0.07, 0.14]	0.02 [-0.10, 0.13]
Age: 11–13 years	NA	Ref	NA	Ref
14 years		0.12 [-0.02, 0.26]		0.05 [-0.16, 0.26]
Sex: Boys	NA	Ref	NA	Ref

Variables	Decision-making (complete cases)		Decision-influence (complete cases)	
	Adjusted for gender norms (N = 532)	Adjusted for gender norms + other covariates (N = 477)	Adjusted for gender norms (N = 495)	Adjusted for gender norms + other covariates (N = 447)
Girls		0.02 [-0.12, 0.16]		-0.16 [-0.36, 0.05]
Interaction term: sex and age	NA	0.065	NA	-0.019
Survey language: isiXhosa	NA	Ref	NA	Ref
English		**0.17 [0.03, 0.32]**[*]		0.15 [-0.07, 0.37]
Afrikaans		0.19 [-0.01, 0.39]		-0.02 [-0.31, 0.27]
Living with one, or no parent (Ref: living with both parents)	NA	**-0.13 [-0.21, -0.04]**[**]	NA	-0.10 [-0.22, 0.03]
Time spent with friends : 0–2 times/ week	NA	Ref	NA	Ref
3–4 times/week		-0.01 [-0.19, 0.17]		-0.05 [-0.31, 0.21]
nearly every day		0.05 [-0.09, 0.20]		0.03 [-0.19, 0.24]
Having friends of both sex (Ref: No)	NA	-0.03 [-0.16, 0.11]	NA	-0.02 [-0.23, 0.19]
R²	0.206	0.253	0.075	0.077
Adjusted R²	0.195	0.225	0.062	0.040

Values are coefficients (Ref = reference category = coefficient of 0.00). ***p < 0.001; **p < 0.01; *p < 0.05. When the interaction between sex and age was tested only for the voice score, the interaction term was significant at *p < 0.0*5. GST: gender stereotypical traits; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

5.2.3 Factors associated with gender norms in the socio-ecological model

This sub-section summarizes factors that are associated with each of the Gender norm composite scores across the socio-ecological model. For each of the gender norm scores, a multivariate linear regression model was constructed, adjusting for different factors. Among the seven gender norm indices assessed, the best-fit model was the GSV score, with an adjusted R^2 of 0.367, indicating that approximately 37% of the variance was predicted by the model.

The second best-fit model was the ARE score, with an adjusted R2 of 0.265, followed by the model for GASRH with an adjusted R2 of 0.244. The models for GST and GSR showed an adjusted R2 of 0.142 and 0.133, respectively, indicating a relatively low level of fit of the regression models. The models for SDS and GERF had the lowest adjusted R^2, with less than 10% of the variances estimated by these models. Hence, in this section, we present three models, respectively for the GSV, ARE, and GASRH scores, that were the best fit for the seven gender norms.

5.2.3.1 Factors that influence GSV, ARE and GASRH scores

Table 5. 8 shows the results from the multivariate linear regression model for GSV, ARE, and GASRH, along with the AIC values. The AIC was the lowest when the media/ICT factors were added to the model, which was the final layer of the socio-ecological model for each of the three gender norm scores. At the individual level, being a girl rather than a boy was significantly associated with a less inequitable GSV score (β = -0,26; p < 0.01). However, this association was not significant for ARE and GASRH. Survey languages showed statistically significant associations for all three gender norms. For GSV, EAs who selected Afrikaans as the survey language reported the least equitable gender views (β = 0.64; p < 0.001), while those who selected English reported the most equitable gender views (β = -0.22; p < 0.05), compared to those who selected isiXhosa (β = 0.00 as the reference category). These associations were similar for the ARE score.

For the GASRH score, those who selected Afrikaans reported the highest GASRH score (β = 0.71; p < 0.001), followed by those who selected English (β = 0.36; p < 0.01) and isiXhosa, (the reference category, β = 0.00). This indicates that those who selected Afrikaans as the survey language (the highest GASRH score) reported more openness to having sexual intercourse, if they take measures to prevent pregnancy, or if there is true love. Religiousness, household wealth index, and mother's education did not show statistically significant associations with any of the three gender scores. However, for ARE, the lowest wealth tertile group reported the least equitable ARE score compared to the middle or highest tertiles.

133

Table 5. 8: Factors associated with EAs' gender norms (GSV, ARE, GASRH) based on multiple linear regression models

Variables in the socio-ecological model	GSV (N = 422)	ARE (N = 416)	GASRH (N = 412)
INDIVIDUAL FACTORS			
Sex: girls (Ref: boys)	**-0.23* [-0.42, -0.04]**	0.00 [-0.19, 0.19]	-0.24 [-0.48, 0.01]
Age (continuous)	0.00 [-0.15,0.16]	0.06 [-0.09, 0.21]	0.05 [-0.15, 0.25]
Survey language (Ref: isiXhosa)			
English	**-0.23*[-0.43, -0.04]**	**-0.20* [-0.39, -0.01]**	**0.36**[0.11, 0.61]**
Afrikaans	**0.60***[0.34, 0.87]**	0.22 [-0.05, 0.48]	**0.71***[0.37, 1.06]**
Religiousness (Ref: Never attended church, once a month, or 2–3 times/month)			
Once a week or more	NA	-0.03 [-0.19, 0.14]	-0.21 [-0.43, 0.01]
Household wealth index (Ref: Lower 33 percentile)			
Median tertile	-0.14 [-0.34,0.06]	0.17 [-0.03, 0.37]	-0.23 [-0.51, 0.05]
Upper 33 percentile	0.03[-0.17,0.24]	0.02 [-0.18, 0.23]	-0.16 [-0.44, 0.11]
Mother's education (Ref: never to some secondary)			
Secondary completed	-0.04 [-0.23, 0.14]	-0.13 [-0.32, 0.05]	-0.08 [-0.33, 0.17]
College, university or above	-0.04 [-0.26, 0.19]	-0.17 [-0.39, 0.05]	-0.13 [-0.43, 0.16]
Adolescents born in Cape Town **(Ref: Born outside of Cape Town)**	NA	NA	-0.26 [-0.52, 0.00]
INDIVIDUAL PERCEPTIONS TOWARDS SRH/ROMANTIC RELATIONSHIP			
Power imbalance score (Ref: Lower 33 percentile)			
Median tertile	-0.14 [-0.35, 0.07]	NA	NA
Upper 33 percentile	**0.30* [0.07, 0.53]**	NA	NA
Body comfort score (Ref: Lower 33 percentile)			
Median tertile	-0.10 [-0.33, 0.13]	NA	-0.03 [-0.33, 0.27]
Upper 33 percentile	**-0.47*** [-0.67, -0.27]**	NA	**-0.26* [-0.52, -0.01]**
Importance of avoiding a pregnancy (Ref: No)	-0.08 [-0.27, 0.10]	NA	NA
Importance of having a boy/girlfriend (Ref: No)	NA	0.26**[0.07, 0.44]	NA
Model fitness (AIC): individual factors	*1197.41*	*1290.75*	*1467.46*
FAMILY FACTORS			
Household composition			
Living with no, or one, parent	-0.09 [-0.25, 0.08]	NA	0.15 [-0.07, 0.37]
Closeness with parents or main caregiver	NA	-0.05 [-0.22, 0.13]	-0.03 [-0.26, 0.21]
Parents' expectation on marriage (Ref: After primary or secondary or high school); When I decide I want to marry, or they don't expect me to marry	-0.12 [-0.31, 0.07]	0.04 [-0.15, 0.23]	NA
Parents' endorsement of having a boy/girlfriend (Ref: No)	NA	**0.40*** [0.22, 0.59]**	**0.30* [0.06, 0.54]**
Model fitness (AIC): individual + family factors	*1197.68*	*1265.23*	*1458.54*
PEER FACTORS			

Variables in the socio-ecological model	GSV (N = 422)	ARE (N = 416)	GASRH (N = 412)
Average time spent with friends (Ref: None or 1–4 times a week)			
Nearly every day	NA	0.15 [-0.03, 0.33]	NA
Most or many close friends have a boyfriend or girlfriend	NA	**0.36***[0.18, 0.55]**	NA
Most or many close friends have had sex	**0.40*** [0.20, 0.59]**	NA	**0.70*** [0.46, 0.95]**
Most or many close friends drink alcohol	NA	**0.28** [0.09, 0.47]**	NA
Model fitness (AIC): individual + family + peer factors	*1175.80*	*1122.99*	*1424.80*
FACTORS AT SCHOOL or EDUCATION			
Gender of teachers in school (Ref: Only one sex; females or males)			
Have both male and female teachers in school	-0.04 [-0.21, 0.13]	0.11 [-0.06, 0.27]	NA
School safety (Ref: Never or rarely felt unsafe or threatened last year)			
Sometimes or often felt unsafe last year	NA	**-0.22* [-0.38, -0.05]**	NA
Self-expectation on schooling (Ref: None to vocational or technical schools or lower)			
Graduate degree (university, master's, or doctorate)	NA	NA	0.09 [-0.15, 0.32]
Model fitness (AIC): individual + family + peer + school factors	*1163.71*	*1095.86*	*1401.85*
COMMUNITY/NEIGHBORHOOD FACTORS			
Positive perceptions towards neighbors' social cohesion (Ref: Yes to 0–2 or 3–4 items)			
Responded "yes" to 3–4 out of 4 items	**0.17* [0.00, 0.34]**	NA	NA
Model fitness (AIC): individual + family + peer + school + community factors	*1162.16*	*NA*	*NA*
MEDIA/ICT FACTORS			
Exposure to pornography: Sometimes or often (Ref: Never)	**0.26** [0.08, 0.45]**	0.13 [-0.05, 0.32]	**0.26* [0.01, 0.51]**
Use of social media or texting to communicate with friends (Ref: Never or less than weekly, or weekly); Weekly or daily	-0.06 [-0.24, 0.11]	NA	NA
Access to mobile phone at home, in school, or own (Ref: No access)	NA	**0.27** [0.07, 0.47]**	NA
Frequency of communication with friends by phone or computer (Ref: Never or less than weekly/weekly); Daily	NA	NA	**0.45** [0.18, 0.72]**
Model fitness (AIC): individual + family + peer + school + community + media	*1076.97*	*1046.98*	*1270.38*
SUMMARY STATISTICS			
Constant	**2.74* [0.65, 4.82]**	**2.31* [0.24, 4.38]**	2.11 [-0.69, 4.90]
Number of observations	422	416	412
R^2	0.397	0.283	0.276
Adjusted R^2	0.367	0.247	0.241

Values shown in the table are coefficients, with 95% confidence interval in brackets; GSV = gender stereotypical views, ARE = adolescent romantic expectations, GASRH = gender views on ASRH. *$p < 0.05$; * $p < 0.01$; ***$p < 0.001$. AIC: Akaike's information criterion is used for a model fitness parameter

The higher body comfort score was positively associated with more equitable gender norms measured by GSV ($\beta = -0.45$; $p < 0.001$) and lower GASRH score ($\beta = -0.27$; $p < 0.05$). EAs who reported higher body comfort score are less open to having sexual intercourse, even though they avoid pregnancy or even though there is love in the relationship.

The upper 33 percentile group of the power imbalance score (most imbalanced) reported a less equitable GSV score ($\beta = 0.31$; $p < 0.01$). Those who reported having a boyfriend or a girlfriend were also more likely to report a higher ARE score ($\beta = 0.24$, $p < 0.05$). At the family level, parents' endorsement of having a boyfriend or a girlfriend was significantly associated with a less equitable ARE (coefficient: 0.40, $p < 0.001$) and a higher GASRH score (0.30, $p < 0.05$). However, other factors such as cohabiting with one or both parents, EAs' closeness with parents, and parents' expectations of marriage did not show any statistical significance in the regression model.

Among the peer-level factors, perceived peers' behaviors related to ASRH appeared to influence gender norm construction, measured by different gender norm scores. EAs' perceptions of close friends having had sex was significantly associated with less equitable GSV score ($\beta = 0.40$; $p < 0.001$) and higher GASRH score ($\beta = 0.70$; $p < 0.001$). EAs who reported that close friends had a boyfriend or girlfriend or drank alcohol were significantly more likely to report inequitable ARE ($\beta = 0.32$; $p < 0.001$ and $\beta = 0.28$; $p < 0.05$, respectively). Time spent with friends was included in the model for the ARE score. However, the association was not statistically significant. Since having friends of both sexes was not associated with these gender norms at all, they were not included in the final regression models.

With respect to the factors at school level, the analysis identified safety at school as the only factor that was associated with the gender norm score – specifically adolescent romantic expectations (ARE) – with statistical significance. Those who reported that they felt safe at school were significantly more likely to report an equitable ARE norm score than those who felt unsafe ($\beta = -0.21$; $p < 0.05$).

Two variables from neighborhood level (i.e. feeling threatened in communities, and EAs' perceptions of social cohesion) were assessed in the analysis. EAs feeling unsafe in communities

136

had no statistically significant association with any of the three gender norm scores. Positive EA views of the neighborhood social cohesion were associated with a less equitable GSV score (β = 0.17; $p < 0.05$), but not with other gender norm scores.

Among the ICT and media factors, lifetime exposure to pornography was significantly associated with a less equitable GSV score (β = 0.25; $p < 0.01$), and a higher GASRH score (β = 0.26; $p < 0.05$). The frequency of mobile phone use was associated with an increased GASRH score, especially for those who used it 2–3 hours per day, compared to those who did not use mobile phones. Access to the mobile phone was part of the household wealth composite index. However, since the correlation between these two variables was shown to be low (0.053), the two variables were included in the final regression model for the ARE score. Access to their own mobile phone was significantly associated with a less equitable ARE score (β = 0.30; $p < 0.01$), compared to those who did not have access or own the mobile phone.

5.2.3.2 Comparison of the models with incomplete vs complete caes

Finally, I compared the multivariate linear regression models for two samples (complete cases only and complete/incomplete cases included) for each of the three gender norm scores (GSV, ARE, and GASRH) as factors that influence gender norm scores. These are presented in Table 5. 21 and Table 5. 22 in Appendix 3. The results of the complete cases analysis were similar to the model with the complete and incomplete cases for the GSV and ARE scores. However, for the GASRH score, the results from the two models were slightly different, as shown in Table 5. 9. In the multivariate linear regression model, with complete cases only (N = 389), additional factors showed a statistically significant association with the GASRH score. For instance, the EAs who attended church at least once a week showed a significantly lower GASRH score (β = -0.23, $p < 0.05$), indicating they were more reserved in having sex with a partner compared to others who scored a higher GASRH, even if they prevented pregnancy or felt true love.

Similarly, those who were born in Cape Town reported a significantly reduced GASRH score compared to those who were born outside of Cape Town (β= -0.28, $p < 0.05$). Those who were living with only one parent, or without parents, reported a higher GASRH score by 0.24 ($p < 0.05$), compared to those who were living with both parents. The model with complete cases only

137

improved slightly the goodness of fitness (measured by a lower AIC), although the reduction in the AIC between two models was less than 10%. Despite the reduced sample size (N = 389) in the second model (with the complete cases only), the difference in the results and additional associating factors of GASRH should be taken into consideration when interpreting the results.

Table 5. 9: Final multivariate linear regression model for GASRH: incomplete vs complete cases

Variables	GASRH incomplete and complete cases (N = 412)	GASRH complete cases only (N = 389)
INDIVIDUAL FACTORS		
Sex: girls (Ref: boys)	-0.24 [-0.48, 0.01]	-0.17 [-0.42, 0.08]
Age (continuous, 11–14 years old)	0.05 [-0.15,0.25]	-0.02 [-0.23, 0.19]
Survey language (Ref: isiXhosa)		
English	**0.36**[0.11, 0.61]	**0.37**[0.11, 0.62]
Afrikaans	**0.71***[0.37, 1.06]	**0.70***[0.35, 1.06]
Religiousness (Ref: Never attended church, once a month, or 2–3 times/month)		
Once a week or more	-0.21 [-0.43, 0.01]	**-0.23*[-0.45, -0.00]**
Household wealth index (Ref: Lower 33 percentile)		
Median tertile	-0.23 [-0.51, 0.05]	-0.26 [-0.54, 0.02]
Upper 33 percentile	-0.16 [-0.44, 0.11]	-0.07 [-0.35, 0.21]
Mother's education (Ref: Never to some secondary)		
Secondary completed	-0.08 [-0.33, 0.17]	-0.15 [-0.40, 0.10]
College, university or above	-0.13 [-0.43, 0.16]	-0.21 [-0.51, 0.09]
Adolescents born in Cape Town (Ref: Born outside of Cape Town)	-0.26 [-0.52, 0.00]	**-0.28*[-0.54, -0.01]**
Body comfort score (Ref: Lower 33 percentile)		
Median tertile	-0.03 [-0.33, 0.27]	0.00 [-0.30, 0.31]
Upper 33 percentile	**-0.26*[-0.52, -0.01]**	**-0.28*[-0.54, -0.02]**
FAMILY FACTORS		
Household composition (Ref: living with both parents)		
Living with no, or one, parent	0.15 [-0.07, 0.37]	**0.24*[0.01, 0.46]**
Closeness with parents or main caregiver	-0.03 [-0.26, 0.21]	0.01 [-0.23, 0.25]
Parents' endorsement of having a boy/girlfriend (Ref: No)	**0.30*[0.06, 0.54]**	**0.26*[0.02, 0.50]**
PEER FACTORS		
Most or many close friends have had sex	**0.70***[0.46, 0.95]	**0.72***[0.47, 0.98]
FACTORS AT SCHOOL or EDUCATION		
Self-expectation on schooling (Ref: None to vocational or technical schools or lower)		
Graduate degree (university, master's, or doctorate)	0.09 [-0.15, 0.32]	0.12 [-0.12, 0.36]
MEDIA/ICT FACTORS		
Exposure to pornography: Sometimes or often (Ref: Never)	**0.26*[0.01, 0.51]**	**0.29*[0.04, 0.54]**
Frequency of communication with friends by phone or computer (Ref: Never or less than weekly/weekly); Daily	**0.45**[0.18, 0.72]	**0.49***[0.21, 0.77]
SUMMARY STATISTICS		
Constant	2.11 [-0.69,4.90]	**2.95*[0.06, 5.85]**
R^2	0.276	0.284
Adjusted R^2	0.241	0.248

Variables	GASRH incomplete and complete cases (N = 412)	GASRH complete cases only (N = 389)
AIC	1272.37	1193.56

95% confidence interval in brackets. $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$. *Variables in italic* are newly identified in this model with complete cases only.

5.3   Conclusion

This chapter summarized results of the validation process of the gender norm and empowerment scores, as well as the identification of potential new scores that may suit the dataset from Cape Town. Firstly, the results highlight the complexity of understanding the factors that positively or negatively affect the gender norms of EAs. These factors varied, depending on the dimension that was measured by a particular gender norm score. Moreover, these factors may influence the EAs' gender norm constructs by interacting with other factors that come from different levels of the socio-ecological model. Secondly, the results revealed significant associations between the empowerment scores and gender norm scores of the EAs. In general, those who reported a higher gender equal roles and features (GERF) score (more equitable views on gender roles and features) illustrated increased empowerment scores in all the four domains (freedom of movement, voice, decision-making, and decision-influence).
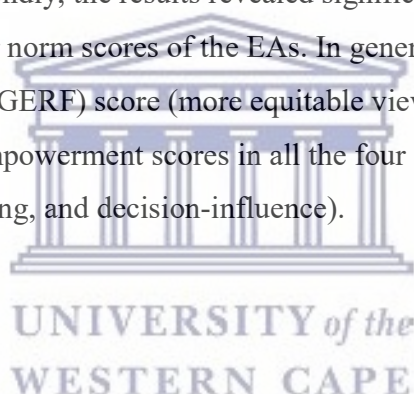
CHAPTER SIX: GENDER NORMS AND SEXUAL REPRODUCTIVE HEALTH KNOWLEDGE AND BEHAVIORS

This second chapter on results addresses research question three (RQ 3): Do gender norms influence EAs' knowledge of, perceptions, attitudes, and behaviors towards romantic relationships, sexual activities, and pregnancy avoidance or HIV prevention? First, the chapter briefly explains analysis methods and measures used in this specific analysis (general details are explained in section 3.6 above). Based on this RQ, the chapter presents the key findings on potential associations between gender norms and two SRH domains: 1) sexual history and romantic relationships; and 2) knowledge scores on pregnancy avoidance and HIV prevention. The results are presented in two correlating sub-sections.

Although the descriptive statistics were presented in Chapter 4, some of the key characteristics of sexual and romantic relationships among the EAs are reiterated in section 6.1, to justify the selection of the outcome variables. In section 6.2, the descriptive statistics of each of the two knowledge scores and the correlations between them are summarized, and key results are provided on whether these knowledge levels were associated with gender norms and other covariates.
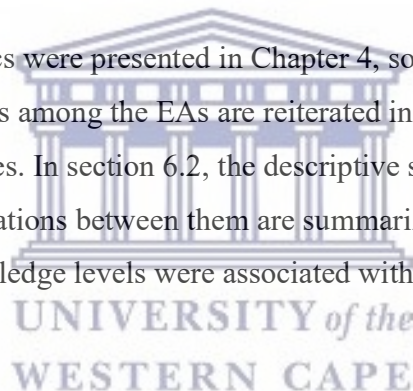
6.1 Specific analysis methods and measures

6.1.1 Sexual and romantic relationships and gender norms

As the first step, potential associations were examined between gender norms and romantic or sexual relationships reported by the EAs, adjusting for other covariates. There were three main outcome binary categorical variables: 1) the onset of sexual intercourse; 2) having ever experienced a sexual touch (i.e. being touched or having touched someone's private parts); and 3) past or current romantic relationships. The first two outcome variables were selected on the basis of prevalence above 20% among the study population, and therefore, cell distributions

("yes" or "no") were considered sufficient to conduct the analysis. Note that the initiation of sexual intercourse and having experienced a sexual touch showed a strong correlation (Pearson's correlation coefficient 0.493). This indicates that EAs who had had sexual intercourse were more likely to also report the experience of a sexual touch. However, these variables were independently examined as the outcome variables (not included in the same model) to identify the association with gender norm scores and other covariates.

As previously explained in sub-section 3.7.1, the first step in building a regression model was to assess the direct associations between the outcome variables and gender norm scores. Due to a lack of previous studies, these gender-related scores were selected through a preliminary binary analysis, mainly consisting of a t-test for differences in mean scores and binary linear regression models. The gender norm scores that showed a significant association with the outcome variables were retained in subsequent multivariate logistic regression models. Following this and the selection of covariates (independent variables), a multivariate logistic regression model was run, adjusted for selected covariates only, and with the gender norm scores added to the model.

When building regression models for each of the binary outcome variables, correlations among independent variables (covariates) were double-checked, using Pearson's correlation coefficients to avoid including two variables that measure similar outcomes. As described in sub-section 3.7.1, log likelihood ratios and Akaike's information criterion (AIC) were used to identify the best-fit model by choosing the one that showed the lowest log likelihood ratio. Crude and adjusted odds ratios (ORs), and their 95% confidence intervals (CIs) were reported, together with p-values for statistical significance, pseudo R^2 values, log likelihood ratios and the AIC values.

Due to the reduced sample size for some of the models (e.g. 320–350), especially for sexual activities and romantic relationships, minimum required ORs to be detected were obtained, using Stata/BE 17.0 (StataCorp, 2021, College Station, TX, USA). A power of 80%, a standard error of 0.05, and the actual sample size were the key parameters used in this calculation. These minimum values are described and discussed in the results section when the OR did not show statistical significance at $p < 0.05$ but exceeded the minimum value to be detected.

https://etd.uwc.ac.za/

6.1.2 Sexual and reproductive health knowledge and gender norms

For this segment of the analysis, EAs' knowledge of pregnancy avoidance (i.e. contraceptive methods) and HIV prevention were selected as the two main outcome or dependent variables of interest. The score was constructed for these two areas by taking the sum of the items asked in the questionnaire. Table 6. 1 illustrates the variables that constituted the two knowledge scores selected for this analysis. There were six questions on adolescents' knowledge of pregnancy avoidance, and four questions measured the EAs' knowledge on HIV prevention. The mean scores were constructed as continuous variables using the scoring system (0 for incorrect answer, 1 for correct answer). For both knowledge scores, the number of missing observations was 10 out of the 569 sample of participants. This was considered a minimal loss against the total sample size of 569. In this analysis, only complete cases were included to constitute the knowledge score on pregnancy avoidance and HIV, respectively, given that complete cases are likely to provide more precise estimates of these scores.

Table 6. 1: Composition of the knowledge scores on pregnancy avoidance and HIV prevention

Knowledge on pregnancy avoidance (total score: 6) correct – score 1, incorrect – score 0
1) A girl can get pregnant the first time of having sexual intercourse.
2) A girl can get pregnant after kissing or hugging.
3) A girl can swallow a pill every day to protect against pregnancy.
4) Using a condom can protect against pregnancy.
5) A girl can have a shot or injection to protect against pregnancy.
6) A girl can use herbs to prevent a pregnancy.
Knowledge on HIV prevention (total score: 4): correct – score 1, incorrect – score 0
1) A boy/girl can get HIV the first time of having sexual intercourse.
2) Using a condom can protect against HIV.
3) You can get HIV through kissing.
4) A girl or boy can swallow a pill before sex that will protect against HIV.

Once the knowledge scores (continuous variables) were constructed, the analysis examined descriptive statistics (distribution) of each score among this study population, as well as by sex. Further, the analysis assessed factors associated separately for pregnancy avoidance and HIV prevention knowledge (as the outcome variable), using the multivariate linear regression

142

analysis. The same methodology for testing goodness of fit (e.g. AIC) scores as described in sub-section 3.6.1.3 was used in this analysis, to identify the best-fit models. In the regression analysis, two variables related to EAs' communication on pregnancy avoidance were included as the main independent variables of interest: 1) the guardians' awareness of adolescents' friendships or school performance, as per variables included in the questionnaire; and 2) EAs' past communication with someone on pregnancy avoidance. Results from the multivariate linear regression show coefficients, with 95% CI, and p-values, as well as crude and adjusted R^2. Interaction terms between sex and age were examined for each of the models, and if the interaction was statistically significant, differences in the measures of effect (coefficients or odds ratios) by categories are illustrated.

6.1.3 Gender norm and other composite scores

In the analysis, I assessed seven gender norm scores as independent variables of main interest. First, an exploratory analysis was conducted, using the *t*-test for differences in mean scores, or binary/multivariate regression models, to see the direct associations of the gender norm scores and the outcome variables. The gender norm scores that showed statistically significant associations were included in the subsequent multivariate logistic regression models. Table 6. 2 presents the four gender norm scores selected for the final regression models and the variables that constitute each of the scores. As explained in sub-section 5.1.1, none of the gender norm scores followed a normal distribution. Therefore, in this analysis, all the gender norm scores were used as continuous variables, rather than creating categorical variables that may have biased the results.

Table 6. 2: Gender norm scores and their variables used in Chapter 6

Adolescents' romantic expectations (ARE) score (total: 4)
It's normal for a boy of your age to want a girlfriend.
It's normal for a girl of your age to want a boyfriend.
A girl should be able to have a boyfriend if she wants to.
A boy should be able to have a girlfriend if he wants to.
Gender views on ASRH (GASRH) score (total: 4)
It's OK for an adolescent girl to have sex, as long as she avoids getting pregnant.
In general, a girl should only have sex with someone she loves.

It's OK for an adolescent boy to have sex, as long as he avoids getting a girl pregnant.
In general, a boy should only have sex with someone he loves.
Sexual double standards (SDS) score (total : 5)
Girls are the victims of rumors if they have boyfriends.
Boys tell girls they love them when they don't.
Adolescent girls should avoid boys because they trick them into having sex.
Boys have girlfriends to show off to their friends.
Adolescent boys lose interest in a girl after they have sex with her.
Adolescent boys fool girls into having sex.
Gender equitable roles and features (GERF) (total: 6)
The expectations of the community regarding taking care of siblings should be the same for boys and girls.
Physical appearance is as important for boys as for girls.
It's normal that girls play soccer.
Boys who are attracted to other boys should be treated the same as everyone else.
Girls who are attracted to other girls should not be teased.
Parents should treat their daughter the same, whether she loves a boy or a girl.

Table 6. 12 in Appendix 4 lists covariates (independent variables) other than gender norm scores, which were used to adjust multivariate linear or logistic regression models presented in this chapter. These covariates included the following factors: individual (e.g. sex, age, importance of SRH); family (e.g. parents' awareness, living or not living with parents); peers (e.g. peers' perceptions towards SRH); neighborhoods (e.g. positive perceptions towards social cohesion); and media (e.g. exposure to pornography). For the knowledge score on pregnancy avoidance, specific variables were assessed, related to EAs' access to contraceptives and their communication with an adult or someone on the topic.

In addition, as individual factors, the power imbalance score in romantic relationships, exposure to peer violence (perpetration, victimization, and witness), and a depression score were included in some of the regression models. The power imbalance score was reported by the EAs who were in past or current romantic relationships (Table 3. 14 in Appendix 1) while the empowerment composite scores were measured in different aspects, such as voice, freedom of movement, decision-making, and influence (Table 3. 9 in Appendix 1). As a reminder, variables that constitute the depression score can be found in Table 3. 12 in Appendix 1 and detailed information related to this score is presented in sub-section 3.7.2.

144

In the analysis presented in this chapter, the composite scores (empowerment, power imbalance, and depression scores), were mostly used as continuous variables a priori. However, some of these covariates were used as binary categorical variables when: 1) log likelihood ratio and/or AIC changed significantly when the score was included as a continuous vs binary categorical variable; and/or 2) the measures of effects (e.g. coefficients or odds ratios) showed more clearly the associations with the outcome variable. Whenever required, these composite scores were coded in a binary variable, using the median as the cut-off point (< median or > = median), considering the skewedness of the sample distribution of these scores.

6.2   Results

6.2.1   Gender norms and sexual or romantic relationships

6.2.1.1 Association between gender norms and the experience of a sexual touch

This sub-section explains the associations between selected gender norm scores and having ever engaged in a sexual touch, adjusted for other covariates. As indicated in Chapter 4, with respect to sexual history, 20% of the 507 participants reported that they had already had their first sexual intercourse, while 21% of the 512 participants had ever been touched or had touched someone's private parts (initiation of a sexual touch). These sexual activities were more commonly reported among the participants than oral or anal sex, which less than 15% of the respondents had reportedly initiated. Through a binary exploratory analysis, only two of the seven gender norm scores: adolescent romantic expectations (ARE) and gender views on adolescent sexual and reproductive health (GASRH) showed statistically significant associations with "Have you ever experienced sexual touch?" and "Have you ever had sexual intercourse?" respectively (Table 6. 3).

Those who had ever experienced a sexual touch or sexual intercourse reported a significantly higher ARE score, indicating higher expectations for having a romantic relationship at their age. Similarly, those who had experienced these sexual activities reported a significantly higher mean GASRH score, or greater permissiveness to engage in sexual intercourse, as long as they prevented themselves from pregnancy or felt true love for their partner.

145

Table 6. 3: Differences between mean scores of ARE and GASRH by the onset of sexual activities

Main outcome variables	ARE (total score: 5) (N = 567)			GASRH (total core: 5) (N = 556)		
	No. of observations	Mean score [95% CI]	P-value	No. of observations	Mean score [95% CI]	P-value
Sexual touch:						
Ever	121	4.17 [4.02, 4.32]	< 0.001***	121	3.61 [3.41, 3.81]	< 0.001***
Never	446	3.70 [3.61, 3.80]		435	3.02 [2.91, 3.15]	
Sexual intercourse:						
Ever	115	4.18 [4.03, 4.34]	< 0.001***	114	3.80 [3.61, 3.99]	< 0.001***
Never	452	3.71 [3.62, 3.81]		442	2.99 [2.87, 3.11]	

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. P-values are from *t*-test for difference in mean scores. ARE: adolescent romantic expectations; GASRH: gender views on ASRH. Sexual touch means having been touched by someone or touched someone's private parts.

Logistic regression models were then constructed to identify the associations between the gender norm scores (ARE and GASRH) and these two outcome variables, when adjusted to other covariates (independent variables). The results of multivariate logistic regression models for "Have you ever had a sexual touch?" are presented in Table 6. 4. Model 1 was adjusted for the selected covariates, and Model 2 for covariates and the gender norm scores ARE and GASRH. The log likelihood ratio was the lowest when the gender norm scores were added to the regression model, indicating that Model 2 was the best-fit model. Pseudo R^2 suggests that Model 2 can explain 16% of the variance of the outcome variable (ever had a sexual touch), slightly higher than Model 1. Similarly, the AIC value reduced from Models 1 to 2, indicating a slightly better fitness of Model 2, although the difference in AIC was less than 10%.

The gender norm scores, ARE and GASRH showed significant associations with sexual activity in preliminary binary analysis. However, when these gender norm scores were incorporated in a multivariate logistic regression model adjusted for other covariates, the statistically significant association was only observed with respect to ARE, not to GASRH. A higher ARE mean score, or greater acceptance or expectation for girls and boys to have a romantic relationship, was associated with increased odds of having experienced a sexual touch (aOR in Model 2: 1.72, $p <$ 0.01).

146

Table 6. 4: Results from multivariate logistic regressions – ever experienced a sexual touch

Independent variables	Model 1 adjusted OR (aOR) to covariates (N = 335)	Model 2 adjusted OR (aOR) to covariates and gender norms (N = 334)
Gender norm scores		
Mean score: ARE (continuous variable)	NA	**1.72** [1.21, 2.44]
Mean score: GASRH (continuous variable)	NA	1.17 [0.91, 1.51]
Individual factors		
Sex: Girls (Ref: Boys)	**0.56* [0.32, 0.98]**	0.63 [0.35, 1.14]
Age: 14 years old (Ref: 11–13 years old)	1.78 [0.99, 3.18]	1.72 [0.95, 3.12]
Power imbalance score > = median (Ref: < median)	1.58 [0.91, 2.75]	1.48 [0.84, 2.61]
Exposure to pornography (sometime or often)	**2.55*** [1.49, 4.35]**	**2.42** [1.39, 4.20]**
Depression score (continuous variable)	1.05 [0.76, 1.45]	0.99 [0.71, 1.40]
Empowerment mean score: freedom of movement (continuous variable)	1.36 [0.92, 2.01]	1.20 [0.79, 1.82]
Peer factors		
Most/all close friends consider that it is important to have sexual intercourse (Ref: No)	**1.98* [1.04, 3.79]**	1.93 [0.99, 3.77]
Constant	**0.01***	**0.06***
Pseudo R^2	0.130	0.164
Log likelihood ratio	-176.10	-168.94
AIC	368.20	357.87

Odds ratios; 95% confidence interval in brackets. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. No significant interaction was detected between age and sex. ARE: adolescent romantic expectations; GASRH: gender views on ASRH

Apart from ARE, these two models identified several other protective or risk factors for the experience of a sexual touch among this population. For instance, exposure to pornography (sometimes or often) significantly increased the odds of having ever experienced a sexual touch, compared to those who had never watched pornography (aOR in Model 2: 2.42, $p < 0.001$). The odds of the EAs in the older age category (14 years old) reporting having ever experienced a sexual touch were 1.72 times higher, compared to those who were aged 11–13 years (aOR in Model 2: 1.72, $p = 0.071$). Although this association was not statistically significant in both models, the odds ratio for Model 2 exceeded the minimum value of 1.65 to be detected, based on the actual sample size of Model 2, the prevalence of a sexual touch (21%), standard error (α) of 0.05, and power of 0.80.

In an initial analysis, girls were less likely to have ever experienced being touched (or to have ever touched) sexually than boys (aOR in Model 1: 0.56, $p < 0.05$). However, when the model was adjusted for the gender norms, the association was no longer significant (aOR in Model 2:

0.63, $p = 0.13$). A statistically significant interaction was observed between sex and age ($p < 0.05$) in both models. When odds ratios were disaggregated by age categories, only boys in the 14-year-old category showed a significantly higher odds ratio for having ever engaged or initiated a sexual touch (aOR: 3.11, $p < 0.01$). The odds ratio was the lowest among girls who were in the 14-year-old category (aOR: 1.29), followed by girls 11–13 years old (aOR: 1.71). This suggests that, while the odds of having initiated a sexual touch increased among boys in the 14-year-old category, compared to younger boys, younger girls (11–13 years) reported an increased odds of having initiated this type of sexual activity, compared to those who were 14 years old.

6.2.1.2 Association between gender norms and the sexual debut

Table 6. 5 summarizes factors associated with the onset of sexual intercourse among the EAs. A binary analysis identified significant associations of the sexual debut with the gender norm scores ARE and GASRH. As presented in Model 2, after adjusting for selected covariates and these two gender norm scores, the multivariate logistic regression model estimated nearly 21% of variance of the outcome variable. Both log likelihood ratio and AICs were lower for Model 2 than Model 1. Although the differences in these values between the two models were insignificant (less than 10%), adding the two gender norm scores in Model 1 only slightly improved the model fitness (Model 2). In contrast to the experience of a sexual touch, GASRH showed a significant association with the onset of sexual intercourse (Model 2), but not ARE. With every point increase in the mean GASRH score (more open to sexual intercourse if they prevented pregnancy or felt true love in the relationship), the odds of having ever initiated sexual intercourse increased, multiplied by 1.45 ($p < 0.01$).

In Model 1, EAs in the 14-year-old group had significantly higher odds of having experienced sexual intercourse, compared to the younger age group (aOR: 2.17, $p < 0.05$). This association was, however, no longer significant when the model was adjusted for selected gender norms (Model 2). A significantly lower odds of reported onset of sexual intercourse was observed for girls (aOR: 0.30, $p < 0.001$) compared to boys (reference category), and Coloured, white or other EAs (aOR for Model 2: 0.44, $p < 0.05$), compared to black South Africans. The EAs who reported a higher score on influence (one of the four dimensions of empowerment) reported

148

significantly higher odds of having ever had sexual intercourse (aOR for Model 2: 1.89, *p* < 0.05). Similar to sexual touch (Table 6. 4), exposure to pornography (sometimes or often) was associated with significantly higher odds of having initiated sexual intercourse (aOR: 1.82, *p* < *0.*05). Peer influence (all or most close friends considered having sex important) appeared to also affect early onset of sexual intercourse (aOR for Model 2: 1.62, *p* = *0.*18).

Table 6. 5: Results from multivariate logistic regressions – ever had sexual intercourse

Independent variables	Model 1 aOR: adjusted to covariates (N = 324)	Model 2 aOR: adjusted to covariates and gender norms (N = 324)
Gender norm scores		
Mean score: ARE (continuous variable)	NA	1.20 [0.84, 1.70]
Mean score: GASRH (continuous variable)	NA	**1.45*[1.08, 1.95]**
Individual factors		
Gender: Girls (Ref: Boys)	**0.30*** [0.16, 0.57]**	**0.33*** [0.17, 0.64]**
Age: 14 years old (Ref: 11–13 years)	**2.17* [1.06, 4.45]**	2.03 [0.98, 4.20]
Race: Coloured, white or others (Ref: Black Africans)	0.49 [0.23, 1.06]	**0.44* [0.20, 0.97]**
Power imbalance score: > = median (Ref: < median)	**1.85* [1.02, 3.32]**	1.66 [0.91, 3.03]
Empowerment score: influence > = median (Ref: < median)	**2.20** [1.23, 3.93]**	**1.89* [1.04, 3.44]**
Depression score > = median (Ref: < median)	1.44 [0.79, 2.61]	1.20 [0.65, 2.23]
Exposure to pornography: Sometimes or often (Ref: Never)	1.75 [0.98, 3.14]	1.61 [0.89, 2.94]
Peer factors		
Most/all close friends consider that it is important to have sexual intercourse	1.69 [0.85, 3.36]	1.62 [0.80, 3.26]
Family or neighborhood factors		
Not living with both parents (no parent or one)	0.84 [0.48,1.48]	0.81 [0.45, 1.45]
EAs experience positive neighborhood social cohesion	1.37 [0.75, 2.51]	1.46 [0.78, 2.71]
Constant	**0.107*****	**0.019*****
Pseudo R²	0.183	0.206
Log likelihood ratio	-159.73	-153.81
AIC	328.43	323.57

Values are odds ratios. Ref: Reference categories. *p < 0.05; **p < 0.01; ***p < 0.001. ARE: adolescent romantic expectations; GASHR: gender views on ASRH. No significant interaction was detected between age and sex.

6.2.1.3 Association between gender norms and romantic relationships

As reported in Chapter 4, approximately 77% of the 569 respondents had reportedly been in a romantic relationship (past or current). When the gender norm scores were assessed for associations with past or current romantic relationships, only two of the gender norm scores – ARE and SDS – showed significant associations. Differences between mean scores and

149

corresponding p-values for those who reported having been in past or current relationships and those who had never been in a romantic relationship are presented in Table 6. 6.

For ARE, those who had never been in a romantic relationship reported a significantly higher mean score or higher expectations of engaging in a romantic relationship (mean score: 3.95 out of 5) than those who had been in a romantic relationship (mean score: 3.34, $p < 0.001$). This association between ARE and experiences of being in a romantic relationship was in contrast with engagement in sexual touch or the onset of sexual intercourse (a higher ARE score for those who had initiated these sexual activities). Those who had been in a romantic relationship reported higher SDS than those who had never been in a relationship (mean score: 4.34 vs 4.13, respectively, $p < 0.01$). This suggests that the EAs who had been or were currently in a romantic relationship possessed stronger SDS, characterized by mistrust of boys' promiscuity in such relationships.

Table 6. 6: Association between romantic relationships and ARE/ SDS scores, Cape Town

	ARE mean score (Total score: 5)			SDS mean score (Total score: 5)		
	No. of observations	Mean score [95% CI]	P-value	No. of observations	Mean score [95% CI]	P-value
Have been in a romantic relationship (past or current)	108	3.34 [3.13, 3.55]	<0.001***	108	4.34 [4.19, 4.48]	<0.001***
Never been in a romantic relationship	371	3.95 [3.87, 4.05]		370	4.13 [4.05, 4.22]	

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. P-values are from t-test for difference in mean scores. ARE: adolescent romantic expectations. SDS: sexual double standards.

Table 6. 7 presents the results of two multivariate logistic regression models for past or current romantic relationships, adjusted for selected covariates. In Model 2, when the gender norm scores ARE, SDS, and GASRH were added, the log likelihood ratio and AIC reduced slightly, indicating a better fitness of this model, compared to Model 1. Pseudo R^2 suggests that 26 % of the variance of the outcome variable (past or current romantic relationships) can be explained by Model 2. Based on the prevalence of the outcome variable (77%) and the sample size of 400, an OR of 1.67 or above would be required as the minimum detectable OR, although statistically significant results can override this limit. Among the variables that showed statistically insignificant associations with the romantic relationship, none of them met the minimum detectable OR.

Table 6. 7: Results from multivariate logistic regressions – past or current romantic relationships

Independent variables	Model 1 adjusted to covariates (N = 401)	Model 2 adjusted to covariates and gender norms (N = 400)
Gender norm scores		
Mean score: ARE (continuous variable)	NA	1.71*** [1.27, 2.30]
Mean score: SDS (continuous variable)	NA	0.49** [0.31, 0.77]
Individual factors		
Sex: girls (Ref: Boys)	0.19*** [0.09, 0.40]	0.23*** [0.10, 0.50]
Age: 14 years old (Ref: 11–13 years old)	2.19** [1.24, 3.90]	2.53** [1.38 ,4.63]
Mean depression score (continuous, complete cases)	1.53* [1.08, 2.15]	1.46* [1.03, 2.09]
Peer factors		
Most/all close friends consider that it is important to have a boyfriend or a girlfriend (Ref: No)	3.06** [1.47, 6.36]	2.59* [1.21, 5.52]
Most/all close friends consider that it is important to study hard (Ref: No)	0.55 [0.28,1.08]	0.40* [0.19, 0.84]
Family factors		
Parents' endorsement of having a boyfriend or girlfriend (Ref: No)	2.79** [1.38,5.64]	2.51* [1.19, 5.31]
Parents' expectations regarding marriage: when EAs want to marry, or do not expect EAs to marry (Ref: After primary/secondary/ high school)	0.46* [0.23, 0.93]	0.47* [0.23, 0.96]
Mother's education (Ref: Never or secondary incomplete)		
Up to secondary completed	1.12 [0.59, 2.11]	1.19 [0.61, 2.31]
Higher degrees (technical school, college, university)	0.91 [0.45, 1.84]	0.87 [0.42, 1.79]
Household wealth index (Ref: Lower tertile)		
Medium tertile	0.73 [0.37, 1.43]	0.66 [0.33, 1.34]
Upper tertile	0.71 [0.35, 1.47]	0.64 [0.30, 1.35]
Constant	5.03*	21.87*
Pseudo R^2	0.212	0.260
Log likelihood ratio	-161.16	- 151.11
AIC	346.32	330.22

Values are odds ratios. Ref: Reference categories. For the reference categories: the OR is 1.00. *p < 0.05; **p < 0.01; ***p < 0.001. No significant interaction was detected between age and sex.

The multivariate logistic regression models confirmed results from the previous explanatory analysis, which showed significant associations between gender norm scores (ARE and SDS) and past or current romantic relationships, but in different directions. As illustrated in Model 2, a higher ARE score (greater endorsement of romantic expectations) significantly increased the odds of having been in a romantic relationship (aOR 1.71, *p* < 0.001). On the other hand, an increased SDS score, or more biased views on boys' promiscuity, was associated with significantly lower odds ratio (aOR 0.49, *p* < 0.01) for having ever been in a romantic relationship.

At the individual level, sex and age impacted on the odds ratios. Compared to boys, girls were significantly less likely to have been in a past or current romantic relationship, as observed in Model 2 (aOR: 0.23, $p < 0.001$). In contrast, those aged 14 years old had significantly higher odds of having been in a romantic relationship (aOR for Model 2: 2.53, $p < 0.01$) compared to the younger EAs (11–13 years old). Also in Model 2, a higher level of mother's education (aOR: 0.83) and a higher household wealth index (aOR 0.64 for the upper tertile group) were identified as protective factors for current or past romantic relationships. However, these associations were not statistically significant. While a higher depression score (or a higher number of reported depression symptoms) did not show any significant association with sexual activities, it was significantly correlated with the odds of having been, or currently being in a romantic relationship, as shown in Model 2 (aOR 1.46, $p < 0.05$). Although a temporal relationship between these variables cannot be established, this may indicate a higher vulnerability to depression symptoms among the EAs who have been or are currently in a romantic relationship than those who have never been in a relationship.

Parents' expectations of their children's marriage or having a romantic relationship was found to influence the EAs' having been in a romantic relationship. The EAs whose parents did not expect them to marry, or gave them freedom to decide when to marry, reported significantly lower odds of having been in a romantic relationship (adjusted OR in Model 2: 0.47, $p < 0.05$) than those whose parents wanted them to marry only after completing primary, secondary, or high school. Furthermore, in Model 2, the respondents whose parents endorsed them having a boyfriend or a girlfriend at their age had significantly increased odds of having been in a romantic relationship (aOR 2.51, $p < 0.05$).

EAs' perception of peers' views, that all or most of them considered it important to have a boyfriend or girlfriend, was correlated with increased odds of having been in a past or current romantic relationship (aOR 2.51 in Model 2, $p < 0.05$). In contrast to this, the EAs who reported that their close friends consider studying hard to be as important, had reduced odds of having been in romantic relationships (aOR 0.47 in Model 2, $p < 0.05$).

152

6.2.2 EAs' knowledge on pregnancy avoidance and HIV prevention

This sub-section first analyzes correlations between the two knowledge scores: one on pregnancy avoidance, and the other on HIV prevention. Followed by this, factors that are associated with increased knowledge on HIV prevention and pregnancy avoidance are discussed, respectively.

6.2.2.1 Knowledge on pregnancy, HIV prevention and correlations

Table 6. 8 presents the knowledge score on pregnancy avoidance by sex. Only the sample with complete cases was used (responded to all the six variables), given that the number of missing observations was minimal (10 out of 569 total sample size). Among the 559 complete cases, the mean score was 4.13 (standard deviation, or SD: 1.16), the median was 4.00, and the variance was 1.35. Girls reported a slightly higher pregnancy avoidance knowledge score compared to boys (4.21 and 4.03, respectively); although this was statistically insignificant ($p = 0.067$). When the mean score on pregnancy avoidance was analyzed by age category (results not shown in the table), those in the older age group (14 years old) reported a significantly higher score than the younger participants (11–13 years old), with the mean score of 4.25 and 3.94, respectively ($p < 0.01$). There was no statistically significant difference in the percentage of girls and boys who responded correctly to each of the questions, except for "A girl can have a shot or injection to protect against pregnancy". For this question, 84% of girls agreed (correct answer), compared to 70% of boys ($p < 0.001$).

The HIV prevention knowledge scores are also described by sex in Table 6. 8. In the sample with complete cases only (N = 559), the mean score was 2.62 for boys and 2.58 for girls ($p = 0.625$) out of the total score of four. The median was 3.00, with the standard deviation of 0.98 and the variance of 0.97. In contrast to their knowledge on pregnancy avoidance, boys were slightly more knowledgeable than girls on the HIV prevention questions (mean score: 2.50 vs 2.39, $p = 0.625$). Similar to the pregnancy avoidance score, an older age was significantly associated with a higher HIV knowledge score, with the mean score of 2.76 for the 14-year-old group and 2.32 for the 11–13-year-old group ($p < 0.001$). When the score was disaggregated by questions, the percentage of boys who responded correctly was significantly higher than girls for two of the four questions: "Using a condom can protect against HIV" (88% of boys and 81% of girls

153

responded "yes" correctly; p = 0.014); and "A girl or boy can swallow a pill before sex that will protect against HIV" (32% of boys and 25% of girls responded "no" correctly; p = 0.047).

The results suggested a strong correlation between the two knowledge scores (pregnancy avoidance and HIV prevention). Pearson's correlation coefficient was 0.46 for the mean scores on pregnancy avoidance and on HIV, where coefficient 0.40 or above was considered as a strong level of correlation (results not shown in the table). Therefore, these two scores could not be included in the same regression model as the independent and dependent variables.

The EAs who scored at or above the median score for pregnancy avoidance knowledge were significantly more likely to be in the upper median group for the HIV knowledge score (Pearson's χ^2 = 24.73, p < 0.001; results not presented in a table). Analysis by the scatter plot (Figure 6. 1 in Appendix 4) also illustrates a positive linear association between the pregnancy avoidance score and the HIV score, and shows a positive collinearity between the two knowledge scores. The difference in the two knowledge scores by sex (a higher score for girls compared to boys) was larger for those who scored lower, although this difference by sex decreased among those who reported higher scores. Based on this result, for the subsequent linear regression analysis, the HIV prevention knowledge score was excluded from the model for the pregnancy avoidance knowledge, and the latter was excluded for the model for the HIV prevention knowledge, as an independent variable.

154
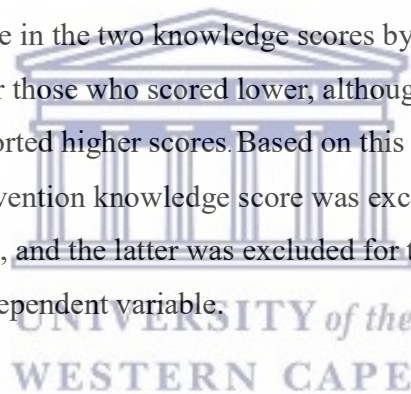
Table 6. 8: Knowledge levels – pregnancy avoidance and HIV prevention by sex – among EAs, N = 569

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Knowledge of pregnancy avoidance (% correct response to…)				
A girl can get pregnant the first time of sexual intercourse. (N = 566)	387 (68.37)	151 (65.37)	236 (70.45)	0.201
A girl can get pregnant after kissing or hugging. (N = 564)	512 (90.78)	203 (88.26)	309 (92.51)	0.086
A girl can swallow a pill every day to protect against pregnancy. (N = 567)	356 (62.79)	143 (61.64)	213 (63.58)	0.638
Using a condom can protect against pregnancy. (N = 565)	493 (87.26)	209 (90.09)	284 (85.29)	0.092
A girl can have a shot or injection to protect against pregnancy. (N = -568)	445 (78.35)	162 (69.83)	283 (84.23)	**< 0.001***
A girl can use herbs to prevent a pregnancy. (N = 563)	139 (24.69)	60 (25.97)	79 (23.80)	0.555
Knowledge score, pregnancy avoidance+ with complete cases N = 559 (Mean +/- SD)	4.13 +/- 1.16	4.03 +/- 1.21	4.21 +/- 1.12	0.067
Knowledge score, pregnancy avoidance+ with complete and incomplete cases N = 569 (Mean +/- SD)	4.09 +/- 1.19	4.00+/- 1.23	4.17 +/- 1.16	0.10
Knowledge of HIV and AIDS (% correct response to…)				
A boy/girl can get HIV the first time of sexual intercourse. (N = 566)	385 (68.02)	152 (65.52)	233 (69.76)	0,287
Using a condom can protect against HIV. (N =565)	473 (83.72)	204 (88.31)	269 (80.54)	**0.014***
You can get HIV through kissing. (N = 563)	364 (64.65)	149 (64.78)	215 (64.56)	0.958
A girl or boy can swallow a pill before sex that will protect against HIV. (N = 564)	156 (27.66)	74 (32.17)	82 (24.55)	**0.047***
Knowledge score, HIV prevention++ with complete cases (Mean +/- SD) (N = 559)	2.44 +/- 1.00	2.50+/- 0.95	2.39 +/- 1.04	0.625
Knowledge score, HIV prevention++ with compete and incomplete cases (Mean +/- SD) (N = 569)	2.57+/-1.00	2.60+/-0.88	2.55+/- 1.07	0.500
I know where to go to get… - yes, % (N = 569) …condoms.	434 (76.27)	187 (80.60)	**247 (73.29)**	**0.044***

Note: ^ = Fisher's Exact Test. ***p* < 0.05; ***p* < 0.01; ****p* < 0.001.** + Total score of pregnancy avoidance: 6; ++ Total score of HIV prevention: 4

6.2.2.2 Access to, and utilization of contraceptives

Table 6. 9 presents descriptive statistics on the utilization of contraceptives at first-time sex; the future intention of the use of contraceptives; and negotiation with an intimate partner on the use of contraceptives. Half the EAs reported having ever discussed contraception with someone (communication on contraception). Boys were significantly more likely to have discussed contraception with others than girls (57% vs 45%, $p < 0.001$). The vast majority (94%) of EAs had heard of condoms, with a higher proportion of boys (96.05%) than girls (91.90%) reporting this, although the difference was at the borderline significance ($p = 0.053$). Of those who had heard of condoms, 89% reported that they knew where to go to obtain condoms if they needed to. Boys tended to be more aware of where to obtain condoms than girls in their communities (90.34% and 88.53%, respectively), but this association was statistically insignificant. Girls were more likely than boys to report that both adolescent boys and girls in their community knew where to get contraception, including condoms and other modern methods (60% vs 54%), whereas boys tended to be more aware of where to obtain condoms (the differences were statistically insignificant for both).

Table 6. 9: Access to, and perception and utilization of contraception among the EAs by sex

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Have you ever discussed about contraception with anyone? N = 569				
Yes – N (%)	285 (50.09)	132 (56.90)	153 (45.40)	**0.007****
Have you heard about condoms? (N = 549)				
Yes – N (%)	514 (93.62)	219 (96.05)	295 (91.90)	0.053^
If yes (to above), do you know where to get condoms in your communities? – yes, N (%) N = 486				
Yes – N (%)	434 (89.30)	187 (90.34)	247 (88.53)	0.524
Both adolescent girls and boys in my community know where to get contraception (including condom/ family planning) if they need it. (N = 566)				
Yes – N (%)	325 (57.42)	124 (53.68)	201 (60.00)	0.135
Used a method to avoid pregnancy at the first-time sex (among sexually active EAs, N = 115), n (%)				
Yes – N (%)	75 (65.22)	52 (61.18)	23 (76.67)	0.181^
Types of contraceptive methods used at the first-time sex (N = 115), n (%)				
Male condom	63 (84.00)	48 (92.31)	15 (65.22)	
Pills	8 (10.67)	6 (11.54)	2 (8.70)	
Injection	8 (10.67)	1 (1.92)	7 (30.43)	
Female condom	10 (13.33)	7 (13.46)	3 (13.04)	

156

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Emergency contraception	1 (1.33)	0	1 (4.35)	
I can propose that my current partner uses a method to avoid pregnancy if I want to. (EAs who are in a current romantic relationship, N = 226), n (%)				
Totally or somewhat agree	204 (76.69)	117 (80.14)	87 (72.50)	0.143
Do you think you would have sexual intercourse with someone in the next year? (N = 510)				
Yes/maybe (by sex)	229 (40.25)	141 (60.78)	88 (26.11)	**< 0.001*****
Yes/maybe (by age)				
11–13 years old	66 (30.28)	41 (50.62)	25 (18.25)	**< 0.001*****
14 years old	163 (46.44)	100 (66.23)	63 (31.50)	**< 0.001*****
If so, would you wish to use a method to avoid pregnancy? (N = 229)				
Yes	204 (76.69)	117 (80.14)	87 (72.50)	0.143

*p < 0.05; **p < 0.01; ***p < 0.001. ^ = Fisher's Exact Test

Among 115 EAs who had initiated sexual intercourse, 65% reported that they or their partner used a method to avoid pregnancy at first-time sex, with no significant difference by sex ($p = 0.181$). In terms of the type of contraceptive method, the majority (84%) of EAs reported the use of a male condom at first sex, 10 used a female condom, and eight reported that they or their partner had used oral contraceptive pills or a hormonal contraception injection. None of the EAs reported having used periodic abstinence, withdrawal, an intrauterine device (IUD) or implants.

When asked about the likelihood of having sex in the next year, 40% of the EAs responded "yes" or "maybe". Boys were significantly more likely to agree that they may or would have sexual intercourse with someone in the next year than girls (61% and 26% respectively, $p < 0.001$). For both age categories (11–13 years old and 14 years old), a significantly higher proportion of boys than girls reported that they may or would have sexual intercourse in the next year. Boys in the 14-year-old category were more likely to report the possibility of having sexual intercourse in the coming year, than those who were 11–13 years old (66% and 51%, respectively). Among those who responded that they may or would have sexual intercourse in the next year, 73% reported that they wished to use a method to avoid pregnancy. Over 76% of the EAs agreed a lot or a little that they could propose to their intimate partner that they use a method to avoid pregnancy. Boys were slightly more likely to agree to this statement than girls, but the association was statistically insignificant (80% and 73% respectively; $p = 0.143$).

6.2.3 Associations between gender norm scores and SRH knowledge

In this sub-section I report on the multivariate linear regressions results, using the pregnancy avoidance knowledge and the HIV prevention knowledge scores as the outcome variables. I first describe the regression analysis results from an exploration of the potential associations between gender norms and the knowledge score on pregnancy avoidance. I also summarize other covariates associated with the knowledge level on pregnancy avoidance. I then follow the same process, using HIV prevention knowledge as the outcome variable. Whenever there are statistically significant results, I present the interaction terms, mainly between sex and age.

6.2.3.1 Gender norms and knowledge of pregnancy avoidance

In the binary linear regression analyses, all the gender norm scores except gender stereotypical role (GSR) ($p = 0.135$) showed significant associations with the pregnancy avoidance knowledge score at $p < 0.05$. Subsequently, these gender norm scores (excluding GSR) were included in a multivariate linear regression model to assess the associations with the pregnancy avoidance knowledge. As can be seen in Table 6. 13 in Appendix 4, in the sample that included incomplete cases (for gender norm scores), the associations with the pregnancy avoidance knowledge (complete cases only) showed statistically significant associations with only three scores: SDS (coefficient or $\beta = 0.15$, $p < 0.05$), GASRH ($\beta = 0.09$, $p < 0.05$), and GERF ($\beta = 0.18$, $p < 0.001$). The three gender norms (SDS, GASRH, and GERF) were retained in the final multivariate linear regression models. However, when the model was adjusted for other covariates in the final model (Model 2 in Table 6. 10), only GASRH remained statistically significant ($\beta = 0.10$, $p < 0.01$) but not SDS and GERF. This result indicates that a GASRH score of one point higher (more open to having sex, if they took measures for pregnancy prevention or felt true love) was associated with an increased pregnancy avoidance knowledge score by 0.10.

In terms of model fitness, the final multivariate linear regression model for the pregnancy avoidance knowledge score (Model 2 in Table 6. 10), adjusted for selected covariates and the gender norm scores, explains nearly 17% of the variance of the outcome variable, based on the adjusted R^2. Between the two models, AIC value was the lowest for Model 2 (adjusted for the gender norm scores and covariates), indicating a better fitness compared to Model 1.

158

Table 6. 10: Multivariate liner regression – the pregnancy avoidance knowledge score

Variables	Model 1 adjusted only to covariates (N = 544)	Model 2 adjusted to covariates and gender norm scores (N = 527)
Gender norm scores		
Mean score: SDS (continuous variable)	*NA*	0.05 [-0.07,0.17]
Mean score: GASRH (continuous variable)	*NA*	**0.10** [0.03,0.18]**
Mean score: GERF (continuous variable)	*NA*	0.07 [-0.04,0.18]
SRH knowledge, communication, behaviors, and access		
Ever had sexual intercourse (Ref: Never)		
Romantic relationship: Past or current (Ref: Never or missing)	0.07 [-0.14,0.28]	0.04 [-0.17,0.24]
Ever had communication on contraceptives with an adult (Ref: Never)	0.12 [-0.08,0.32]	0.15 [-0.05,0.34]
Wish to use a contraceptive method in the coming year (Ref: No)	0.00 [-0.22,0.23]	0.01 [-0.22,0.23]
Access to contraceptive		
I know where to obtain contraceptives. (Ref: No)	**0.36** [0.13,0.59]**	**0.27* [0.04,0.51]**
Both adolescent boys and girls know where to obtain contraceptives in my community. (Ref: None of them, or only males or females know)	**0.44*** [0.25,0.64]**	**0.36*** [0.17,0.56]**
Peer factors		
All or most close friends consider avoiding pregnancy important.	0.11 [-0.08,0.30]	0.14 [-0.05,0.32]
Basic individual factors		
`Sex: Girls (Ref: Boys)	**0.24* [0.03, 0.45]**	**0.22* [0.01, 0.43]**
Age (continuous)	0.13 [-0.03, 0.28]	0.14 [-0.01, 0.29]
Empowerment score: Freedom of movement (continuous variable)	**0.16* [0.03, 0.29]**	0.10 [-0.04, 0.24]
Parents' awareness of their children (three items)	0.19 [-0.01, 0.40]	**0.23* [0.03,0.43]**
Violence-related factors		
Peer violence: victimization during the last six months (Ref: No)	**0.24* [0.04, 0.43]**	**0.20* [0.01, 0.39]**
Peer violence: perpetration during the last six months (Ref: No)	**-0.32** [-0.54, -0.11]**	**-0.32** [-0.53, -0.11]**
Peer violence: ever intervened (Ref: never)	**0.30** [0.11, 0.49]**	**0.27** [0.08, 0.46]**
Interaction terms: peer violence victimization x perpetration	**0.57* [0.10, 1.04]**	**0.48* [0.17, 0.94]**
Victimization: No x Perpetration : Yes	*NA*	**-0.67 [-1.07, -0.27]****
Victimization: Yes x Perpetration: No	*NA*	0.10 [-0.11, 0.32]
Victimization: Yes x Perpetration: Yes	*NA*	-0.09 [-0.35, 0.17]
Constant	0.88 [-1.17, 2.94]	0.22 [-1.87, 2.31]
R^2	0.177	0.193
Adjusted R^2	0.156	0.166
AIC	1616.44	1535.10

Values in the table are coefficients. Ref: Reference categories. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. SDS: sexual double standards; GASRH: gender views on ASRH; GERF: gender equitable roles and features (an increased GERF indicates more equitable gender norms). Interaction term between age and sex was not statistically significant.

The analysis identified other key covariates that were significantly associated with the pregnancy avoidance knowledge score, using the socio-ecological model. Among individual factors (Table

6. 10), girls reported a significantly higher knowledge level of pregnancy avoidance compared to boys ($\beta = 0.22$, $p < 0.05$). Additionally, knowledge and awareness of the availability of contraceptives at individual and peer levels showed significantly positive coefficients for the pregnancy avoidance knowledge score. EAs who knew where to obtain condoms and those who responded that their peers (both boys and girls) knew where to obtain contraceptives in their communities, both reported a significantly increased pregnancy avoidance knowledge score by 0.27 ($p < 0.05$) and 0.36 ($p < 0.01$), respectively. The variable that measured parents' awareness and knowledge of the names of their children's friends', their children's school performance, and where they were when they went out, showed a significant association when the gender norm scores were added to the model ($\beta = 0.23$ for Model 2, $p < 0.05$).

Finally, peer violence-related factors were found to be significantly associated with the knowledge level of pregnancy avoidance score (for more detailed results related to violence, see Chapter 8). EAs who perpetrated peer violence in the six months prior to the survey reported a significantly lower pregnancy avoidance knowledge score than those who did not report peer violence perpetration (adjusted $\beta = -0.32$ for Model 2, $p < 0.01$). In contrast, those who reported victimization from peer violence during the same period had an increased pregnancy avoidance knowledge score by 0.20 ($p < 0.05$). The pregnancy avoidance score of EAs who reported having intended to intervene to stop peer violence during the same period was significantly higher than those who did not intervene ($\beta = 0.27$ for Model 2, $p < 0.01$).

In addition, the interaction term between peer violence victimization and perpetration was found to be statistically significant ($\beta = 0.48$ for Model 2, $p < 0.05$) in the final linear regression model for the pregnancy avoidance knowledge score. When the coefficient was calculated for each of the three categories (having perpetrated and been a victim of peer violence; having perpetrated but not been a victim; and having been a victim but not perpetrated), the association remained significant only for those who had perpetrated but had not been a victim of peer violence, with a negative coefficient for the pregnancy avoidance score ($\beta = -0.67$ for Model 2, $p < 0.01$). This confirms a previous finding that the EAs who had perpetrated peer violence reported a significantly reduced pregnancy avoidance knowledge score than did the others. Nonetheless, due to the cross-sectional design, this study was unable to establish any temporal relationships

between experiences of peer violence and knowledge of pregnancy avoidance. This will be discussed later, as one of the study's key limitations.

6.2.3.2 Gender norms and HIV prevention knowledge

As illustrated in Table 6. 14 in Appendix 4, of the seven gender norm scores, ARE and SDS showed statistically significant positive coefficients with the HIV prevention knowledge score, for the sample that included incomplete cases (0.13, $p < 0.01$; and 0.16, $p < 0.01$, respectively). This result indicates that those who reported higher (less equitable) adolescent romantic expectations (ARE) and sexual double standards (SDS) scores, also reported a higher HIV prevention knowledge than those with lower ARE and SDS scores. ARE score measured the EAs' expectations toward having a boyfriend or a girlfriend at their age. On the other hand, the SDS score asked about EAs' gender sexual double standards, such that boys could be more promiscuous and interested in having sex rather than the relationship itself. These associations remained statistically significant for the sample with complete cases only.

Table 6. 11 presents the results from the multivariate linear regression models that identified associating factors for the mean HIV prevention knowledge score, adjusted for the covariates in Model 1 and for the gender norm scores in Model 2. The result suggests that Model 2 explains 17.2% of the variance in the HIV prevention knowledge score based on the crude R^2, and 13.9% based on the adjusted R^2. This indicates that the model fit for the HIV knowledge score (or crude and adjusted R^2 values) was lower than the model for the pregnancy avoidance knowledge. The latter showed a better goodness of fitness as a model.

Two gender norm scores (ARE and SDS) remained statistically significant with the HIV knowledge score, when the model was adjusted for other covariates ($\beta = 0.13$, $p < 0.05$ for ARE; and $\beta = 0.17$, $p < 0.001$). Those who reported a higher ARE score (a higher expectation or normalization of having a romantic relationship), reported an increased HIV prevention knowledge score. Those who scored higher on the SDS score also reported a higher HIV prevention knowledge score.

Among the individual level factors listed in Table 6. 11, the model identified fewer associated variables with a statistical significance. In contrast to the pregnancy avoidance knowledge score,

161

there was no significant difference in the HIV prevention knowledge score by sex. However, being older appeared to contribute to an increased knowledge on HIV prevention (β = 0.26, $p <$ 0.01). The EAs whose parents had divorced reported a significantly negative coefficient for the HIV prevention knowledge score than those whose parents had not (β = - 0.33, $p < 0.01$). Furthermore, among those who lived with only one of their parents, the coefficient for the HIV prevention knowledge was higher among those who lived only with their mother (β = 0.16) than those who lived with their father or caregivers such as grandparents) (β = - 0.07). However, these associations were not statistically significant.

Table 6. 11: Multivariate linear regressions – the HIV prevention knowledge score

Variables	Model 1 adjusted to covariates (N = 445)	Model 2 adjusted to covariates and gender norms (N = 444)
Gender norm scores		
Mean score: ARE (continuous)	NA	**0.13*[0.01,0.25]**
Mean score: SDS (continuous)	NA	**0.17***[0.07,0.26]**
SRH knowledge, communication, behavior, and access		
Communication with an adult on sexual relationships	-0.07 [-0.25,0.11]	-0.10 [-0.28,0.08]
Adolescent boy and girls know where to obtain contraceptives in my community	0.13 [-0.06,0.31]	0.06 [-0.12,0.25]
Past or current romantic relationship (Ref: never)	0.14 [-0.08,0.37]	0.07 [-0.16,0.30]
Individual factors		
Sex: girls (Ref: boys)	0.00 [-0.18,0.19]	-0.01 [-0.19,0.17]
Age (continuous)	**0.25**[0.10,0.41]**	**0.26**[0.10,0.41]**
Race (Ref: black African): Coloured, white, or others	-0.17 [-0.39,0.05]	-0.18 [-0.40,0.04]
Family factors		
Mother's education level (Ref: None/ below secondary)		
Secondary completed	**-0.22*[-0.42,-0.02]**	-0.17[-0.37,0.02]
Above secondary (technical school or college/ university)	-0.15 [-0.38,0.09]	-0.08 [-0.31,0.15]
Parents have been divorced (Ref: No)	**-0.33**[-0.56,-0.11]**	**-0.33**[-0.55,-0.11]**
Living with or without parent (Ref: Both parents)		
Mother only	0.20 [-0.06,0.45]	0.16 [-0.09,0.41]
Father only or someone other than parents (grandparents)	-0.06 [-0.32,0.20]	-0.07 [-0.32,0.18]
Empowerment scores: Voice score (continuous)	0.12 [-0.02,0.26]	0.11 [-0.03,0.24]
Constant	-1.09 [-3.26,1.07]	-2.18* [-4.35,-0.01]
R^2	0.126	0.172
Adjusted R^2	0.096	0.139
AIC	926.16	910.18

Values in the table are coefficients. Ref: Reference categories. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
No statistically significant interaction was detected between age (categorical variable) and sex. ARE: adolescent romantic expectations; SDS: sexual double standards.

162

6.3 Conclusion

This third chapter on results presented key findings corresponding to the research question three on the potential associations between gender norms and sexual activities and romantic relationships, and knowledge scores on pregnancy avoidance and prevention of HIV. The results showed associations between some of the gender norms, especially SDS, ARE, and GASRH scores, and the onset of sexual activities, or romantic relationships, and the two knowledge scores. However, the associations between gender norms and these outcome variables depended on the dimension of gender norms measured by the score. Additionally, the results revealed key protective or risk factors such as sex (girls) and age (older age group) and exposure to pornography for an early onset of sexual activities or romantic relationships, using the socio-ecological model.

Although the knowledge scores on pregnancy avoidance and HIV prevention were strongly correlated, associating factors identified in this analysis were distinct. For instance, the pregnancy avoidance knowledge score was positively influenced by being a girl, access to contraceptives, and parents' awareness of their children's school performance, friendships, and outside activities. For HIV prevention knowledge, while there was an increase in the score with older age, those who reported parents' divorce reported a reduced score.

In the next chapter I discuss the results on associations between gender norms and reported exposure to violence, including adverse childhood events (ACEs).

163

CHAPTER SEVEN: VIOLENCE, ADVERSE CHILDHOOD EXPERIENCES, AND GENDER NORMS

This chapter presents the results of the analysis corresponding to research questions four and five (RQ 4 and RQ 5) on the associations between recent experiences of violence, adverse childhood events (ACEs), and gender norm scores:

- **RQ 4:** Are any associations between inequitable gender norms and recent experiences of peer violence or intimate partner violence (IPV) – both victimization and perpetration – reported by early adolescents (EAs)?

- **RQ 5:** Has exposure to, and experience of ACEs influenced EAs' gender norms and experience of violence during the past six months?

As described in Chapter 3, sub-section 3.6.2, we used two different violence-related variables as the outcomes or dependent variables: peer violence and intimate partner violence (IPV). The chapter is organized in two sub-sections. Sub-section 7.1 briefly reminds the reader of the specific measures and the methodology used to answer RQ 4 and RQ 5, described overall in Chapter 3. Sub-section 7.2 presents key results related to these two RQs.

7.1   Summary of specific measures and analysis methods

7.1.1 Specific measures

This sub-section explains the outcome variables, followed by the key covariates. The analysis used two main outcome variables related to violence during the six months prior to the survey: intimate partner violence (IPV) with the current partner, both victimization and perpetration; and peer violence, defined as bullying, physical fights, or teasing (verbal violence). Responses were coded as "yes" or "no". As explained in sub-section 3.7.2, EAs' experiences of IPV (perpetration or victimization) were measured by four questions: 1) (Have you) ever (had) something thrown at (you by) your partner(?); 2) (Have you) ever (been) pushed, shoved, or grabbed (by) your

partner(?); 3) (Have you) ever (been) slapped (by) your partner in the face or head with an open hand(?); or 4) (Have you) ever (been) hit (by) your partner(?).

In addition, three other violence-related variables were included as co-variates: 1) witnessing of peer violence (physical fights or bullying among peers) during the previous six months; 2) having felt scared or threatened in schools or while commuting during the previous year; and 3) having felt scared or threatened in communities including schools. Since the variables related to school and community safety were highly correlated (Pearson's correlation: 0.784), both were separately included in the regression models, and one of them was selected based on the better model fitness indicators (Akaike's information criterion, or AIC, and log likelihood ratios).

Table 7. 10 in Appendix 5 presents the covariates included in this chapter. Two variables were used as the main covariates: exposure to ACEs and gender norm scores. Experiences of ACEs were measured by 11 items of adverse events developed by the broader Global Early Adolescent Study (GEAS) as noted in Table 3. 11 in Appendix 1. In this analysis, the 11 variables of ACEs in the GEAS's questionnaire were validated using the polychoric principal component analysis (PCA) and exploratory factor analysis (EFA) with the Cape Town data set. Through the polychoric explanatory factor analysis (EFA), all 11 items were loaded that were at 0.40 or above. The polychoric Cronbach's alpha was 0.777 (95% lower limit: 0.750), exceeding the minimum threshold of 0.70 for a decent level of scale reliability.

Given that only 355 respondents (62.4% of the total sample) provided a valid answer to all 11 items Table 7. 11 in Appendix 5, the ACE score was calculated among those who responded to at least one of the 11 items (including incomplete cases). Missing or non-valid response was considered as "No" or score of zero. As an alternative way of creating this variable, based on the sample distribution across the number of ACEs reported, the variable was categorized into three areas: 0–2 ACEs, 3–4 ACEs, and 5 or more ACEs. These two variables were interchangeably used, depending on the model fitness. In addition, when the analysis disaggregated the associations with peer violence exposure by types of ACEs, each of the 11 ACE items were used as binary categorical variables ("ever" or "never").

165

Among the covariates assessed in the regression models, gender norm scores continued to be the variables of main interest. Five out of the seven gender norm scores were mainly used in the analysis: sexual double standards (SDS), adolescent romantic expectations (ARE), gender views on adolescent sexual and reproductive health (GASRH), gender stereotypical views (GSV), and gender equitable roles and features (GERF) (Table 7. 1). These scores were applied as continuous variables, which appeared to be more sensitive and able to improve the goodness of fit, given that the sample distributions were not normal (see sub-section 5.2.1). Other composite scores such as power imbalance score (Table 3. 14 in Appendix 1), body comfort score (Table 3. 16 in Appendix 1), and an empowerment score, specifically the voice score (Table 3. 9 in Appendix 1), were also incorporated into the regression models as continuous variables.

Table 7. 1: Gender norm scores used in this chapter (SDS, ARE, GASRH, GSV, and GERF)

Sexual double standards (SDS) mean score (6 variables)
Girls are the victims of rumors if they have boyfriends.
Boys tell girls they love them when they don't.
Adolescent girls should avoid boys because they trick them into having sex.
Boys have girlfriends to show off to their friends.
Adolescent boys lose interest in a girl after they have sex with her.
Adolescent boys fool girls into having sex.
Adolescents' romantic expectation (ARE) mean score (4 variables)
It's normal for a boy your age to want a girlfriend.
It's normal for a girl to want a boyfriend at your age.
A girl should be able to have a boyfriend if she wants to.
A boy should be able to have a girlfriend if he wants to.
Gender views on ASRH (GASRH) mean score (4 variables)
It is OK for an adolescent girl to have sex, as long as she avoids getting pregnant.
In general, a girl should only have sex with someone she loves.
It is OK for an adolescent boy to have sex, as long as he avoids getting a girl pregnant.
In general, a boy should only have sex with someone he loves.
Gender stereotypical views (GSV) mean score (5 variables)
A real man should have as many female partners as he can.
Boys who don't like sports are not real boys.
Girls should be interested in make-up.
It is OK to tease a girl who acts like a boy.
It is OK to tease a boy who act like a girl.
Gender equitable roles and features (GERF) mean score (6 variables)

The expectations of the community regarding taking care of siblings should be the same for boys and girls.
Physical appearance is as important for boys as for girls.
It's normal that girls play soccer.
Boys who are attracted to other boys should be treated the same as everyone else.
Girls who are attracted to other girls should not be teased.
Parents should treat their daughter the same, whether she loves a boy or a girl.

7.1.2 Specific analysis methods

In this sub-section, key analysis methods used for this chapter are summarized (see section 3.6.1 for more detailed information). First, the descriptive statistics of EAs' reported exposure to peer violence, IPV, and ACEs were analyzed. Second, as described in sub-section 3.7.1, bivariate logistic regression models were applied to detect any significant associations between each of the gender norm scores and exposure to violence (peer violence and IPV). The following step was to detect any significant associations between the outcome variables (peer violence and IPV perpetration and victimization) and other violence-related covariates (ACEs, witnessing peer violence, school and/ or community safety), using multivariate logistic regressions. The analysis was also extended to detect any relationships between the mean ACE score and the gender norm scores, adjusted for sex and age, using multivariate linear regression models. Since exposure to pornography appeared to be correlated with several of the outcome variables, it was bilaterally assessed for the association with peer violence and IPV perpetration and victimization. Finally, multivariate logistic regression models were constructed, first adjusting for selected gender norm scores, and other covariates.

As explained in sub-section 3.7.1, Pearson's correlation coefficients were used to filter out one of the covariates that showed a strong correlation (0.40 or above), as it tended to measure a similar phenomenon. AIC and the log likelihood ratios were used to guide the model selection based on the goodness of the fitness. In line with other results, the effects of measures were reported as crude odds ratio (OR), adjusted OR (aOR), 95% confidence interval (CI), and p-values. Pseudo R^2 values were also presented, which estimated the proportion of the total variance of the outcome variable that was estimated by the model.

The analysis initially intended to use a same set of covariates for victimization and perpetration of peer violence and IPV, respectively in multivariate logistic regressions, to compare the results. However, if a variable did not improve the model fitness, using AIC and log likelihood ratios, it was removed from the model. As a result, the covariates, including the gender norm scores, that were retained in the final regression were not identical for perpetration and victimization. The interaction between the age and sex was assessed and significant interaction terms reported.

The overall sample size of the final dataset of 569 EAs was reduced to 371 for the IPV-related variables, as these questions were only asked of those who were currently in a romantic relationship. As explained in sub-section 3.7.1, this sample size was checked retrospectively to ensure that it was sufficient to detect significant effects at power of 80% and alpha of 0.05. To do this, a minimum sample size verification was conducted, using the standard formulae (Equation 1 in Chapter 1). Based on the actual prevalence of peer violence perpetration and victimization in the study population (27.6% and 59.1%), a minimum required sample size was 307 for peer violence perpetration, and 372 for peer violence victimization. Similarly, for exposure to IPV, the actual sample size decreased as questions were only asked for the EAs who were currently in a romantic relationship. Based on the actual prevalence of the IPV reported in this study, the outcome variable was 28.3% for IPV perpetration and 36.4% for IPV victimization. Thus, a minimum sample size required for the analysis of IPV was 254 for IPV perpetration and 356 for IPV victimization. If the actual sample size in the final regression models did not meet this minimum number, the results should be interpreted with caution.

Possible mediation effects of a selected gender norm score (variable A) for the association between independent variable (B) and exposure to violence (dependent variable, or variable C) were assessed if they met pre-defined criteria. These criteria included: 1) variable B (independent variable) occurred (or was biologically established) prior to variable C (violence exposure), such as the sex (boys/girls) or exposure to ACEs; and 2) variables A, B, and C were bilaterally and statistically significantly associated (between variables A and B, B and C, and C and A). If the criteria were met, a structural equation model was run, using Stata's command *sem* to assess the mediating role of the gender norm scores for the association between independent variables (ACEs or sex) and violence exposures (peer violence perpetration or victimization). Sobel's test (Sobel, 1982; Z. Yu et al., 2021) was used to identify statistically significant mediation effects,

based on the Z-test for the indirect effect of the mediation variable (Stata's command *medsem*). The proportion of an indirect effect against the total effect was calculated to estimate the level of the mediation effect within the overall association. The mediation effect was firstly assessed for a crude model (only three variables in the model), and secondly adjusted for selected covariates, identified through the final logistic regression models for peer violence exposures.

7.2 Results

7.2.1 Peer violence and gender norm scores

This sub-section focuses on associations between peer violence perpetration and victimization (as outcome variables) and gender norm scores. It describes the prevalence of peer violence perpetration, victimization, and witnessing, asked to all participating EAs. Potential correlations are presented between peer violence perpetration, victimization, and witnessing, to identify covariates to be included in the multivariate regression models. Next, gender norm scores are identified that were significantly associated with peer violence. The section concludes with a presentation of the results from the multivariate logistic regression analysis that explored associations between peer violence, selected gender norm scores, and other covariates of interest.

7.2.1.1 Prevalence of peer violence in the past six months

Table 7. 2 shows that in the previous six months, nearly 55% of the EAs reported experiencing being teased (victimization) and approximately 20% of them had bullied or threatened another peer (perpetration). Boys were significantly more likely to have experienced peer verbal harassment (approximately 60% vs 51% for boys and girls, respectively; $p < 0.05$) and being bullied (approximately 27% vs 15%, respectively, $p < 0.01$) than girls. Likewise, a significantly higher proportion of boys reportedly bullied or threatened another peer compared to girls.

The prevalence of victimization and perpetration of physical violence towards or by peers was lower than that for teasing or bullying. Among the EAs, slightly over 30% reported having experienced physical violence (a victim) during the six months prior to the survey, and 20% engaged in peer physical violence as a perpetrator. Again, a significantly higher proportion of

169

boys, compared to girls, reported both peer victimization and perpetration of physical violence. As explained in sub-section 3.7.1, these two types of violence (teasing/bullying and physical violence) were combined into a variable on peer violence perpetration or victimization. In summary, almost 28% of the EAs reportedly perpetrated peer violence and 59% experienced bullying or physical violence as a victim during the previous six months. Boys were significantly more likely to report perpetration of peer violence than girls ($p < 0.001$ for both). The same tendency for boys and girls was observed for peer violence victimization (reported by approximately 66% of boys and 54 % of girls; $p < 0.05$).

Table 7. 2: Exposure to peers' interpersonal violence during the past six months by sex

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Teasing/bullying in the past six months – yes, % (N = 569)				
Ever been teased during the last six months (victimization)	311 (54.66)	140 (60.34)	171 (50.74)	**0.024***
Ever bullied or threatened another boy or girl (perpetration)	114 (20.04)	62 (26.72)	52 (15.43)	**0.001****
Peer physical violence in the past six months – yes, % (N = 569)				
Experience of physical violence victimization by peers	172 (30.23)	86 (37.07)	86 (25.52)	**0.003****
Engaged in physical violence perpetration with peers	119 (20.91)	66 (28.45)	53 (15.73)	**<0.001*****
Summary of exposure to peer violence (combined teasing/bullying and physical violence) (N = 569)				
Peer violence perpetration (bullied or perpetrated physical violence with peers in the past six months) – yes (%)	157 (27.59)	85 (36.64)	72 (21.36)	**<0.001 *****
Peer violence victimization (being bullied or a victim of physical violence by peers in the past six months) – yes (%)	336 (59.05)	153 (65.95)	183 (54.30)	**0.006****
Witnessing of peer violence in the past six months (N = 569)				
a. **Witnessing of bullying or threats among peers**				
Have seen male peers bully or threaten someone	327 (57.47)	144 (62.07)	183 (54.30)	0.066
Have seen female peers bully or threaten someone	269 (47.28)	109 (46.98)	160 (47.48)	0.907
b. **Witnessing of physical fight among peers**				
Have seen male peers start a physical fight with someone	339 (59.58)	151 (65.09)	188 (55.79)	**0.026***
Have seen female peers start a physical fight with someone	308 (54.13)	127 (54.74)	181 (53.71)	0.808
Bystander intervention in the past six months				

170

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Intended to intervene to stop bullying among peers	275 (48.33)	111 (47.84)	164 (48.66)	0.847

**p < 0.05, **p < 0.01, **p < 0.001*. P-values for chi-squared tests.

Many of the EAs observed male peers engaging in physical fights with other peer(s) (reported by almost 60% of the EAs), with a significantly higher proportion of boys than girls witnessing such violence (approximately 65% and 56%, respectively; $p < 0.05$). The questionnaire also asked about bystander interventions in the past six months. Nearly half of the respondents (both boys and girls) reported that they had intended to intervene to stop peers from bullying. None of the respondents reported having ever carried weapons or any other tools for self-protection (data not shown in the table).

7.2.1.2 Peer violence witnessing, perpetration, or victimization

As the following step of the analysis, I identified covariates that were potentially associated with peer violence perpetration or victimization. As part of this process, correlations between these outcome variables and other violence-related variables were examined, using Pearson's correlation coefficients. As presented in Table 7. 12 in Appendix 5, a strong correlation (0.76) was found between having felt threatened or unsafe in schools, or while commuting to or from school, and having felt threatened in communities during the previous 12 months. This is because while the first measured EAs' experience of having felt threatened in schools, or during commuting to, or from schools, the latter measured unsafe experiences in communities, including schools. Therefore, in the subsequent analysis, only one of these variables was included in the regression model, to avoid including two variables that measured the same phenomenon.

The history of ACEs showed a mild correlation with peer violence perpetration ($\sigma = 0.31$), while IPV victimization was correlated with IPV perpetration at 0.35, indicating a possible co-occurrence. Witnessing of peer fights or bullying during the past six months was correlated with peer violence victimization at 0.33, suggesting that some of the EAs may have reported her or his own victimization and witnessing of peer violence. Another possible explanation is that those

171

who witnessed peer violence might have also become a victim of it, although a time-effect of these two events could not be established through this analysis.

7.2.1.3 Binary association between peer violence and gender norm scores

Table 7. 3 presents results from binary logistic regression models that assessed associations between peer violence perpetration and victimization, and different gender norm scores. For peer violence perpetration, SDS and GASRH scores showed a significant association (OR: 0.71 for SDS, $p = 0.002$; and OR: 1.27 for GASRH, $p < 0.01$). A more equal SDS (lower score) appeared to be a protective factor for peer violence perpetration, while a higher GASRH score (more open to having sex if they prevented pregnancy or felt true love) was a risk factor, as it significantly increased the odds of having perpetrated peer violence in the previous six months.

With respect to violence victimization, only the GASRH mean score showed a significant association, with an OR of 1.18 ($p < 0.05$). Those who had reportedly less equal gender norms on GASRH were 1.15 times at higher odds of having reported peer violence victimization. GSV showed a significant association, both with peer violence perpetration and victimization (OR: 1.61, $p < 0.001$; and OR: 1.23, $p = 0.01$). The mean score of gender stereotypical traits (GST) increased the odds of peer violence perpetration slightly, by 1.22, but the association was not statistically significant ($p = 0.078$).

Table 7. 3: Binary logistic regressions between gender norms and peer violence perpetration

Gender norms	Peer violence perpetration in the past six months Odds ratio [95% CI]	P-value	Peer violence victimization in the past six months Odds ratio [95% CI]	P-value
Mean score: GST (N = 565)	1.22 [0.97, 1.53]	0.078	1.03 [0.84,1.25]	0.800
Mean score: GSR (N = 557)	1.00 [0.85, 1.20]	0.914	1.15 [0.98- 1.34]	0.088
Mean score: ARE (N = 567)	1.11 [0.92, 1.34]	0.282	1.05 [0.89-1.24]	0.597
Mean score: SDS (N = 564)	**0.71 [0.57, 0.88]**	**0.002***	0.87 [0.70- 1.07]	0.186
Mean score: GERF (N = 551)	0.93 [0.77, 1.14]	0.500	1.07 [0.89-1.28]	0.457
Mean score: GASRH (N = 556)	**1.27 [1.09, 1.48]**	**0.002***	**1.18 [1.03- 1.35]**	**0.016***
Mean score: GSV (N = 563)	**1.61 [1.34, 1.93]**	**<0.001****	**1.30 [1.10-1.53]**	**0.002***

P-value for chi-squared test. ***p < 0.05; **p < 0.01; **p < 0.001.** ACE = adverse childhood experience; GST= gender stereotypical traits; GSR = gender stereotypical roles; ARE= adolescent romantic expectations; SDS = sexual double standards; GERF= gender equitable roles and features; GASRH= gender views on adolescents' SRH; GSV = gender stereotypical views.

7.2.2 Adverse childhood experiences, peer violence, and gender norms

This section of Chapter 7 first illustrates the prevalence and types of ACEs reported by the EAs. Following the descriptive statistics, the section fist explains potential associations between ACEs and gender norm scores. Next, it presents the relationships between ACEs and peer violence perpetration and victimization. Finally, it describes the associations between peer violence perpetration or victimization and gender norm scores, adjusted for ACEs and other covariates. Further, specific types of ACEs are identified that were associated with increased peer violence perpetration and victimization.

7.2.2.1 Prevalence of adverse childhood events among early adolescents

In this sub-section, descriptive statistics on the prevalence and types of ACEs reported by the EAs are presented. The results show an extremely high prevalence of ACEs in the study sample. Figure 7. 1 and Figure 7. 2 show a sample distribution of the reported history of ACEs by number, across 11 items for the sample that included incomplete cases (Figure 7. 1), and with complete cases only (Figure 7. 2). The bar graphs show a similar distribution pattern for both samples, with the peak of the reported adverse events at three ACEs, followed by four and two ACEs.
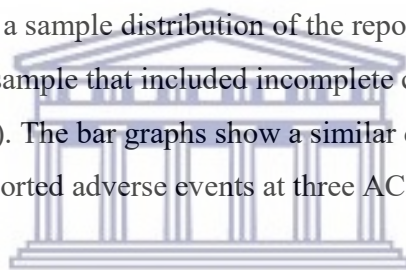
Figure 7. 1: Reported history of ACEs, complete and incomplete cases (N = 566)

Figure 7. 2: Reported history of ACEs, complete cases only (N = 355)
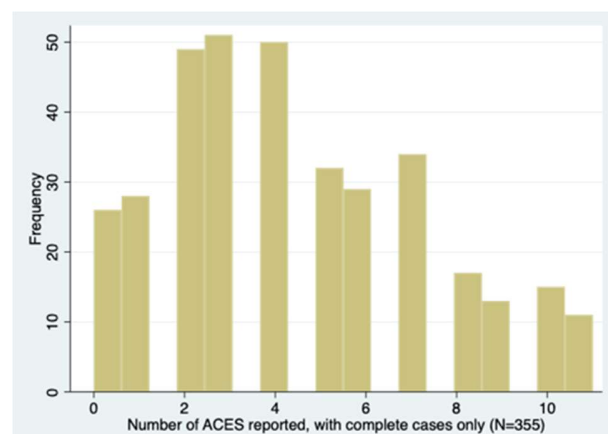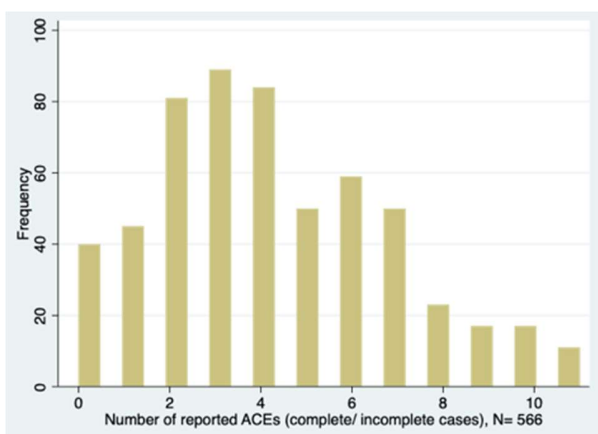
Figure 7.3 below describes the number of reported ACEs in three categories by sex (never, 1–2 ACEs, 3–4 ACEs, and 5 or more ACEs). This figure shows a very similar distribution of the prevalence of ACEs for boys and girls, as well as for the total study sample, with over 70% of the EAs having experienced five or more ACEs.

Figure 7. 3: Reported experience of ACEs by sex, Cape Town (N = 569: 337 girls, 232 boys)
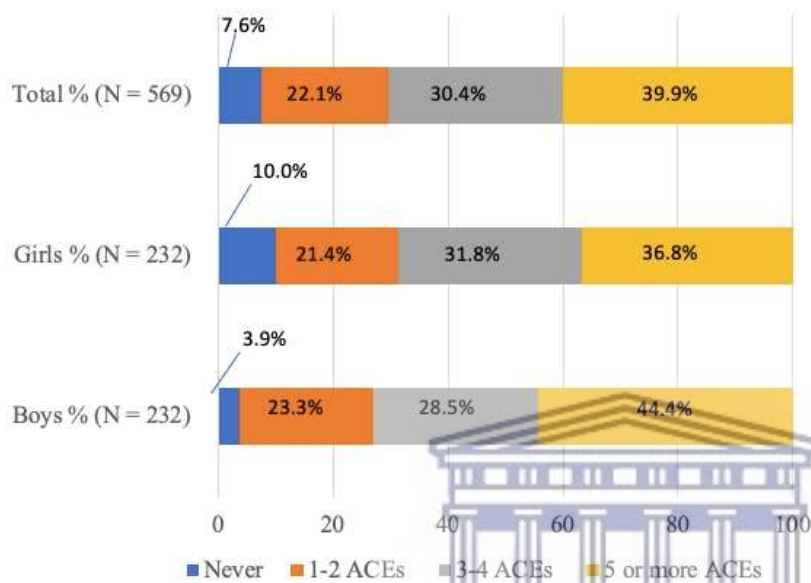
Detailed information on reported history of ACEs and types of ACEs is presented in Figure 7. 4. The overwhelming majority (92.44%) of the EAS reported experiencing at least one ACE, and only 43 (7.56%) responded that they had never experienced any ACE. The mean ACE score was 4.44 out of 11 (95% CI: 4.13–4.74) for complete cases only (N = 355) and 4.23 (95% CI: 4.00, 4.45) when the incomplete cases were included (N = 566). The difference in the ACE mean scores among the samples with complete cases vs complete and incomplete cases was not statistically significant ($p = 0.27$). Nearly 40% (39.89%) of the EAs reported having ever experienced five or more ACEs. Boys were significantly more likely to have experienced an increased number of ACEs than girls ($p < 0.05$). However, when the sex difference was assessed for the ACEs in three categories (0-2 ACEs, 3-4 ACEs, and 5 or more ACEs), this difference was no longer statistically significant ($p = 0.194$). This was probably due to small cell counts in the category of "never experienced ACEs", when disaggregated by sex.

Among different types of ACEs, the most frequently reported ACE was emotional abuse, for instance, having been scared or felt hurt because adults (including family members) said bad things about the respondent as a child (reported nearly by 68% of the EAs). This was followed by household instability (63%). Emotional or physical neglect during childhood was also reported by approximately 58% of the EAs. Boys were significantly more likely to report substance abuse in the family, or parents' incarceration, compared to girls ($p < 0.001$) for both events). Furthermore, nearly 24% of the EAs reported having witnessed domestic violence (mothers being hit or beaten) during childhood.

Table 7. 4: Prevalence and types of adverse childhood events (ACEs) by sex

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Adverse childhood experiences (ACEs) N = 569				
No experiences/never	43 (7.56)	9 (3.88)	34 (10.09)	
History of 1–2 ACEs	126 (22.14)	54 (23.28)	72 (21.36)	**0.018 ^***
History of 3–4 ACEs	173 (30.40)	66 (28.45)	107 (31.75)	
History of 5 or more ACEs	227 (39.89)	103 (44.40)	124 (36.80)	
Individual items of ACEs yes, % N = 569				
Emotional abuse	384 (67.49)	154 (66.38)	230 (68.25)	0.640
Physical abuse	246 (43.23)	110 (47.41)	136 (40.36)	0.095
Emotional neglect	332 (58.35)	125 (53.88)	207 (61.42)	0.073
Physical neglect	330 (58.00)	144 (62.07)	186 (55.19)	0.102
Exposure to substance abuse in family members	**130 (22.85)**	**77 (33.19)**	**53 (15.73)**	**<0.001*****
Anxiety or depression in family members	159 (27.94)	67 (28.88)	92 (27.30)	0.68
Parental incarceration	**103 (18.10)**	**58 (25.00)**	**45 (13.35)**	**<0.001*****
Witness of domestic violence (mother being hit or beaten)	136 (23.90)	63 (27.16)	73 (21.66)	0.131
Household instability (food insecurity, forced home leaving)	361 (63.44)	145 (62.50)	216 (64.09)	0.698

*p < 0.05; **p < 0.01; **p < 0.001. ^ Fisher's Exact Test. Otherwise, p-values are from X^2 tests. ACE = adverse childhood experience

Table 7. 13 in Appendix 5 presents Pearson's correlation coefficients among the 11 ACE items. None of the ACE items were strongly correlated with each other (0.40 or above), although physical neglect was mildly correlated with anxiety or depression in family members (0.32), as was emotional neglect (0.36). Witnessing domestic violence during childhood was also correlated with anxiety or depression in family members at 0.34, and with substance abuse in the

household (0.37). The latter was also associated with parental incarceration (0.32). These show interlinked relationships between different types of ACEs and a possible co-exposure of EAs to multiple adverse events.

7.2.2.2 Adverse childhood events and gender norm scores, and peer violence

Three out of seven gender norm scores – GST, GASRH, and GSV scores – showed statistically significant associations with the ACE mean score, when adjusted for age and sex (Table 7. 14 in Appendix 5). Across the three gender norm scores, less equitable gender views (a higher score) were associated with an increased number of reported ACEs ($\beta = 0.05$, $p < 0.001$ for GST; $\beta = 0.10$, v 0.001 for GASRH; and 0.10, $p < 0.001$ for GSV). In other words, the EAs who experienced an increased number of ACEs were more likely to report less equal gender norm scores, measured by GST, GASRH, and GSV.

Potential binary associations between ACEs and peer violence during the previous six months were also examined. As shown in Table 7. 15 in Appendix 5 a significantly higher proportion of the EAs who experienced five or more ACEs reported peer violence perpetration and victimization during the previous six months (approximately 66% and 49%, respectively; $p < 0.001$ for both). Furthermore, a positive linear association was observed between the number of reported ACEs and the predictions of peer violence perpetration and victimization, adjusted for the ACEs (Figure 7. 4 and Figure 7. 5 below). For peer violence victimization (Figure 7. 5), the slope of prediction was completely linear, suggesting a strong dose-response association between history of increased number of ACEs and higher odds of recent peer violence victimization.

Figure 7. 4: ACEs and peer violence perpetration in past six months (N = 569)
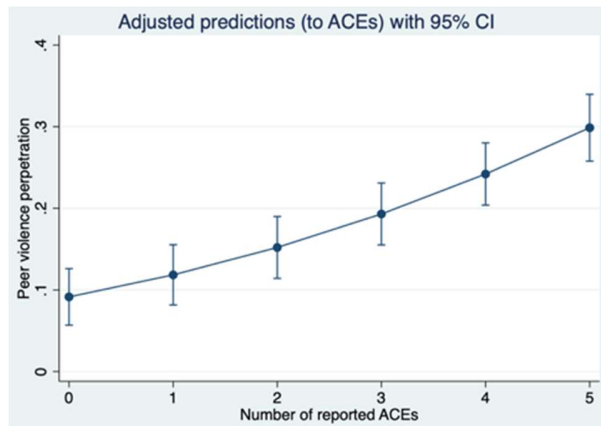
Figure 7. 5: ACEs and peer violence victimization in past six months (N = 569)
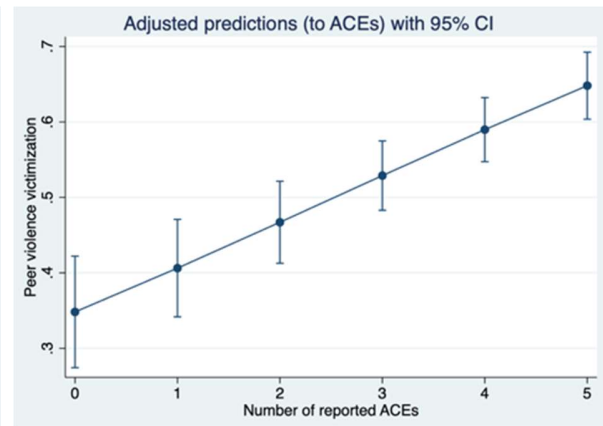
7.2.2.3 Pornography, violence-related variables, and gender norms

Potential associations between pornography use and 1) exposure to peer violence, IPV, and ACEs; and 2) gender norm scores were individually assessed, as a preparatory step to construct the final logistic regression models. As illustrated in Table 7. 16 in Appendix 5, having watched pornography sometimes or often was significantly associated with higher odds of peer violence perpetration (adjusted odds ratio, or aOR: 2.53, $p < 0.001$) compared to those who had never or rarely watched it. A history of five or more ACEs was significantly associated with an increased odds of reported pornography use (aOR: 2.42, $p < 0.001$).

With respect to associations between gender norm scores and exposure to pornography (Table 7. 17 of Appendix 5), a positive coefficient was observed between pornography use and three gender norm scores: ARE, GASRH, and GSV ($\beta = 0.28$, $p < 0.01$ for ARE; $\beta = 0.40$, $p < 0.01$ for GASRH; and $\beta = 0.49$, $p < 0.001$ for GSV). These results indicate that after controlling for age and sex, greater stereotypical views on adolescent romantic expectations and gender stereotypical views were both associated with having watched pornography sometimes or often. Those who had watched pornography also tended to have an increased GASRH score by 0.41, suggesting more openness to sexual intercourse (if they used preventive measures for adolescent pregnancy, and if they felt true love for their partners).

177

7.2.3 Perpetration of peer violence and gender norms

Figure 7. 5 presents the multivariate linear regression models for perpetration of peer violence by individual/family, or peer/school; and the gender norm scores by different levels of the socio-ecological model. Across different models, the AIC was the lowest for the total model, indicating the best-fit model, followed by the individual/family models. The total model estimated approximately 23% of the variance of peer violence perpetration. Three gender norm scores were retained in the final model for peer violence perpetration. Crude OR (gender norm model) showed a significant association between SDS and reduced odds for peer violence perpetration (crude OR: 0.70, $p < 0.001$). However, this association was no longer statistically significant when the model was adjusted for other covariates (Figure 7. 5).

Among the individual/family factors, as with the case of binary analysis, a history of five or more ACEs significantly increased the odds of peer violence perpetration (aOR: 4.44, $p < 0.001$). This remained significant in the total model (aOR: 3.90, $p < 0.001$). Although household wealth index generally did not show statistically significant associations, higher odds of peer violence perpetration were observed for those who belonged to the middle class (34th to 66th percentile) compared to the lowest and the upper economic classes.

The odds of peer violence perpetration were increased for those who lived with a father only or without parents (with another caregiver, such as a grandparent), both in the individual/family model (aOR: 2.13, $p < 0.05$) and the total model (aOR :2.54, $p < 0.001$). In contrast, those who lived with their mothers had a slightly reduced odds of peer violence perpetration (aOR: 0.83 and 0.86 for individual/family model and total model, respectively; $p > 0.05$).

Being a girl significantly reduced the odds of peer violence perpetration by 0.49, compared to boys (aOR: 0.51, $p < 0.01$). Additionally, an increased body comfort score was associated with reduced odds of peer violence perpetration, but the association was statistically insignificant (aOR: 0.86 in individual/family model).

Among the individual risk factors, EAs who had reportedly used drugs and been exposed to pornography also were at a significantly greater risk for peer violence perpetration (aOR: 2.41

and 1.92 respectively; and *p* < 0.001 for both). However, while the association for lifetime drug use continued to be statistically significant in the total model, exposure to pornography was no longer significant (aOR: 1.61, p > 0.05).

Across the school/peer-related factors, witnessing peer-to-peer violence in the previous six months significantly increased the odds of peer violence perpetration (aOR: 8.88 for peer model, *p < 0.*001; 5.28 for total model, *p* < 0.001). Having felt threatened or unsafe in school or while commuting to or from school reduced the odds of peer violence perpetration (aOR for peer model, *p* > 0.05). Having teachers of both sexes (males and females) (aOR for peer model: 0.74) and a higher self-aspiration for future schooling (aOR: 0.65 and 0.63 for college/technical degrees and university respectively) were both associated with decreased odds of peer violence perpetration, although neither of them was statistically significant.

Table 7. 5: Multivariate logistic regression results – peer violence perpetration, Cape Town

Variables	Individual and family model (N = 453)	School and peer model (N = 545)	Gender norm model (N = 547)	Total model (N = 431)
Gender norm scores (continuous)				
Mean score SDS			**0.70** [0.55, 0.89]**	0.99 [0.71, 1.38]
Mean score GSV			1.62 [1.34, 1.95]	1.15 [0.88, 1.50]
Mean score GERF			1.00 [0.81, 1.25]	0.93 [0.68, 1.27]
History of adverse childhood events (ACEs)				
History of 0–2 ACEs	Ref.			Ref.
History of 3–4 ACEs	1.87 [0.90, 3.86]			1.55 [0.70, 3.40]
History of 5 or more ACEs	**4.44*** [2.27, 8.68]**			**3.90*** [1.85, 8.23]**
Individual and household characteristics				
Age: Continuous	1.04 [0.70, 1.54]			1.15 [0.76, 1.75]
Sex: Boys	Ref			Ref
Girls	**0.51** [0.31, 0.83]**			**0.49* [0.28, 0.86]**
Lifetime drug use (any drugs)	**2.41** [1.34, 4.36]**			**2.21*[1.14, 4.28]**
Exposure to pornography (sometimes/often)	**1.92** [1.18, 3.14]**			1.61 [0.93, 2.78]
Body comfort score (continuous)	0.86 [0.69,1.06]			0.91 [0.72, 1.15]
Household wealth index				
Bottom 33 percentile	Ref			Ref
34–66 percentile	1.07 [0.61, 1.90]			1.42 [0.75, 2.68]
Top 33 percentile	0.90 [0.50, 1.64]			1.00[0.52, 1.93]
Household composition				
Living with both parents	Ref			Ref
Living with mother only	0.83 [0.47, 1.47]			0.86 [0.47, 1.59]
Living with father only, or grandparents, or others	**2.13* [1.17, 3.88]**			**2.54**[1.29, 5.00]**
School and peer factors				
Witnessed peers fighting physically or bullying in the past 6 month: No		**8.88***[3.79, 20.82]**		**5.28***[2.10, 13.28]**
Yes		Ref		Ref
Threatened or felt unsafe in school or while commuting in the past 12 months (Ref: No)		1.26 [0.84, 1.89]		1.14 [0.67, 1.92]
Inclusion of socially a-typical peers:[28] No/Yes, but I would not want to have anything to do with them.		Ref		Ref
Yes, I would accept them like anyone else.		0.98 [0.65, 1.48]		0.67 [0.39, 1.15]

---

[28] This question asked whether a-typical girls (who were more attracted to playing with boys than girls) would be accepted in a circle of boys, or the same for a-typical boys in a circle of girls.

Variables	Individual and family model (N = 453)	School and peer model (N = 545)	Gender norm model (N = 547)	Total model (N = 431)
Mixed gender (both males and females) (Ref:		0.74 [0.50, 1.11]		0.86 [0.51, 1.44]
Self-expectation of schooling/education				
Up to high school		Ref		Ref
College or technical degree		0.65 [0.33, 1.29]		0.55 [0.22, 1.37]
University or above		0.63 [0.37, 1.09]		0.70 [0.34, 1.44]
Log likelihood ratio	-217.57	-280.47	-306.00	-190.03
Pseudo R^2	0.1725	0.0839	0.0561	0.2304
AIC	461.13	574.94	620.00	424.06

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. 95% CI in brackets. aOR: adjusted odds ratio; GASRH: gender views on adolescent sexual and reproductive health; SDS: sexual double standards; GERF: Gender equitable roles and features; GSV: gender stereotypical views.

7.2.4 Peer violence victimization and gender norms

Results from the multivariate logistic regression for peer violence victimization (being bullied or a victim of physical violence by peers in the previous six months) are summarized in Table 7. 6. In the gender norm model, an increased (or less equitable) GSV score was associated with significantly increased odds of peer violence victimization (aOR: 1.27, $p < 0.01$), although this was no longer significant in the total model (aOR: 0.97). Those who reported more equal views on gender roles and features (GERF score), such as boys should play soccer and girls should be interested in make-up, reported an increased odds ratio for peer violence victimization (aOR: 1.13 for gender norm model, $p > 0.05$).

A history of three or more ACEs was significantly associated with increased odds of peer violence victimization, especially those who reported three or more ACEs, with the highest odds for the five or more ACEs (aOR: 3.26, $p < 0.001$ for 3-4 ACEs; and aOR: 4.83, $p < 0.001$ for 5+ ACEs). Exposure to ACEs appeared to have a greater linkage with peer violence victimization than perpetration. Only those participants who had experienced five or more ACEs, rather than three to four ACEs, showed a significantly positive association with, and increased odds of peer violence perpetration. Witnessing peer violence in the last six months also significantly increased the odds of peer violence victimization (aOR: 4.92, $p < 0.001$) and this remained significant in the total model (aOR: 3.82, $p < 0.001$).

The experience of having felt threatened or unsafe in schools, or while commuting between school and home, significantly increased the odds of peer violence victimization (aOR: 1.67, $p < 0.001$), although the association was no longer significant in the total model (aOR: 1.41). Similar to peer violence perpetration, having both female and male teachers in schools was associated with reduced odds of peer violence victimization (aOR: 0.75 for the school/peer model and 0.85 for the total model), but the association was not statistically significant. A higher educational aspiration (college or university) decreased the odds of peer violence victimization (aOR: 0.84–0.85, p-value non-significant), although in the total model, aORs became closer to 1.00 (diluted).

Table 7. 6: Multivariate logistic regression results – peer violence victimization, Cape Town

Variables	Individual and family model (N = 453)	School and peer model (N = 518)	Gender norm model (N = 547)	Total model (N = 431)
Gender norm scores (continuous)				
Mean score SDS			0.82 [0.65,1.02]	0.93 [0.68,1.28]
Mean score GSV			**1.27** [1.07,1.50]	0.97 [0.76,1.24]
Mean score GERF			1.13 [0.93,1.37]	1.10 [0.84,1.44]
History of adverse childhood events (ACEs)				
History of 0–2 ACEs	Ref.			Ref.
History of 3–4 ACEs	**3.26*** [1.94,5.49]**			**3.24*** [1.84,5.72]**
History of 5 or more ACEs	**4.83*** [2.84,8.23]**			**4.48*** [2.47,8.12]**
Individual and household characteristics				
Age: Continuous	0.74 [0.52,1.07]			0.50 [0.17,1.48]
Sex: Boys	Ref			Ref
Girls	**0.62* [0.40,0.97]**			0.62 [0.37,1.02]
Lifetime drug use (any drugs)	1.39 [0.75,2.56]			1.21 [0.62,2.35]
Exposure to pornography (sometimes/often)	0.99 [0.62,1.58]			0.96 [0.57,1.61]
Body comfort score (continuous)	**0.82* [0.69,0.97]**			0.84 [0.69,1.02]
Household wealth index				
Bottom 33 percentile	Ref			Ref
34–66 percentile	0.93 [0.56,1.53]			1.15 [0.66,2.00]
Top 33 percentile	1.10 [0.65,1.87]			1.15 [0.65,2.04]
Household composition				
Living with both parents	Ref			Ref
Living with mother only	1.09 [0.68,1.75]			1.19 [0.71,1.97]
Living with father only or grandparents or others	1.79 [0.97,3.29]			1.89 [0.97,3.70]
School and peer factors				

Variables	Individual and family model (N = 453)	School and peer model (N = 518)	Gender norm model (N = 547)	Total model (N = 431)
Witnessed peers' physical fight or bullying in the past 6 month (Ref: No)		4.97***[3.13,7.90]		3.82***[2.19,6.67]
Threatened or felt unsafe in school or while commuting in the past 12 months (Ref: No)		1.67**[1.13,2.45]		1.41 [0.88,2.26]
Inclusion of socially a-typical peers:[29] No/Yes, but I would not want to have anything to do with her or him (conditional)		**Ref**		**Ref**
Yes, I would accept them like anyone else		0.89 [0.60,1.32]		0.73 [0.45,1.18]
Teachers' gender: Males or females only		Ref		Ref
Mixed gender (both males and females)		0.75 [0.51,1.09]		0.85 [0.54,1.33]
Self-expectation on schooling/ education				
Up to high school		Ref		Ref
College or technical degree		0.84 [0.43,1.61]		1.06 [0.48,2.38]
University or above		0.85 [0.50,1.47]		1.12 [0.58,2.18]
Log likelihood ratio	-265.68	-316.31	-363.52	-190.03
Pseudo R^2	0.1247	0.0925	0.0159	0.2304
AIC	557.35	646.63	735.05	424.06

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. 95% CI in brackets. aOR: adjusted odds ratio; SDS: sexual double standards; GERF: gender equitable roles and features; GSV: gender stereotypical views.

7.2.5 Types of adverse childhood events and peer violence perpetration or victimization

Figure 7. 7 presents the multivariate logistic regression models for peer violence perpetration and victimization when the ACEs were disaggregated by types of the events. Among 11 items of ACEs, childhood witness of household violence was commonly associated with peer violence perpetration and victimization, with statistical significance (aOR: 2.22, $p < 0.001$ and 2.23 for perpetration; aOR: 2.24, $p < 0.05$ for victimization). Childhood physical neglect significantly increased the odds of peer violence perpetration (aOR: 1.94, $p < 0.05$) Emotional neglect and household instability were both associated with significantly elevated odds of peer violence

---

[29] This question asked whether a-typical girls (who were more attracted to playing with boys than girls) would be accepted in a circle of boys, or the same for a-typical boys in a circle of girls.

victimization (aOR: 2.04 and 2.22, respectively; $p < 0.001$ for both). Three gender norm scores (SDS, GSV, and GERF) were retained in the final regression models for peer violence perpetration and victimization. However, none of the gender norm scores showed statistically significant associations with peer violence after being adjusted for ACEs and other covariates. While childhood household instability increased the odds of peer violence victimization, a higher score on the household wealth index was inversely associated with peer violence victimization. Specifically, the richest (upper 33%) and the middle tertiles increased the odds of peer violence victimization by 1.18 and 1.19, respectively, compared to the lowest or poorest tertile group. However, these were not statistically significant (p-value not significant).

Table 7. 7: Multivariate relationship between ACEs (by types) and peer violence during the past six months, Cape Town

Variables	Peer violence perpetration (N = 431)	Peer violence victimization (N = 431)
Types of reported ACEs		
Childhood witness of household violence (Ref: Never)	**2.22**[1.23,4.02]	**2.24*[1.18,4.24]**
Childhood physical neglect (Ref: Never)	**1.94*[1.06,3.55]**	NA
Childhood emotional neglect (Ref: Never)	NA	**2.04** [1.27,3.27]
Childhood household instability (Ref: Never)	1.15 [0.63,2.11]	**2.22**[1.36,3.61]
Gender norm scores (continuous variables)		
SDS	0.99 [0.71,1.38]	0.89 [0.65,1.21]
GSV	1.19 [0.92,1.55]	1.04 [0.82,1.33]
GERF	0.95 [0.69,1.29]	1.14 [0.86,1.50]
Individual and household characteristics		
Age: Continuous	1.27 [0.81,1.99]	0.92 [0.62,1.36]
Sex: Boys	Ref	Ref
Girls	**0.52* [0.30,0.90]**	**0.56* [0.34,0.93]**
Lifetime drug use (any)	**2.30* [1.20,4.42]**	1.30 [0.66,2.53]
Exposure to pornography (sometimes or often)	1.67 [0.97,2.88]	0.89 [0.53,1.50]
Body comfort score (continuous)	0.88 [0.70,1.12]	0.85 [0.70,1.04]
Household wealth index: Lowest tertile	Ref	Ref
Middle tertile	1.35 [0.72,2.54]	1.18 [0.68,2.05]
Upper tertile	0.89 [0.46,1.72]	1.19 [0.67,2.13]
Household composition		
Living with both parents	Ref	Ref

Variables	Peer violence perpetration (N = 431)	Peer violence victimization (N = 431)
Living with mother only	0.80 [0.43,1.47]	1.02 [0.61,1.70]
Living with father only or others	**2.34*[1.20,4.55]**	1.68 [0.87,3.25]
School and peer factors		
Witnessed peers' physical fight or bullying in the past six months (**Ref: No**)	**5.13***[2.02,13.02]**	**3.91***[2.23,6.88]**
Threatened or felt unsafe in school or while commuting in the past year (**Ref: No**)	1.12 [0.66,1.90]	1.48 [0.92,2.38]
Inclusion of socially a-typical peers:[30]		
No or Yes (but would not want to have anything to do with her/him)	**Ref**	**Ref**
Yes, I would accept them like anyone else	0.67 [0.40,1.14]	0.74 [0.45,1.20]
Teachers' gender: Males or females only	**Ref**	**Ref**
Mixed gender (both males and females)	0.84 [0.50,1.40]	0.85 [0.54,1.33]
Self-expectation on schooling/education		
Up to high school	**Ref**	**Ref**
College or technical degree	0.62 [0.25,1.53]	1.09 [0.48,2.45]
University or above	0.77 [0.38,1.59]	1.11 [0.56,2.17]
Log likelihood ratio	-190.54	-234.12
Pseudo R^2	0.228	0.190
AIC	425.08	512.24

Exponentiated coefficients; 95% CI in brackets. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. aOR: adjusted odds ratio; 95% CI in brackets. SDS: sexual double standards; GERF: gender equitable roles and features GSV: gender stereotypical views. [†]Parental or caregiver's awareness was measured by three dimensions: caregivers know their friends by names, are aware of school performance, or know where their children are. [††]Parent closeness: EAs' felt close to the parent or main caregiver – "yes" includes "totally agree" and "somewhat agre

---
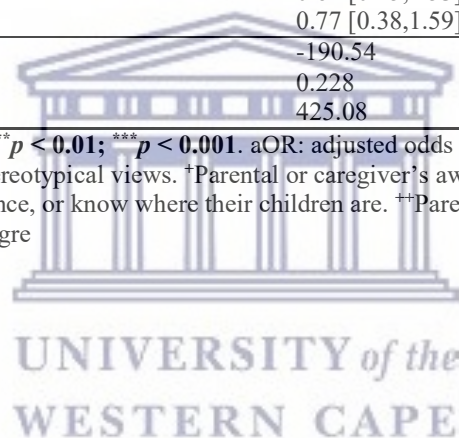
[30] This question asked whether a-typical girls (who were more attracted to playing with boys than girls) would be accepted in a circle of boys, or the same for a-typical boys in a circle of girls.

7.2.6 Mediation effects of the gender norm scores for peer violence

This sub-section describes key results from the mediation analysis of the gender norm scores for associations between 1) ACEs and peer violence; and 2) the sex (boy/girl) and peer violence. Based on the criteria in sub-section 7.1.2, GSV were identified for assessment of potential mediation effects. As illustrated in Figure 7. 6, the mediation effect of GSV for the association between ACEs and peer violence perpetration was statistically significant by Sobel's test (Sobel, 1982) (p = 0.002). The ratio between indirect and total effects indicates that approximately 11.4% of the effects of ACEs on peer violence perpetration was mediated by GSV. However, when the analysis was adjusted for other covariates (gender, witnessing peer violence, living with parents, pornography, and drug use), the mediation effect was no longer significant (Sobel's test: 0.004, p = 0.079). This was primarily because the association between peer violence perpetration and the GSV became statistically insignificant in the adjusted morel (adjusted β: 0.034, p = 0.066).

Figure 7. 6: Crude mediation effect of GSV for ACEs and peer violence perpetration (N = 563)
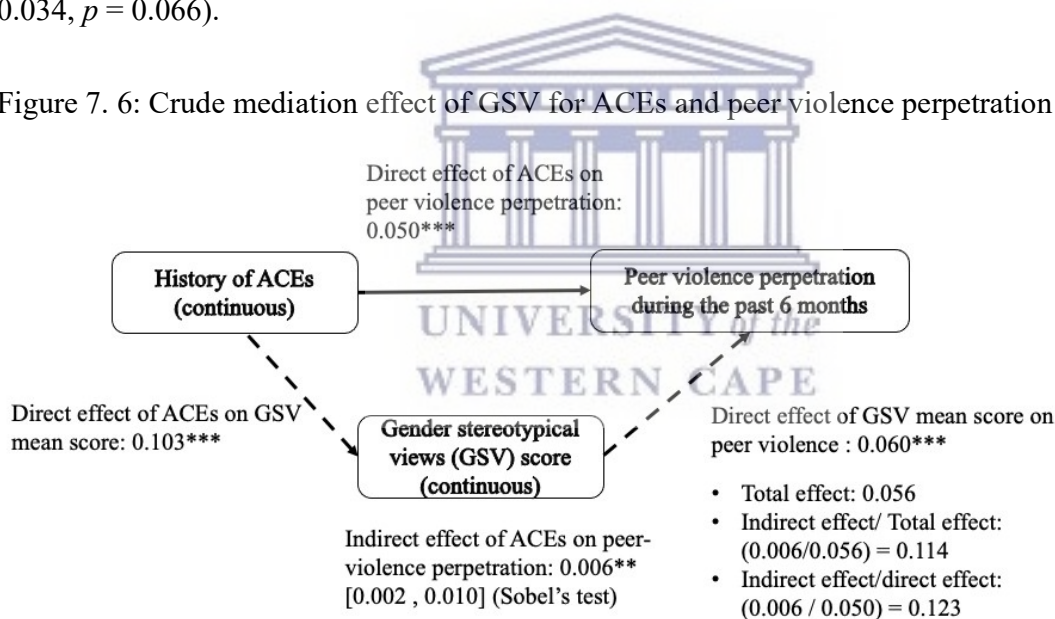
A crude mediation effect of GSV was also statistically significant for the association between the sex of EAs (boys and girls) and peer violence perpetration (Figure 7. 7) with an indirect effect: -0.0042 (p < 0.001) by Sobel's test. GSV mediated approximately 28% of effects between the sex of EAs and peer violence perpetration. Again, when the model was adjusted for other covariates, this effect was no longer statistically significant (Sobel's test: p = 0.079). No other significant mediation effect of the gender norms was observed for peer violence victimization.

186

Figure 7. 7: Crude mediation effect of GSV for the sex and peer violence perpetration
(N = 563)
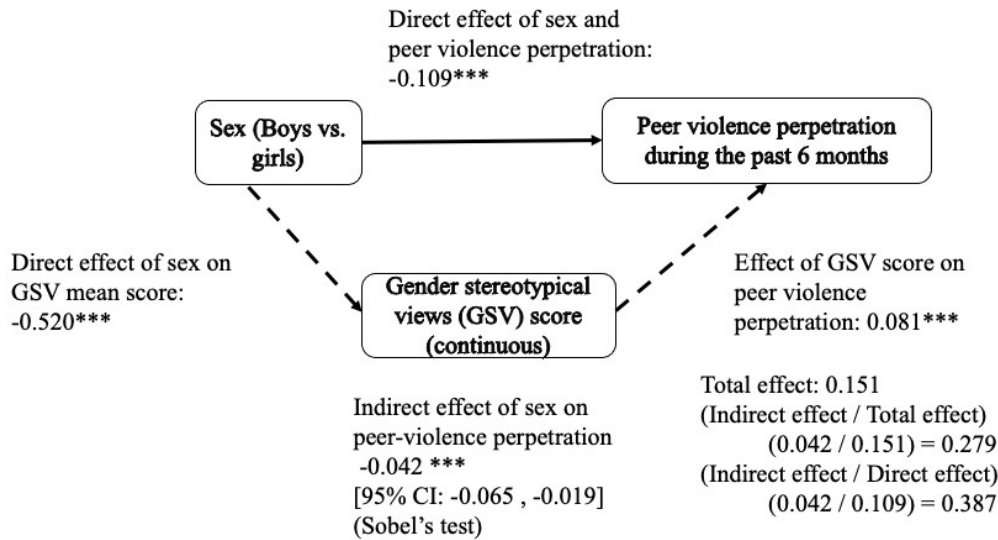
The next sub-section explains key results on the associations between EAs' gender norms and intimate partner violence (IPV), influenced by other factors in the socio-ecological model.

7.2.7 Intimate partner violence and gender norms

7.2.7.1 The prevalence and types of intimate partner violence

As presented in Figure 7. 8, the prevalence of IPV was 28.30% for peer violence perpetration and 36.39% for victimization. Girls were significantly more likely than boys to report perpetrating IPV with their current partner (35.45% vs 20.88% respectively, $p < 0.01$). A significantly higher prevalence of IPV victimization among boys was reported, compared to that of girls (45.05% for girls vs 28.04% for boys, $p < 0.001$). The most common type of IPV perpetration was "ever pushed, shoved or grabbed my partner", which was reported by 21.69% of EAs, with significant difference by sex (26.78% of girls and 16.28% of boys; $p < 0.05$). In terms of IPV victimization, the most frequently reported type of violence[31] was that "my partner has ever thrown something at me". Boys were significantly more likely to report the IPV victimization compared to girls for all the four types of IVP victimization. In the next sub-

---

[31] IPV perpetration and victimization were adjusted for the reported number of ACEs.

187

section, results from the binary analysis between IPV and ACEs, and gender norm scores are described.

Table 7. 8: Reported intimate partner violence (IPV) in current relationship, Cape Town (N = 371)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Experience of IPV perpetration, at least one type of IPV or any – yes, % (N = 371)				
IPV perpetration	105 (28.30)	38 (20.88)	67 (35.45)	**0.002****
IPV victimization	135 (36.39)	82 (45.05)	53 (28.04)	**<0.001*****
Types of IPV perpetration (to the current partner) – yes, %. (N = 371)				
Ever thrown something at your partner	69 (19.49)	30 (17.54)	39 (21.31)	0.371
Ever pushed, shoved, or grabbed your partner	77 (21.69)	28 (16.28)	49 (26.78)	**0.016***
Ever slapped your partner in the face or head with an open hand	50 (14.20)	23 (13.45)	27 (14.92)	0.694
Ever hit your partner	52 (14.48)	24 (13.64)	28 (15.30)	0.654
Type of IPV victimization (by the current partner) – yes, %. (N = 371)				
Ever thrown something at you	119 (33.62)	69 (39.66)	50 (27.78)	**0.018***
Ever pushed, shoved, or grabbed you	89 (24.45)	54 (30.17)	35 (18.92)	**0.013***
Ever slapped you	53 (14.72)	42 (23.60)	11 (6.04)	**<0.001**^***
Ever hit you	48 (13.11)	30 (16.76)	18 (9.63)	**0.046**^*

p < 0.05; **p < 0.01; **p < 0.001. ^Fisher's Exact Test. Otherwise, p-values are from chi-squared tests. IPV; intimate partner violence.

7.2.7.2 Associations between intimate partner violence, adverse childhood events, and other violence-related variables

In binary analyses, a significant dose-relationship association was observed between the EAs who reported an increased number of ACEs and the odds of exposure to IPV perpetration or victimization within the current romantic relationship. In X^2 test between reported IPV experience and the number of reported ACEs (in three categories: 0-2, 3-4, or 5 or more ACEs), p-value was statistically significant (p = 0.049 for IPV perpetration and p = 0.004 for IPV victimization; data not presented). Figure 7. 8 and Figure 7. 9 below also show positive linear associations in the predicted lines of IPV perpetration and IPV victimization, adjusted for a history of ACEs (unadjusted for other covariates). These figures suggest "mild" dose-response

relationships between the number of reported ACEs, and IPV perpetration or victimization in current romantic relationships.

Figure 7. 8: Predicted IPV perpetration, adjusted for the number of ACEs (N = 371)
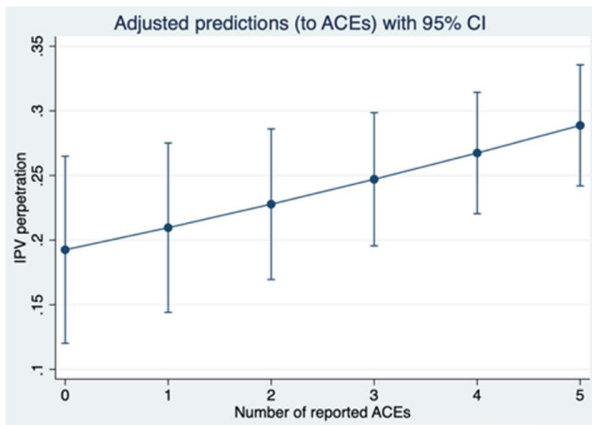
Figure 7. 9: Predicted IPV victimization adjusted for the number of ACEs (N = 371)
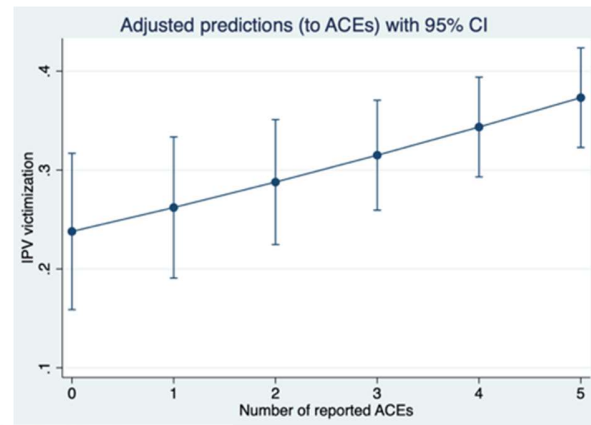
Next, multivariate logistic models were used to assess potential associations between IPV with the current partner and other violence-related variables (i.e. ACEs, peer violence victimization and perpetration, witnessing peer violence, violence in communities or schools) (Table 7. 18 in Appendix 5). IPV victimization during the previous six months significantly increased the odds of IPV perpetration during the same period by 6.56 ($p < 0.001$), suggesting co-occurrence of IPV perpetration and victimization in ongoing romantic relationships. Witnessing peer violence during the previous six months significantly increased the odds of IPV perpetration (aOR: 2.62, $p < 0.05$) but not IPV victimization. Increased odds of IPV victimization were also observed among those who reported having felt threatened or unsafe in communities or schools during the previous 12 months (aOR: 1.38). However, this association was statistically insignificant.

7.2.7.3 Intimate partner violence and gender norms adjusted for other covariates

It should be noted, in relation to the results presented in this sub-section, that the minimum sample size requirement was 307 for IPV perpetration and 372 for IPV victimization. The actual sample size for the final model of 319 for IPV perpetration was sufficient, while a sample size

189

for IPV victimization (N = 307) was lower than optimal (Figure 7. 9). Therefore, results from the regression model for IPV victimization should be treated with caution.

Among the different gender norms that showed significant association with IPV in binary regression models, only two gender norm scores, GSV and ARE were retained in the final multivariate logistic regression models for IPV perpetration and victimization, as presented in Figure 7. 9. For IPV perpetration, none of these gender norms were significantly associated. In contrast, a higher or less equal GSV score significantly reduced the odds of IPV victimization (aOR: 0.71, $p < 0.05$). This indicated those who do not adhere to GSV in the romantic relationship may become a victim of IPV by their partner.

Unlike the result for peer violence, there was no significant association between a history of ACEs, both for IPV perpetration and victimization in the multivariate logistic regression models adjusted for other covariates (Figure 7. 9). However, the analysis showed that those who reported IPV victimization with their current partner showed a significantly increased odds of IPV perpetration (aOR: 6.65, $p < 0.001$). Likewise, those who experienced IPV victimization were significantly more likely to also report IPV perpetration (aOR: 6.73, $p < 0.001$). These results suggest co-occurrence of IPV perpetration and victimization in romantic relationships among EAs. Witnessing physical fights or bullying among peers during the past six months also significantly increased the odds of IPV perpetration (aOR: 2.99, $p < 0.05$).

For individual factors, girls reported significantly higher odds of having perpetrated IPV with the current partner (aOR: 4.52, $p < 0.001$) and significantly lower odds of IPV victimization, compared to boys (aOR: 0.29, $p < 0.001$). Among the empowerment scores, the EAs who reported a higher voice score (more empowered in this domain) were significantly less likely to be a victim of IPV (aOR: 0.52, $p < 0.001$). In the contrast to this result, those who reported high power imbalance score (more imbalanced) in romantic relationships significantly increased the odds of IPV victimization (aOR: 1.77, $p < 0.001$).

In the final model, none of the household, peer-related, and media or information and computer technology (ICT) factors were associated with IPV with statistical significance. However, it is important to note that two ICT-related factors were also associated with increased odds of IPV

190

exposure. Frequent communication with peers via phone or computer (daily) increased the odds of IPV perpetration (aOR: 1.50), while frequent use of social media (daily) was associated with increased odds of IPV victimization (aOR: 1.43). In contrast to the results of peer violence, exposure to pornography did not show any significant associations with IPV perpetration or victimization, hence, was not retained in the final regression models.

Table 7. 9: Multivariate logistic regression results – gender norm scores and IPV, Cape Town

	IPV perpetration aOR (95% CI) (N = 319)	IPV victimization aOR (95%CI) (N = 307)
Gender norm scores		
GSV mean score (continuous)	1.23 [0.93,1.63]	**0.71* [0.52,0.98]**
ARE mean score (continuous)	1.10 [0.79,1.55]	1.26 [0.89,1.77]
Violence-related factors		
History of ACEs: 0–2 ACEs	Ref	Ref
3–4 ACEs	0.93 [0.42,2.07]	1.42 [0.64,3.16]
5 or more ACEs	0.84 [0.38,1.86]	1.47 [0.67,3.23]
IPV perpetration with current partner (Ref: No)	NA	**6.65*** [3.46,12.78]**
IPV victimization with current partner (Ref: No)	**6.73*** [3.58,12.68]**	NA
Witness of peers' fights or bullying during the past six months (Ref: No)	**2.99* [1.18,7.56]**	1.20 [0.52,2.74]
Peer violence perpetration in the past six months (Ref: never)	1.40 [0.74,2.66]	1.02 [0.52,1.97]
Individual characteristics		
Sex:		
Boys	Ref	Ref
Girls	**4.52*** [2.22,9.23]**	**0.29*** [0.15,0.55]**
Age (Continuous)	0.93 [0.56,1.54]	0.93 [0.58,1.49]
Ever used drug (any types)	1.45 [0.71,2.96]	1.26 [0.62,2.55]
Empowerment: mean voice score (continuous)	0.83 [0.54,1.28]	**0.52** [0.33,0.80]**
Body comfort score (continuous)		0.89 [0.68,1.15]
Power imbalances mean score (continuous)	NA	**1.77*** [1.29,2.42]**
Household/family characteristics		
Wealth index (tertile): lowest tertile	Ref	Ref
Middle tertile	0.94 [0.46,1.93]	1.30 [0.64,2.62]
Upper tertile	0.91 [0.45,1.83]	1.05 [0.51,2.15]
Parents' awareness (Ref: awareness not in 3 areas)	1.21 [0.61,2.43]	1.20 [0.62,2.34]
Parents' closeness (Ref: Not close)	0.66 [0.35,1.26]	NA
Peer and community factors		
Most or all close friends agree on the importance of having sex (Ref: No)	1.41 [0.64,3.11]	NA
Positive neighborhood social cohesion: Yes to 3–4 out of 4 items (Ref: Yes to 0–2 items) (Ref: Yes to 0 or 1-2 items)	0.86 [0.46,1.60]	**NA**
ICT and media		
Frequency of communication with peers via phone or computer		
Never or weekly	Ref	

	IPV perpetration aOR (95% CI) (N = 319)	IPV victimization aOR (95%CI) (N = 307)
Daily	1.50 [0.66,3.41]	NA
Social media use		
Never or weekly	NA	Ref.
Daily	NA	1.43 [0.79,2.62]
Log likelihood ratio	-151.32	-150.19
Pseudo R^2	0.1947	0.2305
AIC	340.64	336.39

aOR: adjusted odds ratio; 95% CI in brackets. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Reference categories: Ref IPV= intimate partner violence; ACE = adverse childhood events; GSV = gender stereotypical views; ARE: adolescent romantic expectations. Interaction terms between age and sex was not statistically significant.

Finally, the analysis assessed potential mediation factors of selected gender norm scores (specifically, SDS and ARE) for the association between 1) ACEs and IPV; and 2) the sex of participants and IPV, both for perpetration and victimization. None of the gender norms showed statistically significant mediation effects for these associations. For the SDS score, even though the mediation criteria were met for the association between the sex and peer violence victimization, the mediation effect was not statistically significant by Sobel's test (indirect effect: -0.019, $p = 0.060$; results not presented in tables).

7.3   Conclusion

This chapter described key results for research questions four and five (RQ 4 and RQ5), with a focus on statistically significant risk or protective factors for peer violence and IPV, including gender norms. Firstly, it revealed an extremely high prevalence of ACEs among EAs. More than 92% of the EAs reported at least one of the 11 ACEs, while nearly 40% of them reported five or more ACEs. The prevalence of peer violence perpetration was approximately 28% during the last six months, while nearly 60% of the EAs reported peer violence victimization during the same period. Boys were significantly more likely to perpetrate peer violence, while more likely to be a victim of the same type of violence, compared to girls.

Although in binary analysis, less equitable gender norm scores were significantly associated with increased peer violence perpetration or victimization, these associations were no longer significant in the final logistic regression models. On the other hand, reported exposure to ACEs,

192

especially five or more ACEs, significantly increased the odds of peer violence perpetration and victimization in the adjusted models.

While being a girl was a major protective factor for peer violence perpetration and IPV victimization, significantly higher IPV perpetration to the current partner was reported by girls, compared to boys. Although a higher voice score was associated with reduced odds of IPV victimization by the current partner, a higher power imbalance score in relationships counteracts this and increased IPV victimization.

The final chapter (8) in this part of the thesis presents key results related to depression symptoms (mental health) and gender norms among EAs, and how violence-related variables interplay in these associations.

CHAPTER EIGHT: MENTAL HEALTH AND GENDER NORMS

This last chapter of the section on results presents the findings that correspond to research question six (RQ 6): Do gender norms affect reported depression symptoms, when adjusted for other factors such as violence, including adverse childhood events (ACEs), peer violence, and intimate partner violence (IPV) The chapter is organized as follows. The first section briefly explains main measures used and the specific analysis methods. The second section presents descriptive statistics on the overall health status, puberty, the body comfort score, and reported depression symptoms. This is followed by results on whether gender norm scores correlate with the depression symptoms. The second section presents the results of the analysis, which assessed the associations between violence – peer violence, IPV, and school or community violence – ACEs, and depression symptoms. Finally, the chapter shows the results from the multivariate linear regression models that were constructed to examine the associations between the depression score (EAs' reported symptoms) and gender norm scores, adjusted for selected covariates.

8.1 Summary of the specific measures and analysis methods

8.1.1 Specific measures

In this chapter, the outcome variable used was the mean score on depression symptoms, which was used by the Global Early Adolescent Study (GEAS), as described in sub-section 3.7.2. After validation in other GEAS sites, the depression measures were pre-tested and validated in Cape Town. As explained in sub-section 3.6.2, the depression symptoms were explored through six variables, which were listed in Table 3. 12 in Appendix 1. The scores (1–5) for each of the six questions were aggregated and the mean score was calculated, using Stata (a sum of individual score divided by six for those who responded all the questions).

Among the covariates that were assessed for the relationships with the depression score, the main variables of interest were the gender norm scores. In the analysis, all seven gender norm scores

were examined for a binary association with the depression score. Five of the gender norm scores showed a statistically significant binary association with the depression score. These were gender stereotypical traits (GST), adolescent romantic expectations (ARE), gender stereotypical roles (GSR), gender views on adolescent sexual and reproductive health (GASRH), and gender stereotypical roles (GSR). Detailed variables that constructed these gender norms are presented in Table 8. 4 in Appendix 6.

Related to mental health, a score on body comfort was created and included in the analysis, as part of the covariates. The validated score used five questions related to body comfort and satisfaction (Table 3. 16 in Appendix 1). Additionally, violence-related covariates were examined for potential associations with the depression score. These variables included: perpetration of and victimization through peer violence and intimate partner violence (IPV), and the history of adverse childhood events (ACEs). In addition, two variables related to EAs' exposure to violence in school and community were separately examined for their association with the depression score. These variables measured if EAs had experienced any incident in which they had felt threatened or scared in communities, in schools, or when commuting to and from school, during the previous 12 months. Given the significant association between these two variables, only one of the variables was included in the regression models. Other covariates that were assessed and included in the analysis are presented in Table 8. 5 in Appendix 6.

8.1.2 Specific analysis methods

The overall depression score was used as a continuous variable (the number of symptoms reported by EAs) and as the outcome (dependent) variable. As explained in sub-section 3.7.1, descriptive statistics presented in this chapter also include EAs' reported substance use (alcohol, drugs, and cigarettes), their overall health status, their body comfort score, and the onset of puberty. Student's *t*-test or Fisher's Exact Test was used to detect any statistically significant differences by sex. Sample distribution of the depression score was also examined, for skewedness, and presented with the mean, median, and standard deviation.

The associations between the depression score and the covariates were assessed through multivariate regression models, with the gender norm scores as the main independent variables.

Following the steps presented in sub-section 3.7.1, binary associations between the depression symptom and the gender norm-related composite scores were first examined, through bivariate linear regression models. In parallel, the associations between the depression score and violence-related variables were assessed, through binary linear regression. Multivariate linear regression models were then constructed, using the depression score as the outcome variable, adjusted for the gender norm scores and other covariates. As was the case for all analysis segments, covariates were selected based on the literature review and the binary exploratory analysis with the depression score.

Similar to other research questions that used multivariate regressions, to avoid including two variables that may measure a similar phenomenon, correlations between the outcome variable and the covariates were assessed through Pearson's correlation coefficients. Variance inflation factors (VIFs) were also used to measure multicollinearity among the covariates (see sub-section 3.7.1 for more information). Also, as described in sub-section 3.7.1, the final model selection was determined based on two key parameters for the goodness of fitness: 1) a reduction in Akaike's information criterion (AIC) values; and 2) an increase in adjusted R^2 (% of the outcome variable estimated by the model). Main measures of effects presented in this chapter include coefficients and corresponding 95% confidence interval (CI) and p-values are reported. Mediation effects of selected gender norm scores for the association between ACEs and depression symptoms were also assessed, using structural equation model (Stata's command *sem*) and Sobel's test for the mediation effect. This followed similar steps as for assessing meditation effects of gender norm scores for the association between ACEs and peer violence (see sections 3.7.1.6 and 0).

8.2   Results

8.2.1 Overall health status, puberty, and perceived body comfort

Table 8. 1 presents the EAs' reported overall health status, the onset of puberty, and their body comfort mean score. A large majority (84.36%) of participants reported that their overall health was good or excellent, with no significant difference by sex (87.50% of boys and 82.20% of girls; *p* = 0.087). Nearly all (94.02%) reported that they had initiated puberty (e.g. menstruation

196

or growing breasts for girls, and wet dreams or the change of voice for boys). Girls were more likely to be in pubertal period than boys (95.18% vs 92.20%, respectively), although the difference was statistically insignificant ($p = 0.150$). The mean age of the onset of menstruation among 238 girls was 12.2 years (range: 7–14 years) and the median was 12 years old.

Table 8. 1: Overall health, body comfort score, and puberty by sex

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Overall perception of own health (good or excellent) - yes, N (%) (N = 569)	480 (84.36)	203 (87.50)	277 (82.20)	0.087
Body comfort score: individual variables (range: 1–5)				
1) % positivity (agree) towards "I am satisfied with my body".	491 (86.29)	204 (87.93)	287 (85.16)	0.346
2) % positivity (agree) towards "I like the way I look".	513 (90.16)	208 (89.66)	305 (90.50)	0.738
3) % negativity (disagree) towards "I worry about the way that my body looks".	179 (31.46)	70 (30.17)	109 (32.34)	0.840
4) % negativity (disagree) towards "I often wish my body was different".	204 (35.85)	85 (36.64)	119 (35.31)	0.746
5) % negativity (disagree) towards "I am worried that my body is not developing normally".	184 (32.34)	71 (30.60)	113 (33.53)	0.463
Indicated body comfort (those who gave positive responses on all above items) N, %	76 (13.36)	26 (11.21)	50 (14.84)	0.211
Body comfort mean score (+/- SD) with complete and incomplete cases (N = 530)	2.84 +/-1.24	2.85+/-1.16	2.84+/-1.28	0.891
Body comfort mean score (+/- SD) with complete and incomplete cases (N = 569)	2.65 +/-1.39	2.63 +/- 1.35	2.66+/- 1.42	0.804
Puberty onset - yes, % (N = 537)				
Pre-pubertal	32 (5.96)	16 (7.80)	16 (4.82)	0.156
Pubertal	505 (94.04)	189 (92.20)	316 (95.18)	
Age of puberty onset, N (%) (girls only N = 285)				
11–13 years old	189 (92.20)	65 (91.55)	124 (92.54)	
14 years old	316 (95.18)	124 (92.54)	192 (96.97)	0.150

$*p < 0.05$; $**p < 0.01$; $***p < 0.001$. A sample with complete and incomplete cases includes those who did not respond to all the five variables but responded to at least one variable. A sample with complete cases only includes only those who responded all the five variables). Body comfort score of five indicates the strongest affirmation for positive body comfort or satisfaction on their appearance and physical development.

Out of the total score of five, the mean body comfort score was 2.65 (95% CI: 2.53, 2.76) for the sample with incomplete cases (N = 569) and 2.84 (95% CI: 2.73, 2.95) for the sample with complete cases (N = 530). This difference was statistically significant ($p = 0.014$), because those who had missing observations for some of the variables were coded as score "0". Considering

197

the small percentage of missing observations (39 out of 569, or 6.85%), the mean body comfort score of the sample with complete cases only was considered the most appropriate to be used in the analysis.

The distribution of the body comfort score (

Figure 8. 4 in Appendix 6) showed a positive skewedness with the peak of the distribution at the score of two. Although 70–80% of the EAs responded positively to each of the five body comfort items, only approximately 13% of 530 participants gave a positive response to all the items. Between 86% and 90% of participants agreed that they were satisfied with their body and that they liked the way they looked. Conversely, approximately 32% of EAs reported they were concerned about the way that their bodies looked, and 36% wished that their bodies were different.

8.2.2 Depression symptoms and substance use

Figure 8.1 in the next page presents the reported number of depressive symptoms. More detailed depression symptoms by sex are shown in Table 8. 6 in Appendix 6. Only 27 (5.2%) out of 519 EAs reported no symptom of depression, while 41.23% of the EAs reported two symptoms. Girls were more likely to report depressive symptoms than boys. However, the difference was not statistically significant ($p = 0.670$ by Fisher's Exact Test).

Figure 8. 1: Number of reported depression symptoms by sex, Cape Town (N = 519)

Number of observations
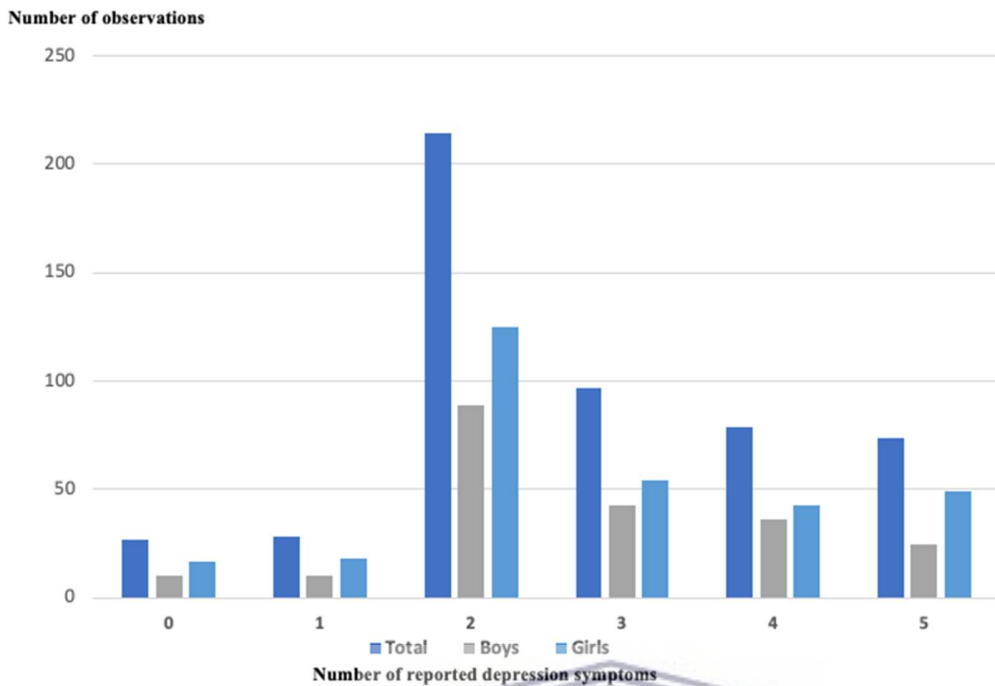
Table 8. 2 presents the types and prevalence of depressive symptoms and substance use reported by the EAs. The mean score for the depressive symptoms among 519 participants (complete cases only) was 2.82 out of six (95% CI: 2.75–2.89) (range: 1–4.83), with a standard deviation (SD) of 0.82. When the missing observations were included (N = 565), the mean score for depression symptoms remained the same: 2.82 (95% CI: 2.75–2.89, SD: 0.83).

Table 8. 2: Depression symptoms and alcohol/substance use by sex (N = 569)

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
Depression symptoms				
1) % agree with "In general, I see myself as a happy person".****	495 (88.71)	211 (91.34)	284 (86.85)	0.099
2) % agree with "I blame myself when things go wrong".	401 (72.38)	164 (72.57)	237 (72.26)	0.936
3) % agree with "I worry for no good reason".	372 (67.51)	146 (64.32)	226 (69.75)	0.180
4) % agree with "I am so unhappy I can't sleep at night".	164 (29.98)	74 (32.89)	90 (27.95)	0.215
5) % agree with "I feel sad".	190 (34.61)	76 (33.63)	114 (35.29)	0.686

199

Variables	Overall (N = 569) N (%)	Boy (N = 232) N (%)	Girl (N = 337) N (%)	P-value
6) % agree with "I am so unhappy I think of harming myself".	174 (32.04)	71 (31.70)	103 (32.29)	0.884
Depression score: Mean (+/- SD) with complete cases only (N = 519)	2.82 +/- 0.82	2.76 +/-0.79	2.85+/- 0.84	0.226
Depression score: Mean (+/- SD) with incomplete cases (N = 565)	2.82 +/- 0.83	2.78 +/- 0.80	2.85 +/- 0.89	0.312
Substance use (ever) - yes, %				
Cigarettes (N = 540)	106 (19.52)	51 (23.18)	55 (17.03)	0.076
Alcohol (N = 534)	197 (36.89)	85 (39.35)	112 (35.22)	0.331
Marijuana or other drugs (N = 531)	83 (15.63)	39 (17.97)	44 (14.01)	0.217[+]
Frequency (lifetime) of alcohol consumption				
Never	423 (74.60)	174 (75.32)	249 (74.11)	
Once	68 (11.99)	27 (11.69)	41 (12.20)	0.947
2–3 times +	76 (13.40)	30 (12.99)	46 (13.69)	

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. [+] Fisher's Exact Test. Depression score of six indicates the strongest affirmation.
**** This variable was counted reversely in the depression score. For example, if the reported score was 5 (totally agree), then the score was given 1 and if partially agree (score = 4), then the revised score was 2.

Figure 8. 5 in Appendix 6 shows the distribution of the mean depression score, which followed an approximate normal distribution, with a kurtosis of 2.32 (compared to 3.0 for the normal distribution) and skewedness of 0.073 (vs 0.00 for the normal distribution). There was no significant difference between depression mean scores for boys and girls ($p = 0.23$) The most commonly reported depressive or anxiety symptom was "I worry for no good reason" (reported approximately by 68% overall; 64% of boys and 70% of girls), followed by "I feel sad" (reported approximately by 35% overall, 34% of boys and 35% of girls). The depression score by age (results not shown in the table), was significantly higher for participants aged 11–13 years old (N = 192) compared with those aged 14 years (N = 327), with the mean score of 2.92 and 2.75, respectively ($p < 0.05$).

With regard to substance use, approximately 35% of EAs reported alcohol use, 19% smoked cigarettes, and 16% reported marijuana or other drug use. A higher percentage of boys compared to girls reported having used these substances (alcohol, cigarettes, and marijuana or other drugs), although these differences were statistically insignificant.

200

8.2.3 Depression symptoms, violence, and gender norms: binary analysis

As shown in Table 8. 7 in Appendix 6, five out of seven gender norm scores showed significant associations with the depression score through binary linear regression models. These gender norm scores included GST, ARE, GSR, GASRH, and GSV, with significantly positive coefficients (unadjusted β = 0.15 for GST; 0.07 for ARE; 0.08 for GSR; 0.15 for GASRH; and 0.27 for GSV). This indicates that the EAs whose gender norm score was higher for these individual scores (more unequal views) tended to report increased depressive symptoms. The gender equitable roles and features (GERF) score was negatively associated with the depression score. However, this association was not statistically significant.

Potential associations between the depressive symptoms and violence-related variables were also examined, controlling for age and sex. As illustrated in Table 8. 8 in Appendix 6, peer violence victimization and IPV victimization showed a significantly positive coefficient (unadjusted β = 0.37, $p < 0.001$ and 0.27, $p < 0.01$, respectively) with the depression score. While peer violence perpetration did not show any statistically significant association, IPV perpetration increased the depression score by 0.27 ($p < 0.05$).

As presented in Table 8. 7 in Appendix 6, history of reported ACEs significantly increased the depressive symptoms with the highest positive coefficient for those who reported five or more ACEs (unadjusted β = 0.81, $p < 0.001$), followed by those who reported three to four ACEs (unadjusted β = 0.33, $p < 0.001$). Incidents of insecurity or being threatened in communities in the past year increased the depression score by 0.11, although this association was not statistically significant. EAs who reported having been threatened or had felt scared at school or while commuting to or from school, showed a significantly increased depression score by 0.23 ($p < 0.01$).

8.2.4 Depression symptoms, violence, and gender norms: multivariate analysis

Results from multivariate linear regression analysis for the depressive symptoms and gender norm scores are presented in Table 8. 3. In Model 1, a linear regression model was adjusted for

selected covariates, and in Model 2, this was adjusted for the covariates and selected gender norm scores. Overall, Model 2 showed a lower AIC than Model 1, suggesting a better model fitness, although the difference was less than 10% (AIC of 933.44 and 983.37, respectively). Adjusted R^2 values indicated that Model 1 estimated 21.34% of the variance in the depression symptom score, while Model 2 explained 27.35% of its variance.

During model construction process, the body comfort score showed a strong negative correlation with the depression score, with Pearson's correlation coefficient of -0.40 (above threshold of -0.40). This suggests an important bilateral association between the increased comfort or satisfaction level of the EAs on their body and reduced depression symptoms. For these reasons, this variable was excluded from the final regression model for depression symptoms.

Table 8. 3: Multivariate linear associations between depression symptoms and gender norms

Variables	Adjusted coefficient Model 1: adjusted to covariates (N = 438)	Adjusted coefficient Model 2: adjusted to covariates and gender norms (N= 431)
Gender norm scores (continuous)		
GASRH mean score	NA	**0.07*[0.01 ,0.13]**
GSV mean score	NA	**0.19***[0.11, 0.27]**
GSR mean score		**-0.08*[-0.15, -0.01]**
Violence and ACEs		
Peer violence perpetration, in past six months (Ref: No)	0.08 [-0.09, 0.25]	0.01 [-0.16, 0.18]
Peer violence victimization, in past six months (Ref: No)	0.10 [-0.05, 0.26]	0.08 [-0.07, 0.22]
Felt scared or threatened at school or while commuting in the past year (Ref: Never or rarely)	0.06[-0.09, 0.20]	0.06 [-0.08, 0.21]
History of ACEs: 0–2 ACEs	Ref	Ref
3–4 ACEs	**0.28** [0.10, 0.47]**	**0.27** [0.09, 0.45]**
5 or more ACEs	**0.67*** [0.49, 0.86]**	**0.62*** [0.44, 0.81]**
Individual characteristics		
Sex: Boys	Ref	Ref
Girls	**0.26** [0.09, 0.43]**	**0.32*** [0.15, 0.48]**
Age (continuous variable)	-0.09 [-0.21, 0.02]	-0.06 [-0.17, 0.06]
Utilization of any drug: Never	Ref	Ref
Ever	0.08 [-0.12, 0.28]	0.05 [-0.14, 0.24]
Pornography: Never or rarely watched	Ref	Ref
Sometimes or often	0.04 [-0.12, 0.20]	-0.03 [-0.18, 0.13]
Parents' factors		
Parents' expectations regarding school	**Ref**	**Ref**
University	**-0.41***[-0.61, -0.21]**	**-0.27* [-0.47, -0.06]**
Postgraduate	**-0.53***[-0.73, -0.33]**	**-0.35** [-0.56, -0.13]**
Parents' awareness in three areas (Ref: No)	0.16 [-0.00, 0.32]	0.15 [-0.01, 0.30]

202

Variables	Adjusted coefficient Model 1: adjusted to covariates (N = 438)	Adjusted coefficient Model 2: adjusted to covariates and gender norms (N= 431)
Peer factors		
Number of female friends: 0–1	**Ref**	**Ref**
2–3	0.02 [-0.15, 0.19]	0.03 [-0.13, 0.20]
4 or more	-0.05 [-0.25, 0.14]	-0.06 [-0.25, 0.13]
Number of male friends: 0	**Ref**	**Ref**
1–3	0.13 [-0.05, 0.31]	0.16 [-0.01, 0.34]
4 or more	0.22 [-0.01, 0.45]	**0.25* [0.03, 0.47]**
Constant	3.57*** [1.96, 5.17]	2.43** [0.83, 4.03]
R^2	0.2422	0.3056
Adjusted R^2	0.2134	0.2735
AIC	983.37	933.44

Ref: Reference categories. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Values are coefficients (reference coefficient is 0.00). GSR: gender stereotypical roles; GASRH: gender views on adolescent sexual and reproductive health; GSV: gender stereotypical views. Interaction term between age and sex was not statistically significant at p-value (< 0.05 for both models).

As presented in Table 8. 3 when the model was adjusted for other covariates (Model 2), out of the five gender norm scores that showed significant associations with the depression score in the bivariate analysis, GASRH, GSV, and GSR retained their associations with the depression score. A one-point increase in the GSV score (a greater endorsement of gender stereotypical views) increased the depression score by 0.19 ($p < 0.001$). On the other hand, unequal views toward gender stereotypical roles (GSR) reduced the depression score by 0.08 ($p < 0.05$). A higher score for GASRH (more openness to sexual intercourse, while being sensitive to the need of pregnancy prevention and a loving relationship) was associated with a higher depression score (adjusted β for Model 2 = 0.07, $p < 0.05$).

In both Models 1 and 2 (Table 8. 3), there is an association between an increased depression score and a history of three, four, or five or more ACEs. This remained statistically significant in Model 2, as observed in the bivariate analysis (adjusted β for Model 2: 0.27 and 0.62; $p < 0.05$ and $p < 0.001$, respectively). This suggests a dose-relationship between the number of ACEs experienced, and increased depressive symptoms among the EAs, especially among those who reported a history of five or more ACEs. While positive coefficients with the depression score were also observed for peer violence victimization and perpetration, these associations no longer showed statistical significance (adjusted β for Model 2: 0.01 and 0.08; $p > 0.05$).

At the level of individual characteristics, girls reported a significantly increased depression score of 0.32 (Model 2) compared to boys ($p < 0.001$). While older age (14 years old) at first showed a negative association with depression symptoms (adjusted β for Model 2: -0.06), this association was not statistically significant.

Among the peer-related factors, those who reported having four or more male friends showed a significantly more positive coefficient than those who had 0 or 1–3 male friends (adjusted β for Model 2: 0.25, $p < 0.05$). While a negative coefficient with the depression score was observed for those having four or more female friends (adjusted β for Model 2: -0.06), the association did not show any statistical significance. When these variables were assessed in multivariate regression models, disaggregated by sex, there was no statistically significant difference.

Finally, two factors related to parents' expectations were associated with EAs' depression score. A higher parents' expectation of EAs' completion of levels of schooling was negatively associated with the depression score (a protective factor), and the association was linear (adjusted β/Model 2 for the university level: -0.27, $p < 0.05$; and the post-graduate level: -0.35, $p < 0.01$). While parents' awareness of EAs in three areas (EAs' friends' names, school performance, and whereabouts) was positively associated with the depression score (adjusted β for Model 2 = 0.15, $p > 0.05$), this did not show any statistical significance.

Figure 8. 6 in Appendix 6 presents a linear prediction of the depression score and three of the gender norm scores (GSV, GSR, and GASRH) individually, derived from bivariate and multivariate linear regressions. For all three gender norm scores, a positive linear association was observed between predicted lines of the depression symptoms and gender norm scores. These dose-response relationships were maintained for GSR and GASRH when the model was adjusted for covariates which showed a significant association with the depression score in Model 2.[32] This indicates that a greater endorsement of gender stereotypical views and more openness to having sexual intercourse were both associated with an increased depression score, after being adjusted for these covariates. For gender stereotypical roles (GSR), however, the positive linear

---

[32] Covariates included age, sex, history of ACEs, parents' expectations of children's school completion, and the number of male friends)

association with the depression score was no longer observed when the model was controlled for above mentioned covariates.

8.2.5 Early adolescents in a romantic relationship: associated factors for depression symptoms

Student's *t*-test showed that those with reported perpetrated IPV had a significantly higher depression score than those who had never done so (2.77 vs 3.04, *p* < 0.01). Those who had experienced IPV victimization also reported a significantly higher depression score than those who had not (2.76 vs 2.98, *p* < 0.013). These associations were further confirmed in a binary regression model that showed a significantly positive coefficient with the depression score, both for IPV victimization and perpetration (Table 8. 8 in Appendix 6).

To assess whether these associations would remain statistically significant after controlling for other covariates, multivariate linear regression models were run for the EAs who were currently in a romantic relationship (who answered IPV variables). This appreciably reduced the sample size to 299, given that IPV measures were only reported by the EAs in ongoing romantic relationship at the time of the survey. However, based on the actual sample size (N = 299), R^2 (0.1992), and the number of covariates tested (N = 14), a power of more than 80% can be detected.[33] Therefore, the actual sample size of 299 for this model meets a minimum requirement to be able to detect the power of 80% and the standard error of 0.05.

As shown in Table 8. 9 in Appendix 6, associated factors for the depression symptoms among those who were in a romantic relationship were similar to the depression symptoms that were identified for the total sample (Table 8. 3). For this specific sample as well, IPV victimization and perpetration showed a positive coefficient to the depression score. However, these associations were no longer statistically significant in Model 2 in Table 8. 9 in Appendix 6, which was adjusted for selected gender norms and other covariates.

For the three gender norm scores that showed a significant association in the model with all

---

[33] A syntax of "*power*" in Stata was used to calculate the power that can be detected with given sample size, R^2 and the number of covariates tested.

sample (Table 8. 3), only GSV remained statistically significant in the model that was restricted to those who were currently in a relationship (adjusted β for Model 2: 0.16, *p* < 0.01, in Table 8. 9 in Appendix 6). Again, this indicates the association between unequal GSV score and an increased depression score among the EAs who were in a romantic relationship. The rest of the associated risk factors for the depressive symptoms, such as having experienced five or more ACEs, being a girl, and having male friends were similar to those that were identified for the entire sample. Parents' high expectations regarding future schooling were also a significant protective factor for depression symptoms, in the model that was restricted to those in a romantic relationship (adjusted β for Model 2: -0.31, *p* < 0.01 for university; and adjusted β for Model 2: -0.41, *p* < 0.001 for post-graduate).

8.2.6 Mediation effects of gender norm scores for adverse childhood events and depression symptoms

Mediation effects were tested for the GSV and the GASRH scores, first in a crude model, followed by a model that was adjusted for selected covariates. These covariates included age, sex, parents' expectations of children's education level, and the number of male friends. Both gender norm scores showed significant, partial mediation effects for the association between ACEs and the depression score in crude analysis. When the analysis was adjusted to the covariates, the mediation effects continued to be statistically significant for both gender norm scores, based on the p-value for Sobel's test (Sobel, 1982).

The results of adjusted mediation analysis are presented in Figure 8.2 and Figure 8.3. Specifically, 13.1% of the effect of ACEs on the depression score were mediated by the GSV score (Figure 8. 2). The analysis also explained that the mediated effect by the GSV score was 0.15 times as large as the direct effect of ACEs on the depression symptom score, based on the ratio between indirect and direct effects (0.053/0.354 = 0.150, result not shown). Compared to the GSV score, the mediating effect of the GASRH score for the same association was smaller (Figure 8. 3): 5.7% of the effect of ACEs on the depression score was mediated by the GASRH score. Likewise, the mediated effect by GASRH was only 0.06 times as large as the direct effect between ACEs and the depression score, derived from the ratio between indirect and direct effects (0.024/0.387 = 0.061, result not shown below). It should be noted that sex and age were

206

not significantly associated with the depression score (β = 0.09, *p = 0.225* for sex, and β = -0.11, *p* = 0.057 for age) in binary linear regression models. Therefore, a potential mediation effect of the gender norm scores for the association between sex and the depression score, or age and the depression score, was not examined.

Figure 8. 2: Adjusted* mediation effects of GSV for the association of ACEs on the depression score
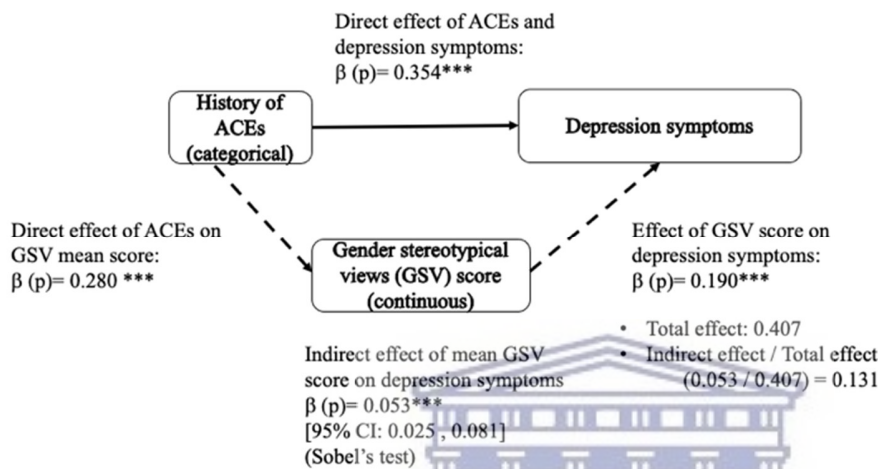
Figure 8. 3: Adjusted mediation effects of GASRH for the association of ACEs on the depression score
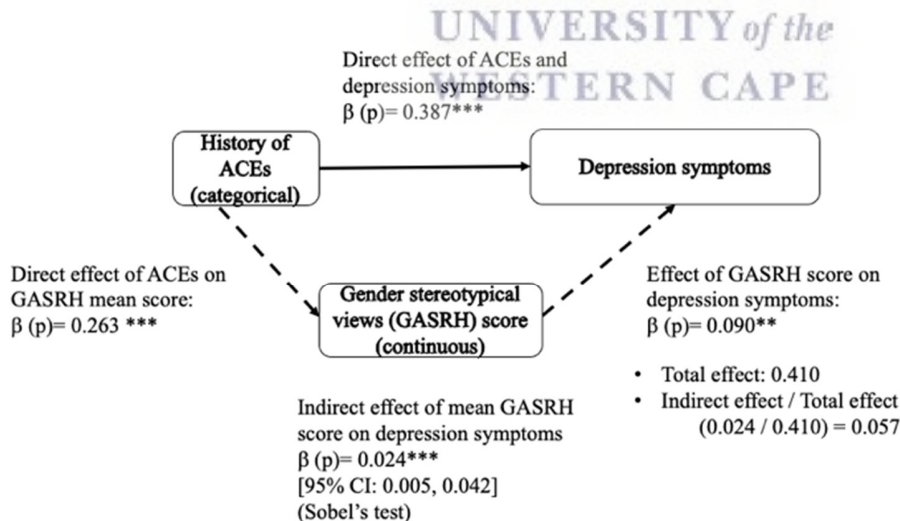
*Note: Mediation effects presented in Figures 8.2 and 8.3 were adjusted for selected covariates: age, sex, parents' expectations of children's education level, and the number of male friends.

207

8.3   Conclusion

This chapter presented the key results related to RQ 6 on associations between depressive symptoms and gender norms, when adjusted for violence-related variables and other covariates. The results show a high prevalence of depressive symptoms among EAs. Nearly all EAs reported at least one of the depressive symptoms, and more than half reported two or more. The most common symptom reported by the EAs was "I worry for no good reason", followed by "I feel sad".

The analysis subsequently identified significant associations between three gender norm scores and the depression score. First, unequal gender stereotypical views (GSV) appeared to significantly increase EAs' exposure to depression symptoms. Moreover, a higher GASRH score, or more openness to sexual intercourse, was significantly associated with an increased depression score. In contrast, the analysis suggests a significant protective effect on depression symptoms of having less equitable views toward GSR. In other words, EAs' conformity with the traditional gender stereotypical traits may reduce stress or anxiety, compared to those who do not respect these unequal gender norms.

While violence-related variables were all significantly associated with an increased depression score bilaterally, in a multivariate regression model, only the association between ACEs (three or more episodes) and an increased depression score remained significant. Finally, being a girl and parents' high expectations of schooling of their children (university or post-graduate level) were identified as significantly protective for depression symptoms, while having four or more male friends (for both boys and girls, but mostly among boys) appeared to be a significant risk factor.

This chapter concludes the five chapters in this part of the thesis. In the next chapter, I discuss and interpret the key results that were presented in chapters 4–8.

PART III : CONCLUDING SECTION

This third and final part of the thesis consists of two chapters. Chapter 9 discusses and interprets key results presented in previous chapters (Part II), and the final chapter (10) identifies key implications in three domains: policies, programs, and research and provides brief concluding remarks.

CHAPTER NINE: DISCUSSION

This chapter discusses the key results of this PhD thesis project, with the aim of better understanding the gender norms of early adolescents (EAs) and their associations with sexual and reproductive health (SRH) knowledge and behaviors, violence, and depression symptoms. This chapter is structured into five sub-sections, corresponding to each of the study's research questions (RQs). These sub-sections summarize and discuss key results, linking them to the existing evidence base, while identifying the new knowledge that this study contributes.

Sub-sections 9.1 and 9.2 discuss the factors this thesis identified across the socio-ecological model that may positively or negatively influence EAs' gender norms, including their empowerment scores (corresponding to RQs 1 and 2). Section 9.3 discusses the results related to gender norms' associations with EAs' knowledge on pregnancy avoidance and HIV prevention; as well as sexual activities and romantic relationships (corresponding to RQ 3). Sub-section 9.4 focuses on reported perpetration and victimization of peer violence and intimate partner violence (IPV), and the history of adverse childhood events (ACEs), and the correlation of gender norm scores with these variables (corresponding to RQs 4 and 5). Finally, section 9.5 discusses associations between reported depression symptoms and gender norms, and how ACEs and peer violence may interact within these associations (RQ 6). The chapter concludes by describing key strengths and limitations of the study (sub-section 9.6).

9.1 Factors associated with gender norms among early adolescents

The current study showed that EAs may develop their gender norms through socializing with actors at multiple levels of the socio-ecological model. Besides the influence of their individual socio-demographic characteristics, contextual or structural factors in families, schools, among peers, and at ICT/media levels may collectively and interactively influence their gender norm constructs. These results confirm the findings from previous studies that investigated EAs' gender norm construction processes (John et al., 2017; Mahendra et al., 2021; Patel et al., 2021).

Among the seven gender norm scores that were assessed in this study, gender stereotypical views (GSV) were found to have the highest model fitness level. This means a higher proportion of the variance of GSV could be estimated by various factors that were retained in the final model. This is because GSV may most holistically measure gender stereotypical views in different domains among the seven gender norm scores.[34] GSV had the highest proportion of the EAs who scored higher than the median, hence it captured EAs' gender unequal views. In the following sub-sections, I highlight key influencing factors for EAs' gender norm constructions that were identified in this study, following the levels of the socio-ecological model.

9.1.1 A survey language as proxy to social or cultural origins

For GSV, EAs who selected Afrikaans as their survey language reported the least equal gender views, while those chose English reported the most equal gender views, among the three groups. Similar associations were observed for the adolescents' romantic expectations (ARE) score. For gendered views on adolescents' SRH (GASRH) score, those who selected Afrikaans as their survey language reported the highest GASRH score (more openness to engaging in sexual intercourse) compared with those who used isiXhosa or English as the survey language.

Language can be considered a proxy for culture and social norms. In South Africa, due to the legacy of apartheid, lower-income communities remain geographically distinct. Hence socio-

---

[34]As a reminder, the GSV score measured gender stereotypical views, such as "A true man should have multiple sexual partners", "Boys should play soccer", and "Girls should be interested in make-up". The questions also asked, "Is it OK to tease boys who act like girls?' and vice-versa for girls.

cultural identities based on skin color may primarily define a prevailing notion of hegemonic masculinities (Dharani et al., 2021).Similarly, the Global Early Adolescent Study (GEAS) multi-country formative research suggested that adolescents' and parents' gendered views were largely influenced by culture, traditional values, and social norms (Basu et al., 2017), as did a study by Huguley et al. (2019) on health-related outcomes (e.g. mental health and academic performance). Nevertheless, there is a paucity of evidence on an intersectional understanding of how culture or social norms may affect this process, with language as a proxy.

9.1.2 Migration and its influence on gender norms

Population movements or migrations that have been common in South Africa for many years were also found to be important drivers of EAs' gender norms, based on the findings of this study. EAs who were born in Cape Town reported a significantly lower GASRH score (more conservative views to having sexual intercourse) even if they took measures for pregnancy prevention or felt love with their partners, than those born outside of Cape Town.

A meta-analysis of South African studies revealed an association between the higher HIV incidence rate and increased engagement in risky sexual behaviors among adult migrants (both males and females) compared to non-migrants (Dzomba et al., 2019). Ajaero et al. (2018) also found that risk behaviors measured by cigarette and alcohol use were more prevalent among South African migrant youth (15–24 years old) than their non-migrant counterparts. However, these associations were mediated by other vulnerabilities faced by migrants, including low socio-economic status, or unemployment, as well as peer pressures and lack of parental monitoring, especially in urban areas.

The results from the current study support these findings and underscore the need to provide protective environments to these EAs, promoting the construction of equal gender norms. Migration in South Africa has a long history, and the country has a high level of urbanization. However, migration on the African continent may contribute to shifting gender norms in communities of destination by introducing new social and cultural norms from their communities of origin, which are subsequently passed on through children in families or schools (Chen et al., 2010; John et al., 2017).

9.1.3 Religiousness and gender norms

Religiousness at individual level showed no statistically significant association with the three gender norm scores assessed. However, there were significantly lower GASRH scores among complete cases only of EAs who attended church at least once a week. This indicates a potential influence of religiousness in constructing lower GASRH (less openness or more conservative views in having sexual intercourse). However, it is difficult to know if the lower GASRH score would translate into delayed sexual debut and less risky sexual behaviors of adolescents.

Other studies assessed the influence of religion on adolescent sexual and reproductive health (ASRH) behaviors rather than on gender norms, making a comparison of the current study challenging. Nonetheless, past studies are ambivalent on the effects of religiousness on risky sexual behaviors of adolescents and young people. Being religious may not change behavior but make it riskier as religious adolescents may not have access to the information and education that facilitate safer sex behaviors or contraceptive use. High school students in Lao People's Democratic Republic (Laos PDR), who followed a religion accepting of contraception, reported higher acceptance of contraception use than those did not belong to such religion (Inthavong et al., 2020). In the GEAS's Indonesian sites, religion and its covariates were positively associated with EAs' sexual well-being (Kågesten et al., 2021).

While some studies have found high religiosity aligns itself with attitudes non-permissiveness to sexual activities (Martyniuk & Štulhofer, 2018; Okigbo & Speizer, 2015). However, these conservative views were also found be a barrier to adolescents' access to SRH services or contraceptive use (Ezenwaka et al., 2020) and may hinder parent-child communication on sex-related topics (Abdallah et al., 2017; Mbachu et al., 2020). Further research is required in South Africa and similar low- and middle-income countries (LMICs) for improved understanding of whether religiousness may influence EAs' gender norms and thus affect their SRH behaviors in one direction or the other.

9.1.4 Individual's body satisfaction level and gender norms

A lower GASRH score was significantly associated with a higher body comfort score. Although data specifically on EAs are not available, South African female university students who participated in interventions aimed at strengthening their self-esteem reported a positive shift in their gender stereotypical norms and relationships, and greater self-confidence to protect themselves from sexual violence (Mahlangu et al., 2021). These findings suggest a possible pathway, in which a higher body comfort score might have resulted in EAs' greater self-esteem, and contributed to their lower GASRH score, which was linked to protective attitudes toward sexual health. Nonetheless, this study could not make a direct link between these factors.

The GEAS's multi-country study results in Kinshasa, Indonesia, and Shanghai used "body satisfaction score", a similar measure to this study's "body comfort score", which measured EAs' satisfaction or positive perceptions towards physical changes. However, the results of that study (Blum et al., 2021; Moreau et al., 2021) did not accord with this study's results. In the current study, the body comfort score and gender stereotypical traits (GST) or roles showed no significant associations. These differences in the results could be due to various factors such as variations in the sample size and make up (more girls in the Cape Town site) and EAs' socio-economic and demographic characteristics.

In the current study, girls were significantly more likely to report egalitarian gender norms or roles compared to boys for all the seven gender norm scores, except sexual double standards (SDS), for which girls reported a significantly greater endorsement than boys. Those in the 14-year-old adolescents' category expressed more egalitarian views in two out of seven gender norm scores compared to those who were between 11 and 14 years old. Once again, these age or sex differences in the gender norm scores varied with other GEAS sites, potentially related to the same differences mentioned above.

9.1.5 Parental and family factors

This study found parents' endorsement of their adolescent child having a boyfriend or a girlfriend significantly influenced EAs' higher ARE score (greater expectation of romantic

213

relationships) and GASRH score (more openness to having sexual intercourse). Additionally, EAs who reported the importance of engaging in a romantic relationship were more likely to report a higher ARE score. These results may suggest inter-generational transmission of values on sexuality or on romantic relationships, between parents/caregivers and children, supported by some of the literature, mostly from high-income countries. For instance, a small sample of 28 adolescent-parent dyads in a study in the USA showed a positive correlation between parents' negative views towards their children's gender non-conforming behaviors and those of their adolescents (e.g. boys playing with a doll) (Lan & Isacoff, 2022). In a study among school-attending adolescents (14–18 years old) that comprised mostly immigrants in four European countries,[35] parents' and peers' gender norms were found to influence those of adolescents, after controlling for sex, age, and parents' employment status (Janmaat, 2020).

The multi-level influence on EAs' gender norm construction, specifically ARE, is worth highlighting. Across the socio-ecological model, EAs reporting a greater endorsement of ARE coincided with those who considered it important to engage in romantic relationships. They were also more likely to report that their parents had endorsed them engaging in a romantic relationship and that their close peers had been engaged in a romantic relationship. These associations suggest that parents' influence on EAs' sexual and gender perceptions acts in a synergic way with other influential actors, such as peers, as previously reported by other studies (Janmaat, 2020; John et al., 2017; Mahendra et al., 2021).

9.1.6 Peer and school factors

EAs in this study who reported that most or all their close friends drank alcohol were significantly more likely to report an increased ARE score. Similar to this, those who reported close peers as having sexual intercourse reported less equal GSV and greater openness to having sexual intercourse (measured by the GASRH score). These results indicate that EAs' gender norms were significantly influenced by their perceptions towards peers' behavior in these areas.

These findings were similar to results from previous studies, for example among Ugandan high school students, showing higher educational aspirations of peers influenced adolescents' gender

---

[35] The United Kingdom, the Netherlands, Germany and Sweden.

214

norms, although the influence varied, depending on the socio-economic context or sex (Habraken, 2018). A study with junior high school students in Belgium found that peer pressure may reinforce EAs' traditional, stereotypical gender roles and attitudes, especially among boys, who were found to be more susceptible to their male peers' influence than females (Halimi et al., 2021). Uruguayan adolescents (averaging 14 years old) who had female peers in schools were more likely to report progressive gender norms for women's roles in formal labor, domestic tasks, and the political sphere (Querejeta, 2022). Peer pressures have also been found to influence adolescents' health behaviors directly, such as dietary habits (Weber et al., 2019), sexual risk-taking, or substance use (McCoy et al., 2019; McMillan et al., 2018). These results suggest a possible bi-directional influence of peers on adolescents' health risk behaviors, through 1) direct effects of peers on their behaviors; and 2) indirect influence of peers on their gender norms.

9.1.7 Communities' social cohesion and gender norms

At the community level of the socio-ecological model, this study revealed an interesting association between positive neighborhood's social cohesion reported by EAs and unequal gender stereotypical views (GSV). Although EA-specific data is limited, these associations were consistent with a study among Ugandan young men who showed increased IPV perpetration only in peer networks with high or positive social cohesion (Mulawa et al., 2018). A study in Luxembourg also found that adults (above 18 years of age) who reported traditional, or less egalitarian gender roles or views were more likely to show cohesive attitudes within communities, particularly among women (Valentova, 2016).

As a possible interpretation, positive social cohesion in peer or social networks may promote more rapid information dissemination, including of traditional hegemonic gender norms, facilitated by frequent contact and discussions within the networks (Mulawa et al., 2018). In addition, those who belong to social networks in communities with high social cohesion may feel stronger peer pressure to conform to traditional gender norms than those who do not belong to such networks.

215

Nonetheless, Yu et al. (2021) found in the GEAS's Indian and Chinese sites that a positive neighborhood cohesion reported by the EAs was associated with reduced odds of pornography use, for example, together with other protective factors (e.g. parents monitoring and supportive school environments). These results contradict the current study's findings, for reasons mentioned previously – significant differences in the contexts in which EAs reside. Notably, South Africa is characterized by persistently high levels of social disparities due to the legacy of apartheid, poverty, violence, and HIV endemic (Tarantino et al., 2018). The underlying disparities, coupled with high levels of crime and violence, can undermine the positive effects of social cohesion.

9.1.8 Media and information and communication technology

Three-quarters of the EAs in this study had reportedly used a social media account. Access to social media via information and computer technology (ICT) such as mobile phones appeared to increase the ARE score significantly. Additionally, EAs who communicated with friends through text chats or mobile phones daily appeared to be more open to having sexual intercourse (a higher GASRH score). Again, it should be noted that the GASRH score may or may not translated into actual practice, that is, early sexual debut or active engagement in sexual activities.

Some studies identified exposure to media, especially sexually explicit contents, as a risk factor for an increased adolescent early sexual onset and engagement in risky sexual activities (Hailegebreal et al., 2022; H. Lin et al., 2020). In contrast, Patel et al. (2021) identified digital media access as being associated with constructing more egalitarian gender norms among Indian adolescents (10–19 years old). This is likely attributable to the differences in the study contexts and study populations. For instance, less than 10% of EAs in the Indian study reported having access to digital media (Patel et al., 2021). In addition, the positive effect of digital media on the egalitarian gender norms found in India was multi-factorial, including parent-child communication, participation in peer-group activities, or interactions with health workers.

There was a high level of pornography use among the EAs (54%) in the current study compared to other GEAS sites which ranged from 15% in Ecuador to 33% in Belgium (Yu et al., 2021). In the current study, almost half of the boys in my study reported having watched pornography

216

sometimes or often, compared to 24% of the girls. Such a sex difference was common across the GEAS sites.

The current study identified that watching pornography correlated to 1) unequal GSV; 2) greater endorsement of unequal romantic expectations or relationships (ARE score); and 3) more permissiveness regarding having sexual intercourse (GASRH score). The odds of pornography use were the highest among those who reported a higher GSV (increased odds by 1.60) across these three scores. The GEAS's Indonesian and Chinese sites, similarly, suggested an association between increased odds of pornography use among boys and unequal SDS and GST reported by EAs (Yu et al., 2021). As in my study, these associations between gender norms and pornography were mediated by other factors such as romantic relationships, peers' unequal sexual norms, and increased time spent on the internet. Nevertheless, as these gender scores are complex, such associations should be treated with caution. In addition, the GEAS results – including the current study in Cape Town – could not confirm a causal or temporal relationship, due to the cross-sectional design.

9.2   Gender norm scores and empowerment scores

There were significant associations between equitable gender norm scores and increased empowerment scores, but inversed associations between two scores for some of the empowerment domains. Out of the seven gender norm scores, gender equitable roles and features (GERF) scores were significantly associated with increased empowerment scores across all four areas. The GERF score holistically measured EAs' equitable views, which may be the reason why equal gender norms measured by this score showed a significantly positive association with all the empowerment scores. Other gender norm scores such as GST or GSR partially measured a particular aspect of gender stereotypical views, except GSV. These findings corroborate results from an Indian study of married girls (15–19 years old), which found an association between equitable gender norms measured by different variables[36] and an increase in empowerment-related outcomes (Raj et al., 2021). The results of this research project also confirmed those of

---

[36] These areas included for example, gender roles, female marital choice, economic decision-making, and male childcare responsibilities.

217

the GEAS's multi-country analysis, which suggested interrelationships between gender norms and empowerment agency among the EAs (Zimmerman et al., 2021).

9.2.1. Freedom of movement score and gender norms

Out of the four empowerment scores measured, girls reported a significantly lower score than boys for freedom of movement. The difference in the freedom of movement score by sex indicates more restrictions to girls' movements compared to those of boys, such as going out to a party, after-school activities, or visiting a friend. This may be associated with persisting traditional and stereotypical gender perceptions among parents on the need to monitor closely girls' behaviors, as reported in other studies (Basu et al., 2017; Ninsiima et al., 2018; Nyakangi et al., 2021).

Being older (14 years old) was also associated with a significantly higher freedom of movement score compared to those who were 11–13 years old, suggesting that freedom of movement may progressively increase for some EAs during adolescence, as they gain more autonomy and independence. An earlier study in the province of KwaZulu-Natal in South Africa also illustrated that boys progressively expanded their access to the public sphere through greater freedom of movement, as they transitioned from Grade 5 to Grade 9. In contrast, the study found that for girls this kind of access was reduced as they became older, due to lack of safety (Hallman et al., 2015). In the current study however, EAs having been threatened or having felt unsafe in schools or communities in the previous year was not associated with the freedom of movement score. This is likely to be because the effects of other factors in the socio-ecological model had a stronger influence in the adjusted model (e.g. age and sex, survey language, and having friends of both sexes) than the freedom of movement variable. Considering the limitation of a cross-sectional design, the impact of EAs' age on freedom of movement can only be clearly determined in a longitudinal study.

Greater rejection of SDS was significantly associated with increased freedom of movement. This result was similar to the GEAS's Indonesian site (Kågesten et al., 2021). However, in the current study, those who endorsed ARE were more likely to report increased freedom of movement. This association appears to make sense, given that those who reported greater freedom of movement

may be more active in going out with their peers or visiting a friend of the opposite sex than those who reported lower freedom of movement, with greater opportunities for romantic relationships.

9.2.2 "Voice" score and gender norms

Interestingly, for boys as well as girls, the younger age group (11–13 years old) reported a significantly higher "voice" score than those who were in the 14-year-old group. This finding indicates that younger EAs are more willing to speaking up and seeking help from or expressing their concerns to peers or adults than are older EAs. Therefore, interventions related to SRH and gender transformation should be tailored to age, with consideration for their empowerment and agency. The empowerment domain, such as the voice score, could be used as an opportunity, if used appropriately, to optimize the impact of interventions for the younger EAs.

This study found that the associations between the voice score and gender norms were bidirectional, with either negative or positive effects, depending on the gender norm scores used. For instance, the EAs who reported an increased voice score were significantly more likely to endorse gender stereotypical roles (GSR). This was consistent with the results from the GEAS's Kinshasa site (Zimmerman et al., 2021). The inverse association may suggest that EAs who endorse traditional GSR or gender stereotypical traits may be rewarded socially with greater voice to express their opinions or needs. On the other hand, in the current study, more equitable gender views measured by GSV were positively associated with greater voice. This result appeared to be coherent with the positive association of GERF with all the empowerment domains discussed at the beginning of Section 9.2, given the similar nature of the two gender norm scores.

9.3. Sexual and reproductive health knowledge and behaviors, and gender norms

This section discusses and interprets key results related to associations between gender norms and EAs' knowledge and behaviors, corresponding to **RQ 3:** Do gender norms influence EAs' knowledge of, perceptions, attitudes, and behaviors towards romantic relationships, sexual

activities, and early pregnancy avoidance or HIV prevention? Sub-section 9.3.1 discusses EAs' reported sexual activities and romantic relationships, and their association with gender norms. Sub-section 9.3.2 summarizes and interprets EAs' reported knowledge of HIV and pregnancy avoidance, and their associations with gender norms.

9.3.1. Gender norms and sexual and romantic relationships

9.3.1.1 Early sexual debut among early adolescents

This is the first study that has assessed the prevalence of sexual and romantic relationships among early adolescents (EAs) in urban, impoverished areas of South Africa, and the associated factors. The study results suggest that, although the prevalence of sexual debut among the participating EAs was low (slightly over 20% among 507 EAs), this rate was higher than previous studies from sub-Saharan Africa (SSA), with adolescents of a similar age. Moreover, the age of sexual debut in this study population was found to be young: approximately 60% of 97 sexually active EAs had initiated sex between 13 and 14 years old, 25% had initiated sex between 11 and 12 years old, and 14% between the ages of 7 and 10 years, or younger.

The most recent comparative data is a pooled estimate of early sexual debut (prior to 15 years old) among adolescents aged 12–15 from nine African countries (South Africa not included). The results showed a prevalence of 16.6% (boys: 22.3% and girls: 10.9%) (Kushal et al., 2022). In South Africa, no data on EAs' sexual debut have been published yet. However, the data from the 2017 South African National HIV Prevalence, Incidence, Behavior, and Communication Survey revealed an increased proportion of older adolescents and youth (15–24 years) reporting early sexual debut, from 5% to 13.6% between 2002 and 2017 (Simbayi et al., 2019). Most recently, in impoverished districts in South Africa, the prevalence of the early sexual debut was reported to be close to 9% among adolescent girls and young women (aged 15–24 years), lower than the current study or the 2017 National HIV prevalence study (McClinton Appollis et al., 2022). Due to the paucity of data on the prevalence of sexual behaviors specifically among EAs (aged 10–14 years), a comparison of these data is challenging – reinforcing the importance of the current study's results.

220

The current study found that within the period of EA, those who were older (14-years old) were significantly more likely to have initiated sexual intercourse and sexual activities, compared to those between 11 and 13 years old. This makes common sense. In a study of South African adolescents from the households of low socio-economic status, McClinton Appollis et al. (2022) found a higher prevalence of sexual debut among late adolescents, compared to young people (12% for adolescents aged 15–19 years old, and 6% for young people aged 20–24 years old). This indicates that the possibility of EAs reporting sexual debut may increment during EA and hit a peak during late adolescence (15-19 years). This again, highlights the need to start SRH education program earlier, at the onset of EA.

9.3.1.2 Forced sexual initiation among early adolescents

This study found an overall high prevalence of forced sexual initiation (52%), especially among sexually active boys, with more than half reporting that their first-time sex was forced or the result of being threatened (N = 44), compared to 35% of sexually active girls (N = 14). Although the number of sexually active EAs was limited, this study revealed a higher prevalence of forced sexual debut among adolescents compared to a multi-country study (Nigeria, Uganda, and Zambia Violence Against Children Surveys) in which 10% of sexually active adolescents and youths (aged 13–24) reported the experience of forced sexual initiation (Nguyen et al., 2019). In this multi-country study, approximately seven out of 10 boys reportedly had their first-time sex with a partner of the same age. Half the girls had their first-time sex with a partner who was older than themselves, but the age difference was not significant, with the majority reporting that their partners were older by one to two years. Therefore, reported increased risk of having a forced sexual debut was not due to having an age-distant partner, among either boys or girls.

Most research related to coerced or forced sexual debut has focused on girls, due to existing views that classify boys or males as perpetrators, rather than survivors (Finlay & Lee, 2018). Also, studies that have examined adolescent boys' experiences of forced sexual experiences, especially among EAs, are scarce in South Africa (Miller et al., 2021). Nonetheless, Hatcher et al. (2019) found that in peri-urban South African settlements, 15% of young men (18–30 years old) had reportedly been raped by the age of 18.

In the multi-country study in Nigeria, Uganda, and Zambia, adolescents and youth (13–24 years old) who reported a forced sexual initiation were most likely to have had prior exposure to sexual, physical, and emotional violence (Nguyen et al., 2019). Although the current study could not establish time-effects of these violent events, the high rates of peer violence and IPV among boys may partially explain why boys were more exposed to a forced sexual initiation than girls. However, this hypothesis needs further investigation.

9.3.1.3 Gender norms and sexual activities

The current study identified the ARE score and EAs' permissiveness in their attitudes to sexual intercourse (GASRH score), as two domains of the gender norms that increased EAs' engagement in sexual activities (i.e. sexual touch and sexual intercourse). Qualitative studies with adolescents in a southern province of Zambia (13–18 years old) (Svanemyr, 2020) and in KwaZulu-Natal, South Africa (15–19 years old) (D. Govender et al., 2020) both found that a multi-factorial combination of stereotypical and masculinity-oriented gender norms that governed sexual relationships, inadequate knowledge of contraceptives, household poverty, and peer pressures, could have increased adolescents' engagement in risky sexual behaviors.

In the current study, boys were four times more likely to report having had sexual debut than girls, similar to the results from previous studies from the SSA region (Kushal et al., 2022) and South Africa (Simbayi et al., 2019). However, it did not find any significant associations between stereotypical gender norms (e.g. GST and GSR scores) and EAs' engagement in sexual activities. This may be due to the limitations of measuring gender norms based on the composite scores or may be a real finding. A qualitative study with EAs aged 12–14 years in Western Uganda revealed prevailing stereotypical sexual norms that strongly restricted girls' engagement in sexual activities, compared to boys (Ninsiima et al., 2018). Stereotypical, masculinity-oriented gender norms that reinforce men's toughness may encourage boys to engage in early sexual debut and other risk-related sexual behaviors, while they may limit girls' sexual activities.

While these sexual or gender norm scores were not associated with high-risk sexual behaviors on their own, they did have an impact in interaction with other factors in the socio-ecological model. These factors included poverty, lack of SRH knowledge and previous health care

222

experiences, making adolescent girls vulnerable to early pregnancy. Additionally, though the current study was restricted to conducting a sex-disaggregated analysis, previous studies have reported that adolescents, especially boys, may face strong social or peer pressures to have a girlfriend or to engage in sexual activities or other risk behaviors such as pornography use or alcohol consumption (Lee et al., 2018; Sommer et al., 2015). These factors are further discussed in Section 9.3.1.5.

9.3.1.4 Gender norms and romantic relationships

Nearly 80% of 569 EAs had reportedly been engaged in a past or current romantic relationship. Among them, some were reportedly married or engaged to be married to someone. In South African legislative frameworks, the Customary Marriages Act (1998) and the Children's Act (2005), both outlaw child marriage (Parliament of the Republic of South Africa, 2015). The Prevention and Combating of Trafficking in Persons Bill (2013) prohibits *ukuthwala,* a traditional forced marriage practice (Girls Not Brides, 2022),[37] known as a child trafficking offence. Given these existing legislative frameworks and existing data on child marriage rates in the country, the reported marriage or engagement status in this study is most likely due to an incorrect understanding of the questions by the EAs. No such cases were reported by the teachers at the schools who were responsible during the survey; this was checked and confirmed in a post-survey telephone follow-up, conducted by the study's field workers.

Similar to sexual debut (sub-section 9.3.1.3), an increased GASRH score was significantly associated with higher odds of having ever been in a romantic relationship. This indicates that the EAs who were more permissive in their attitudes to having sexual intercourse were also more likely to have been in a romantic relationship. Additionally, a greater endorsement of SDS was associated with significantly higher odds of having been in a past romantic relationship or being in a current romantic relationship, but to a lesser degree than the GASRH score. These findings

---

[37] *Ukuthwala* ("to carry" in isiXhosa) is a tradition practiced previously in customary marriages, where young man "abducts" a young woman to his home and then obtain her parent's permission to force marriage (Girls Not Brides, 2022). This practice was most prevalent in Xhosa- and Zulu-speaking communities in the Eastern Cape, KwaZulu-Natal and Western Cape provinces.

were similar to the GEAS's formative qualitative research in five sites[38] (De Meyer et al., 2014) and the subsequent GEAS's mixed-method study (Moreau, Li, De Meyer, et al., 2019).

Having been in a romantic relationship might have contributed to reinforcing EAs' perceptions toward SDS related to hegemonic masculinity, for instance, boys' promiscuity and sexual interest as an entitlement, rather than having a romantic relationship. Another potential pathway could be that the EAs' greater endorsement of SDS encouraged them to engage in a more stable, romantic relationship, rather than just a sexual relationship.

Several qualitative studies from South Africa have reported that traditional masculinity norms in romantic relationships may evolve into "contested masculinities", a tendency observed especially among young South Africans in KwaZulu-Natal (Hamlall, 2018; Mudaly, 2018). These contested masculinities are apparent at a structural level in South Africa's laws and policies, reinforcing women's participation in the political sphere and providing an enabling social environment to promote gender equality.

Yet, persisting social injustice, especially in economic and employment opportunities, may create an environment in which men are not able to adhere to traditional hegemonic masculinity-oriented roles. For instance, young people (18–24 years old) in informal settlements outside of Johannesburg challenged traditional, stereotypical gender norms. Nonetheless, they were also reportedly restricted in implementing such alternative gender discourses, due to their limited economic status and lack of employment opportunities (Graham & Mphaphuli, 2018). Conversely, lack of employment for men may flip traditional gender power relations, with men accepting that their female partners provide the main earnings. These findings from South Africa, again highlight the need to assess longitudinally how gender norms developed by EAs may influence their romantic and sexual relationships; and how these norms evolve from early to late adolescence and young adulthood, interacting with changing gender norms in their environment.

---

[38] Baltimore, Cuenca, Edinburgh, Ghent, and Nairobi.

9.3.1.5 Peers' influence on sexual and romantic relationships

EAs who reported that most of or all their close friends considered having a boyfriend or girlfriend important were significantly more likely to have been engaged in a past or current romantic relationship. Similar associations were found between EAs' perceptions that their peers considered having sexual intercourse important, and increased odds of having been engaged in sexual intercourse or a sexual touch, albeit its statistical insignificance.

These results corroborate other studies. Among secondary school students (with an average age of 15 years) in south-western parts of Nigeria, those whose peers engaged in sexual activities had a greater chance of initiating sexual activities, especially for males (Durowade et al., 2017). A recent qualitative study from Soweto, South Africa, also found that young women with an early sexual debut identified peers' influence as a major factor in having done so (Bosire et al., 2020). A qualitative study with Ugandan adolescents (with an average age of 14 years) reported similar associations through peer influence, facilitated by the adolescents' sharing conversations or activities with friends, or seeking peers' advice on romantic relationships or help with their studies (Faragó et al., 2021).

In the current study, girls reported significantly higher education aspirations than boys, with nearly 70% of them hoping to complete a university degree or a post-graduate qualification. Boys were significantly more likely than girls to report that their peers considered it important to have sex or a romantic relationship. These demonstrate typical traditional gender norms among adolescents in South Africa and other countries, in which girls are encouraged to be more serious about their studies than boys, while boys enjoy more freedom in engaging in sexual or romantic relationships.

This study also shows that the EAs who reported that their peers considered academic work (studying hard) as important, were less likely to have been in a past or current romantic relationship. Similar to this finding, in peri-urban, low-income neighborhoods of Peru, adolescents (18–19 years old) who reported high levels of education and career aspirations were more likely to avoid higher-risk sexual behaviors and substance use (Graham & Pozuelo, 2022).

9.3.1.6 Parents' influence on early adolescents' romantic relationships

At the household level, parents' influence on their children's values related to romantic relationships was found to be a key influencing factor in their children's having engaged in a past or current romantic relationship. EAs whose parents had more liberal views regarding children's future marriage plans (allowing them to decide) reported significantly lower odds of them having been in a past or current romantic relationship. In addition, those whose parents or caregiver reportedly endorsed their children having a boyfriend or girlfriend at their age, were significantly more likely to have been in a romantic relationship.

These results may have various interpretations. Parents who showed more liberal attitudes towards their children's romantic relationships might have encouraged their children engaging in such a relationship at an early age. However, those children whose caregivers gave them greater autonomy in decision-making related to future marriage would not necessarily have engaged in a romantic relationship at an early age, as these are different types of relationships. Other studies have also reported that parental influence on their children's sexual or gender norms may be affected by the amount of time children spent with their parents (Janmaat, 2020) and parent-child communication (Ezenwaka et al., 2020). The current study could not provide an in-depth analysis of possible pathways of the parents' influence on their children's romantic relationships.

In the GEAS's Kinshasa longitudinal study, close parental monitoring was identified as a protective factor for constructing stereotypical SDS among boys, over the follow-up period of 12 months (Cislaghi et al., 2021). Although the current study from Cape Town did not find such direct association with parental monitoring, more stereotypical views toward SDS was found to be a contributing factor for the EAs having been engaged in a romantic relationship. This suggests the importance of obtaining longitudinal data to follow up on parents' or caregivers' influence on EAs' construction of egalitarian gender norms, and their SRH behaviors throughout adolescence.

9.3.1.7 Exposure to pornography and sexual activities

In the current study, watching pornography increased the odds of early onset of sexual activities reported by the EAs, despite statistical insignificance. The GEAS's cross-country analysis

226

(Belgium, China, DRC, Ecuador, and Indonesia) identified an association between pornography use among EAs and their greater expectations of engaging in a romantic relationship (measured by ARE score), but no association was found with actual engagement in such a relationship (C. Yu et al., 2021). These GEAS results also confirmed those from a longitudinal study with Croatian adolescents, in which exposure to sexually explicit online materials was not associated with recent risky sexual behaviors (i.e. unprotected sex and two or more sexual partners) during the follow-up period of three years (Koletić et al., 2018).

In contrast with these findings, a significant association was found between pornography use and early sexual debut among adolescents and young people, in Ethiopia (Girmay et al., 2019) and Taiwan (H. Lin et al., 2020). Moreover, a recent global systematic review demonstrated the effects of pornography and other sexually explicit online contents on increased sexual risk taking (Fevriasanty et al., 2021). These associations were facilitated by adolescents' stereotypical sexual norms (e.g. males' sexual needs and entitlement). One possible interpretation is that pornography use may not immediately influence EAs' engagement in romantic relationships or risky sexual activities, but accumulates over time, and manifest later in adolescence or adulthood, as suggested by a study with Indonesian adolescents (Yunengsih & Setiawan, 2021).

9.3.1.8 Depression symptoms among sexually active early adolescents

A higher depression score reported by the EAs in the current study was associated with increased odds of both having ever had sexual intercourse and having been engaged in a past or current romantic relationship. In African countries, studies have found that young boys (aged 14–15 years) who had suicidal ideation – coupled with experience of being bullied; or having survived physical fights; or having used alcohol, cigarettes or illicit drugs – reported the highest risk of engaging in early initiation of sex and other risk-related sexual activities (Kushal et al., 2022). Gebeyehu and Mulatie (2021) found that nearly half of young adult patients (18–24 years old) who were hospitalized with mental disorders reported a high level of lifetime engagement in risk-related sexual behaviors. These findings, collectively, tend to coincide with the results of the current study. Nonetheless, the cross-sectional design of the current study limited further assessment of temporal relationships or causality between depression symptoms and sexual risk-taking.

227

9.3.2 Gender norms and knowledge on pregnancy and HIV prevention

9.3.2.1 Knowledge on pregnancy avoidance and HIV prevention

The current study suggests a relatively good knowledge among EAs of pregnancy avoidance and HIV prevention. While the knowledge level was slightly lower for HIV prevention compared to pregnancy avoidance, a strong positive linear correlation existed between the knowledge scores in these two domains. This suggests that the EAs' knowledge on pregnancy prevention may positively influence knowledge on HIV prevention. This may indicate possible increased impacts of SRH education programs addressing knowledge in one area, with spin offs for knowledge in the other area.

A comparison with other studies of EAs' knowledge levels found in the current study is challenging, due to methodological differences and variations in study populations. Nonetheless, my study found in general, higher knowledge levels of EAs on pregnancy and HIV avoidance compared to those in urban GEAS sites in Indonesia (Kågesten et al., 2021). Overall, adolescents in SSA countries appeared to have developed high levels of awareness of HIV, compared to menstruation and other sexually transmitted infections (STIs) (Finlay et al., 2020), mostly likely due to continued high threats of HIV in their countries. However, general awareness of HIV is distinct from actual knowledge of HIV prevention. Using the Demographic and Health Survey (DHS) data, only slightly over 40% of Malawian adolescents and young women aged 15–24 years old demonstrated comprehensive HIV/AIDS knowledge (Mandiwa et al., 2021).

In South Africa, Malga et al. (2018) reported that half of adolescents (12–18 years) were able to identify unprotected sexual intercourse as a risk factor for HIV and teenage pregnancy. In the Eastern Cape province, while less than half of adolescents and youth (15–24 years) reported correct HIV knowledge, nearly 80% had used a condom at their last sex (Shamu et al., 2020).

Compared to the recent data from South Africa, the current study indicates better levels of knowledge on pregnancy avoidance and HIV prevention among EAs, despite their young age. This may be related to EAs in urban Cape Town having better access to information or education at schools – or there being better availability of adolescent SRH services in this region – than

228

their counterparts in rural communities, as previously found in Ethiopia (Habte et al., 2022) or Laos PDR (Thongmixay et al., 2019). However, the current study could not make a rural-urban comparison, given that the samples were exclusively selected from urban areas.

9.3.2.2 Utilization of contraceptives

The current study provides valuable information on the prevalence and future intentions of contraceptive use among EAs. The results show that around two-thirds of sexually active EAs reported using a contraceptive method (modern or traditional) at the first-time sex, with use of the male condom most commonly reported. This is promising, as the EAs are likely having intermittent sex, for which condoms are an appropriate method. A recent study in South Africa, with over 80% black South Africans, confirmed this finding; with over 80% of adolescents aged 15–18 years reporting awareness of condom use as being the most popular method of HIV prevention (Agaku et al., 2022). However, an important gap exists between awareness and actual application, given that in the same study 35% of adolescents who had been sexually active in the past year reported inconsistent or sporadic condom use.

Few studies have examined the prevalence of contraceptive use, or unmet needs for family planning, among EAs. The current study revealed a relatively high contraceptive use among sexually active EAs, compared to previous studies on adolescents or youths. A multi-country analysis of household survey data[39] from 90 LMICs estimated that nearly 32% of over 830,000 sexually active adolescents aged 15–19 years were reportedly using modern contraceptives between 2000-2017 (Li et al., 2020). This rate had increased from 17.8% in 2000-2006 to 27.2% in 2013-2017 among the adolescents of the same age category. In Rwanda, approximately 17% of 539 sexually active adolescent girls (15–19 years old) used modern contraceptives according to Rwanda DHS in 2020 (Kawuki et al., 2022). It should be noted that these household surveys exclusively asked about modern contraceptive use, while the current study also asked about traditional methods, including withdrawal or a rhythm method. However, none of the sexually active EAs in my study reported using a traditional method of contraception.

---

[39] Demographic and Health Survey (DHS) and multiple indicator cluster surveys (MICS) conducted between 2000 and 2017.

229

In this current study, 40% of EAs, especially those aged 14 years old, reported a high expectation or intention to initiate sexual intercourse in the next 12 months. Of those, nearly 80% wished to use a contraceptive method. This reconfirms that the period of EA is a unique window of opportunity for comprehensive sexuality education that provides information on pregnancy or HIV prevention.

9.3.2.3 Gender norms and sexual and reproductive health knowledge

The results found that three gender norm scores were significantly associated with increased scores for knowledge on HIV and pregnancy prevention. GASRH was positively associated with the knowledge on pregnancy avoidance; and ARE and SDS were positively associated with an increased knowledge on HIV prevention. As previously reported, EAs' greater endorsement of these stereotypical sexual or romantic norms increased the odds of having initiated sexual intercourse or having engaged in a romantic relationship.

This is a favorable finding, given that if EAs become sexually active or are in a romantic relationship, it would be best to have improved HIV and pregnancy prevention knowledge. The cross-cutting nature of this study restricted better understanding of the reasons why those with these norms had better knowledge of HIV prevention. However, these results highlight possible lower knowledge levels of pregnancy avoidance and HIV prevention among EAs who had never been in a romantic relationship or who expressed more conservative views in initiating sexual intercourse. Therefore, it underscores the importance of targeting EAs with SRH education and information programs prior to them engaging in romantic relationships or sexual activities.

On the other hand, Yakubu and Salisu (2018) identified unequal gender power relations as a predictor for increased adolescent pregnancies in SSA, mediated by various factors across the socio-ecological model.[40] Similarly, in Uganda (Nalukwago et al., 2019), South Africa, Lesotho (Aventin, Rabie, et al., 2021), and Zambia (Svanemyr, 2020), stereotypical gender views among adolescent girls appeared to impede condom or other modern contraceptive use and undermine their behaviors to prevent early pregnancy, STIs or HIV.

---

[40] These factors included: socio-cultural, environmental, economic, individual, and health service-related factors.

In contrast to the previous results, this study in Cape Town identified stereotypical ARE and SDS as determinants of increased knowledge of HIV prevention; and GASRH as a determinant of higher levels of knowledge on pregnancy avoidance. The comparison of these findings is proven to be complex, given that my study used knowledge scores, while other studies commonly assessed behaviors to prevent early pregnancy or HIV. Additionally, these knowledge scores of pregnancy or HIV prevention were also influenced by other covariates in the socio-ecological model, which are discussed in the following sub-sections.

9.3.2.4 Individual factors that affect early adolescents' sexual and reproductive health knowledge

At the individual level, girls reported a significantly higher knowledge score on pregnancy avoidance, compared to boys. EAs' age appeared to positively influence their HIV prevention knowledge, with a higher score among those aged 14 years than those between 11and 13 years old. These findings of the current study are in line with the results from a study across SSA countries, which found older age significantly associated with an increased HIV knowledge (Finlay et al., 2020). This aligns itself with 14-year-olds having more experience of romantic relationships and sexual activity than their younger counterparts. A focus should be on designing age-appropriate interventions that promote better understanding and knowledge acquisition of SRH.

As described in (Govender et al., 2019a) in KwaZulu-Natal, many teenage mothers felt that preventing pregnancies was their responsibility rather than their male partner's, probably affected by traditional, male-dominated gender power relationships. This may be applicable to the current study setting, where girls might have proactively sought information on pregnancy avoidance, and hence demonstrated a higher knowledge level than their male counterparts. Another explanation may be linked to the result that girls were more likely to report that their (mostly female) peers considered studying hard important and had higher educational aspirations than boys. Several studies found that adolescents' high educational or career aspirations may be protective factors for SRH risk behaviors, such as substance use and other problematic behaviors (Graham & Pozuelo, 2022) or pregnancy avoidance among girls (Ribas, 2021).

231

9.3.2.5 Family factors that affect early adolescents' sexual and reproductive health knoweldge

Some family factors related to caregivers appeared to influence EAs' knowledge levels of pregnancy and HIV prevention. EAs who reported that their parents were aware of their school performance, outside activities, and that their parents knew their friends by name reported a significantly increased knowledge of pregnancy. Additionally, EAs who reported that their parents were divorced, and those who lived only with their mothers, reported significantly higher HIV prevention knowledge, while those who lived with their father only, or with others (neither mother nor father), reported a reduced HIV knowledge.

A better understanding of the pathways behind findings from the current study would require further investigation. For example, a higher knowledge level of pregnancy or HIV prevention among those who live with their mothers only seems to indicate a positive role that mothers could play in improving EAs' SRH knowledge, especially if they live with only one parent. It should be noted that in the current study setting, it was commonly observed that those who lived with just one parent were most likely to live with their mother than their father.

As shown by this study, EAs' high acceptance of having open conversations with their parents about general matters that concern them, or about their physical changes, provides an opportunity to involve parents as actors in promoting positive developments in their children's SRH knowledge and behaviors. Past studies have found that lack of parent-child communication on SRH issues was among the factors that negatively affect early pregnancy (Kassa et al., 2018), or condom use at first-time sex (Ayalew et al., 2014). Coupled with lack of parent-child communication, Ezenwaka et al. (2020) also identified negative attitudes of parents toward their children's sexuality education as a barrier to encouraging contraceptive use among adolescents. However, these previous studies measured the positive effects of parent-child communication on actual behaviors, not on the knowledge level among EAs, as was the case in the current study. Factors that may impede parent-child communication on SRH issues (e.g. parents' sexuality norms, absence of mother, lack of parents' awareness of children), and how these could negatively affect EAs' SRH knowledge, would require further investigation.

232

9.3.2.6 Media factors and early adolescents' sexual and reproductive health knowledge

In the current study, none of the ICT or media factors were identified as significantly associated with the scores for pregnancy avoidance or HIV prevention knowledge. Conversely, the results from a multi-country study in LMICs identified access to mobile phones and social media as contributing factors for modern contraceptive use among adolescents (Chandra-Mouli et al., 2014). In a recent study in the Eastern Cape province, young people (18–24 years old) who reported a higher HIV knowledge score[41] used radio or television, print media, and WhatsApp as information sources, whereas those less likely to use social media reported lower HIV knowledge (Shamu et al., 2020). The differences in findings from the current study may be due to the age differences in the study populations. EAs may not yet use ICT or media for the purpose of learning about SRH issues, such as pregnancy or HIV prevention. It may also be that more educational materials or online resources are available for older adolescents, than for EAs.

9.3.2.7 Knowledge of where to obtain contraceptives

The conceptual model of this study (see section 2.7) incorporates Heise et al.'s (2019) gender health and system model (2019) into Bronfenbrenner's socio-ecological model (1979) (Bronfenbrenner, 2004, 2016). As suggested in this model, EAs' access to information or SRH services, knowledge, and behaviors, may be influenced by gender norms and other contextual factors, which could influence their subsequent SRH outcomes. A recent study with adolescents and youth (10–24 years) in rural KwaZulu-Natal also emphasized the application of socio-ecological and behavioral models in holistically assessing barriers for young people's utilization of SRH services (Ngwenya et al., 2020).

The current study did not ask specific questions related to EAs' access to and utilization of SRH services. However, the results suggest that EAs' knowledge on where to obtain contraceptives, and their perception that peers (both girls and boys) in their community also knew where to obtain them, were positively associated with an increased knowledge on pregnancy avoidance.

---

[41] HIV knowle
dge was measured by five questions, including the use of a condom in every round of sex.

These variables can be considered as a proxy for access to, or availability of, SRH services and information for EAs in their communities. Hence, a higher pregnancy avoidance knowledge score may align itself with knowledge of where to obtain contraceptives. Concordant with these results, studies have found that a lack of SRH information sources (Ahinkorah, 2020a) and limited availability of adolescent-friendly contraceptive services (Nkani & Bhana, 2016) were barriers to adolescents' knowledge and utilization of modern contraceptives.

Based on this current study, there is need to further assess health-service related factors, such as cost of contraceptives, waiting time, distance to travel, privacy, availability of skilled health workers, and provision of adolescent-friendly services to EAs (Yakubu & Salisu, 2018).

9.3.2.8 Exposure to peer violence and knowledge on pregnancy avoidance

Finally, this study offers new insights into the association between EAs' exposure to peer violence (bullying or physical fights) and their knowledge levels of pregnancy avoidance. EAs who reportedly were survivors of and/or perpetrated peer violence during the six months prior to the survey reported a significantly lower level of knowledge on pregnancy avoidance compared to those who did not report peer violence. On the other hand, those who had reportedly intervened to stop or mediate peer violence, reported a significantly increased pregnancy prevention knowledge score than those who had never intervened. Those who had perpetrated peer violence, but had not been a survivor of it, reported the lowest level of pregnancy avoidance knowledge.

These results may suggest several possible interpretations. Firstly, EAs who had recently been a survivor of peer violence, reported significantly increased depression symptoms than those who did not report victimization in binary analysis (discussed in sub-section 9.5.3). If this sub-group of the EAs had sought social support or health services to address their depression symptoms, they may also have obtained better access to information on other SRH issues, such as pregnancy avoidance. In addition, those who had been a survivor of peer violence might have had increased risk perceptions, which might have generated a greater need or pressure to self-protect from other risks, such as pregnancy. As reported by Jodele (2016), increased risk perceptions, together with other individual and contextual factors, may indirectly and positively influence adolescents'

234

SRH knowledge and behaviors. A better understanding of these suggestions on possible pathways requires further studies.

Secondly, EAs in this study who had perpetrated peer violence were more likely to report drug use and living with their father only, or with family members other than their parents. Yakubu and Salisu (2018), in a systematic review of literature from SSA, identified alcohol misuse and substance abuse among factors that may increase the risk of adolescent pregnancy. However, these associations were not clear cut, as they interacted with individual, socio-cultural, economic, environmental, and health service-related factors.

Finally, although not assessed in this study, EAs who reported the intention to intervene in peer violence may have had greater empathy and sense of responsibility than those who did not. Bystander intervention against violent events consists of several key elements, including being sensitive to a problem in the environment and developing the skills or knowledge to be able to take an action or intervene (Blayney et al., 2021). These bystander principles have recently been introduced in school-based settings, to reduce adolescent vulnerabilities. These common, positive bystander attitudes were not investigated in my study and are worthy of further research.

9.4 Violence, adverse childhood events, and gender norms

This section of Chapter 9 interprets the main results for RQs 4 and 5 by comparing findings with past literature. The section is divided into three sub-sections. Sub-section 9.4.1 briefly summarizes the overall prevalence of violence, with a focus on peer violence and intimate partner violence (IPV). This part also explains EAs' history of adverse childhood events (ACEs) and types of ACEs they commonly reported. These are compared with previous findings from South Africa and other SSA countries with a similar context. Due to paucity of data specifically on EAs, this includes references to literature or data on adolescents or young people. Sub-section 9.4.2 addresses the associations between inequitable gender norms and recent experience of violence (peer violence and IPV). It also discusses main findings on associations between ACEs, gender norms and experience of recent violence. Followed by this, sub-section 9.4.3 highlights other key risk or protective factors for peer violence and IPV, identified across the socio-ecological model.

235

9.4.1 Overall prevalence of peer violence, intimate partner violence, and adverse childhood events

9.4.1.1 Peer violence and intimate partner violence among early adolescents

This study contributes to the existing evidence base by providing key data on the prevalence of peer violence and IPV among a subgroup of early adolescents (EA) from low-income socio-economic neighborhoods in urban Cape Town. Results show that the overall prevalence of peer violence perpetration during the six months prior to the survey was approximately 28%, while nearly 60% of EAs reported peer violence victimization during the same period. Boys were significantly more likely to perpetrate peer violence and, also, become a victim of the same type of violence.

These results are similar to a study conducted with older adolescents in the three South African townships of Khayelitsha, Soweto, and Thembisa, which found that male learners in grades 9–11 were more likely than female learners to report peer violence victimization (physical or verbal aggression) in schools (Kutywayo et al., 2022). On the other hand, girls were more likely than boys to report safety issues while commuting to or from schools.

The current study revealed a relatively high prevalence of IPV, considering their young age. Approximately 28% of EAs reported having perpetrated IPV and 37% reported IPV victimization in their current romantic relationship. Surprisingly, boys were significantly more likely to report IPV victimization by a current partner than girls. This is discussed in sub-section 9.4.5. The prevalence of IPV reported in the current research was higher than that reported by Mthembu et al. (2021), which showed a lifetime IPV prevalence in 2017 of 13% among South African older adolescents and young women aged 15–24 years, with higher odds for those from urban areas or low-income socio-economic households. The prevalence and types of adverse childhood events.

9.4.1.2 The prevalence and types of adverse childhood events

The results showed an extremely high prevalence of ACEs. Slightly over 92% reported having experienced at least one ACE and approximately 40% experienced five or more ACEs. The prevalence of ACEs reported in the current study was slightly higher than the findings from the other studies in the region, including South Africa. In the SSA region, approximately 57% of girls and 72% of boys between 13 and 17 years old reportedly experienced physical violence in childhood, and one-quarter of children experienced emotional violence in childhood (Big Win Philanthropy, 2018). Although the ACE measures used were slightly different and the current study population was younger (11–14 years old), the current study found a much higher prevalence of emotional or physical neglects, which were reported by nearly 60% of the EAs.

In South Africa, a recent longitudinal study in Soweto (Birth20+) reported that 88% of a large sample of young South Africans (aged 22–23 years) retrospectively reported at least one ACE, using similar measures[42] to the current study (Manyema & Richter, 2019). The current study also found a higher prevalence of childhood emotional and physical neglect compared to a longitudinal study in Soweto, South Africa (Manyema & Richter, 2019), which reported parents' unemployment (43%) as the most common ACE, with approximately 30% reporting emotional abuse, parental death and family member's substance abuse. Even compared with the same study population (urban EAs) from GEAS's Indonesian sites, the current study reported a significantly higher prevalence of ACEs. Among the Indonesian EAs, 80% reported at least one ACE and less than 20% reported five or more ACEs (Blum, Li, et al., 2019). The current study also revealed a much higher prevalence of ACEs related to abuse or violence and household instability, than the GEAS's multi-country analysis.

The higher prevalence of ACEs found in this study, compared to other GEAS sites, is linked to heightened social risks and disparities, insecurity in communities, and absence of parents – common challenges faced by EAs in South Africa. For instance, half of the EAs in the current study were not living with both parents, while 90% of the Indonesian EAs were reportedly living with both parents. Only between 20% and 30% of EAs in Indonesia reported that they had felt

---

[42] The current study used 11 items of ACEs, adapted from the GEAS's questionnaires which was developed based on the CDC-Kaiser Permanente adverse childhood experiences study, conducted from 1995 to 1997.

threatened in the community and school (Blum, Li, et al., 2019), whereas a slightly over half of the EAs in Cape Town reported such experiences.

Finally, the ACE of physical neglect was mildly correlated with anxiety or depression in family members. This probably makes sense, as parents' depression symptoms may negatively affect their parenting or childcare capacities and could result in neglect of their children. Moreover, witnessing domestic violence during childhood has been correlated with depression and substance abuse in family members, which likely suggests linkages between substance abuse and depression, and domestic violence.

9.4.1.3 Sex differences in intimate partner violence perpetration and victimization

The risk or protective factors identified in the socio-ecological model were distinct for peer violence perpetration and victimization and are worth highlighting in this section. Firstly, girls were significantly less likely to report IPV victimization, while more likely to report IPV perpetration than boys during the previous 12 months. The significant difference in IPV perpetration by sex was surprising, given that most of the previous studies that surveyed IPV among adolescents have found a higher IPV perpetration rate among boys than girls. For instance, among a large sample of school-attending adolescents (mean age: 13.7 years) from the Western Cape province, South Africa, boys were more likely to be a perpetrator and a victim of sexual IPV, compared to girls (Pöllänen et al., 2021). Similarly, Mahendra et al. (2021) in an analysis of the urban Indonesian GEAS data illustrated that boys (10–14 years old) were significantly more likely to report attitudes that justified or endorsed the gender-based violence, compared to girls.

Secondly, the current analysis suggested that boys were significantly more likely to report IPV victimization than girls. A higher perception of a power imbalance relationship score reported by the boys in favor of girls may have increased their vulnerabilities to IPV victimization by the current partner. O'Connor et al.'s (2022) multi-country analysis found that biological sex was not a single determinant of the sex difference in the IPV perpetration but was mediated by gender disparities in an intimate partnership (e.g. education or income) and traditional gender beliefs by men or women.

238

Another important finding from the current study was the strong correlation between IPV perpetration and victimization in ongoing romantic relationships, reported by the EAs, during the six months prior to the survey. Pöllänen et al. (2021) reported a similar finding to the one in this study, that among adolescent learners in Western Cape, South Africa, over 65% boys and 76% of girls who had perpetrated sexual IPV had also been a victim of the same type of IPV. Even though these studies used different IPV parameters (physical vs sexual IPV), it suggests co-occurrence of IPV perpetration and victimization in adolescents' romantic relationships. IPV as a self-defense to a violence that was perpetrated by their partner, requires further research.

Regarding the sex-difference in IPV perpetration, despite the scarcity of studies focused on adolescents, a systematic review of articles between 1997 and 2016 in China revealed that both adult women and men may perpetrate IPV at a similar rate (Breckenridge et al., 2019). There was a substantial psychological or physical perpetration prevalence, with a higher rate for women compared to men. On the other hand, men were more likely to perpetrate sexual violence than women. Albeit outdated data, specifically from the USA, Carney et al. (2007) found that adolescent girls and adult women may be more likely to perpetrate physical IPV or aggression against their male partners, compared to males perpetrating the same type of violence to their female partners. Comparing the IPV perpetration rate by sex is challenging, given that many studies excluded males or adolescent boys and only focus on females, or do not consider females perpetrating IPV as a self-defense action to a violent act that was perpetrated by their male partner (Breckenridge et al., 2019). The latter may be the case, although this was not investigated in the current study.

9.4.2 Gender norms, violence, and adverse childhood events

9.4.2.1 Gender norms and adverse childhood events

This analysis revealed multi-faceted negative impacts of ACEs on gender norms and violence perpetration among EAs. Those who were exposed to an increased number of ACEs tended to report a higher score (or less equal gender norms) for GSV and GST, as well on the GASRH score – or more openness to having sexual intercourse. These results were similar to those from other studies. In Ethiopia, EAs (aged 10–12 years) who reported inequitable gender norms were

more likely to have experienced physical or psychological violence in their households in the past year, as part of the ACEs (Murphy et al., 2021).

Other research also identified gender stereotypical views or roles, and masculinity-oriented sexual norms among adolescents as key risk factors for increased violence perpetration, including IPV (McCarthy et al., 2018; Memiah et al., 2021; O'Connor et al., 2022) and other gender-based violence (Hoosen et al., 2022). A recent study in Eastern African countries (Burundi, Kenya, Rwanda, Tanzania, and Uganda), among adolescent girls and young women (15–24 years) who justified their male partners' abuse, reported higher odds of having been a survivor of IPV than those who did not endorse such a belief (Memiah et al., 2021). Mahendra et al. (2021), using GEAS's data from urban Indonesian sites, also showed that EAs who reported unequitable gender norms were more likely to endorse attitudes that favored gender-based violence. However, these associations are multi-factorial, mediated by other factors such as having been threatened in their school or community, past experience of violence, access to pornography, and a history of more than five ACEs.

Regarding the association between ACEs and violence, the current study revealed significantly higher odds of peer violence perpetration and victimization among the EAs who reported five or more ACEs. For peer violence victimization, exposure to both three to four and five or more ACEs was a significant risk factor, although the odds ratio was higher for those who reported five or more ACEs. Across the GEAS sites in other countries, similar results were reported (Blum, Li, et al., 2019; Ramaiya et al., 2021).

9.4.2.2 Relative effects on peer violence of adverse childhood events compared to gender norms

One of the most striking findings of this study was the relatively high weight of ACEs' effect on increased peer violence perpetration and victimization, compared with the effects of unequal gender norms on peer violence. A reported history of five or more ACEs increased the odds of peer violence perpetration by nearly four times, with statistical significance. This can possibly be explained by the partial mediating effects of gender norms (gender stereotypical views) on the association between ACEs and peer violence perpetration, found in this study. The mediation

240

analysis suggested that the EAs who reported an increased history of ACEs was more likely to have developed unequal gender stereotypical views, or vice versa, which might have resulted in higher odds of perpetrating peer violence. Further research is required to better understand the relative risks of ACEs on different negative outcomes for adolescents, including gender norms and violence, and the causal relationships (Steptoe et al., 2019).

This study contributes a new body of knowledge on the association between the history of ACEs and recent exposure to violence among the EAs. Two types of ACEs – witnessing domestic violence and childhood physical neglect – significantly increased the odds of peer violence perpetration during the previous six months. These findings were consistent with the results from a large, randomized control trial with Grade 6 school-going adolescents in Pakistan (Ali et al., 2017). Those having ever experienced domestic violence[43] were more likely to develop patriarchal gender attitudes, which contributed to increased peer violence perpetration (both for boys and girls) and victimization (for boys).

In South Africa, young men (average age of 26 years) who reported childhood sexual abuse have reported a significantly higher prevalence of IPV perpetration with their current female partner than those who had never experienced such abuse (Teitelman et al., 2017). However, these associations between specific types of ACEs and increased violence were not isolated, but were influenced by other factors in the socio-ecological model, such as binge drinking and unemployment.

9.4.2.3 Exposure to intimate partner violence, gender norms, and adverse childhood events

This study identified significant associations between ACEs and IPV. The findings indicate a similar but distinct nature of these two types of violence among the EAs. Unequal gender stereotypical views (GSV) were significantly associated with reduced odds of IPV victimization by the current intimate partner. Although the study population and IPV measures used were different, Gibbs et al. (2020) found a contradictory result among young men (aged 18–24) in Durban, South Africa. While the young men reported a seemingly similar result on IPV across

---

[43] Physical punishment or witnessing domestic violence

241

four domains (psychological, physical, sexual, and economic IPV), those who belonged to the most violent group were more likely to endorse gender stereotypical attitudes that normalized violence, compared to the medium and low IPV groups.

The inverse association between GSV and IPV victimization found in the current study can be interpreted in two different ways. Firstly, in South Africa, sexual coercion in intimate partner relationships has been found to be often normalized by women aged 18–24 years, who have endorsed stereotypical gender norms linked to hegemonic masculinity (Stern et al., 2015). This may suggest a possibility of under-reporting of IPV victimization by the EAs in the current study, especially the girls, and particularly among those who endorsed unequal GSV.

Secondly, those who adhered to traditional, stereotypical gender norms within intimate relationships may have been protected from violent actions by their partner because of their more submissive behavior, compared to those who challenged traditional gender norms. Among young men and women (aged 18–30) in urban informal settlements in South Africa, childhood traumatic events were significantly associated with an increased IPV perpetration among men, and victimization among women (Gibbs, Jewkes, Willan, et al., 2018). These associations were combined with increased substance use and poor mental health. The variations in the findings compared to this study were probably due to the age difference of the study participants and pre-defined outcome variables, which assessed IPV perpetration among men, and IPV victimization among women, exclusively.

9.4.3 Other factors that influence violence among early adolescents

9.4.3.1 Empowerment and drug use, and their effects on violence

Among the individual empowerment scores, a higher voice score was found to be a significant protective factor for IPV victimization reported in this study. Similar results were reported from the GEAS's sites in Indonesia (Kågesten et al., 2021). For example, the EAs in the current study who had not experienced peer violence victimization (physical fighting or bullying) during the previous six months reported greater perceived voice among girls and a high decision-making score among boys. These results suggest potential positive impacts of empowerment

242

interventions with EAs on violence prevention or in the creation of a safe environment in schools.

This study identified the EAs' reported lifetime drug use as a significant risk factor for peer violence perpetration. This association was linked to a history of ACEs, which also led to significantly increased odds of peer violence perpetration. A systematic review and meta-analysis (Hughes et al., 2017) found that experience of multiple ACEs was most significantly associated with problematic drug and alcohol use and inter-personal or self-directed violence, mental illness, and risk-related sexual behaviors. Recent studies with children and adolescents in the USA also confirmed the associations between ACEs, exposure to sexual and physical IPV, and later engagement in risk-related behaviors such as violence and substance use (Garrido et al., 2018) or alcohol misuse (Kiekens et al., 2021). These results, together with the current findings, reveal interlinked associations between various risk behaviors and violence, especially perpetration with peers or in intimate partnerships, among adolescents.

9.4.3.2 Family or household factors that affect EAs' exposure to violence

At the family level of the socio-ecological model, living with a father only or a caregiver other than parents significantly increased the reported peer violence perpetration, compared to those who lived with both parents, or with their mother only. These findings should be interpreted in the context of South Africa, where approximately 43% of households are female-headed (World Bank, 2016), in addition to frequent absence of parents (both mothers and father) reported by adolescents (Mmari et al., 2016; Saville Young et al., 2019). These are attributable to the impact the migrant labor system introduced during colonialism, which continues to affect both female and male caregivers' long-term absence, aggravated by the persistently high mortality rate due to the HIV epidemic (Kara, 2020; Patel & Mavungu, 2016). Moreover, DHS 2016 data from South Africa showed that 64% of South African children were born to single or cohabiting mothers, most likely to be female-headed households (Biney et al., 2021). The Indonesian GEAS data also found that EAs' reported closeness with parents was among the protective factors for peer violence perpetration among a large sample of EAs (Ramaiya et al., 2021). While the current study was restricted by the sample size to conduct a sex-disaggregated analysis, the findings

243

indicate a crucial role that mothers may play in households, in promoting equal gender norms and non-violent acts among EAs.

9.4.3.3 School and community environment and violence

Over half of the EAs in the study had felt threatened or unsafe in communities, in schools or during commuting to or from school, over the previous 12 months. These results were consistent with other studies from South Africa. For example, a large, representative study of South African youth (12–22 years old), found that more than 50% of young males and nearly 50% of females reported feeling unsafe in their communities (De Wet et al., 2018). Half of the adolescents who participated in the Optimus Study reported having ever witnessed a physical fight in their community (Artz et al., 2018). In the townships of Khayelitsha, Soweto, and Thembisa, adolescents faced greater safety concerns: nearly 60% girls and 40% of boys in grades 9–11 felt unsafe during commuting from or to school (Kutywayo et al., 2022).

None of the respondents in the current study reported having ever carried weapons or any other tools. This contrasts with a large-sized sample of high schools in KwaZulu-Natal, where between 10% and 14% of learners reportedly carried a weapon and between 5% and 8% carried a gun to schools during the previous month (Khuzwayo et al., 2020). The study participants in the current study were in primary education rather than high school, which may have affected the difference.

In the school environment, EAs having witnessed violence among peers during the previous six months appeared to significantly increase perpetration of peer violence and IPV. Having been threatened or feeling unsafe in schools or when commuting from or to school significantly increased the odds of reporting peer violence victimization. These results were similar to the results from the GEAS's site in Indonesia, which found feeling threatened in schools increased exposure to peer violence both among boys and girls (Kågesten et al., 2021). A previous study from South Africa found that learners (with an average age of 13 years old) from the Western Cape province who reported disliking school or not considering schooling important had increased odds of perpetrating physical IPV, both among boys and girls (Mason-Jones et al., 2016).

Violence in schools is likely to mirror violent acts or insecurity in communities. Lamb (2019) found positive associations between stronger social cohesion in neighborhoods and reduced interpersonal violence. However, he argues that this association may intersect with other variables, such as family factors, household poverty or deprivation in communities, and social control or the governance mechanisms of existing policies. Considering these past findings, the results from the current study suggest the importance of working holistically to counter violence, with actors at different layers of the socio-ecological model, including families, peers, schools, and communities.

9.4.3.4 Pornography, gender norms, and peer violence

The current study revealed a significant association of EA's use of pornography with peer violence perpetration in the model that included individual factors only. However, this association was no longer statistically significant in the adjusted model for gender norms and other covariates explained above. This result was similar to a recent analysis of GEAS data from Indonesia, which revealed that the lifetime pornography use of EAs was independently associated with an increased endorsement of gender-based violence (GBV) (Mahendra et al., 2021). This association was probably interplayed with or mediated by unequal gender norm scores, which also significantly increased the endorsement of such attitudes.[44] Although in the current study the outcome variable (i.e. recent peer violence perpetration) was different than the that in the Indonesian study, these results suggest the need for longitudinal research to examine how pornography use may lead to increased peer violence perpetration, through possible mediation effects of stereotypical gender norms among EAs.

9.5 Depression symptoms

This section of Chapter 9 discusses key results on the associations between EAs' gender norms and reported depression symptoms when adjusted for other factors such as violence including ACEs, peer violence, and intimate partner violence (IPV). This section corresponds to RQ 6, the final RQ of the current research project. It is structured into five sub-sections. The first sub-

---

[44] Attitudes toward GBV were measured by two questions regarding sanctioning those who challenge the traditional gender roles: "It is okay to tease a girl who acts like a boy" and "It is okay to tease a boy who acts like a girl".

https://etd.uwc.ac.za/

section (9.5.1) restates the overall prevalence of depression symptoms reported by EAs by comparing with previous studies which assessed mental health outcomes of adolescents. The second and third sub-sections (9.5.2 and 9.5.3) interprets the key results on how gender norms were associated with EAs' depression symptoms, and how these associations may change, in conjunction with violence-related variables. The sub-sections 9.5.4 and 9.5.5 highlights other key factors in the socio-ecological model, which appeared to influence the EAs' reported depression symptoms.

9.5.1 The prevalence of depression symptoms among early adolescents

To my knowledge, this is the first study that has assessed the prevalence of depression or anxiety symptoms specifically among EAs in urban, low-income socio-economic neighborhoods of Cape Town. The study revealed an overall high prevalence of depression symptoms, with nearly all EAs (95%) having had at least one depression symptom, and over 41% reporting having experienced two or more symptoms out of the total of six questions asked. The depression score by age was significantly higher for younger participants aged 11–13 than those aged 14. This suggests that the EAs who were in the younger age group may be either more vulnerable to depression symptoms or more likely to report them than their older counterparts, who may have become used to symptoms, or may not wish to report them. This latter possibility may be linked to social desirability or a gendered feature of depression, with reporting of depression considered more acceptable in females than in males.

The comparison of the current data with data from other studies on the prevalence of depression symptoms is challenging, due to variations in the study populations and the measures of depression symptoms. However, among over 1,000 adolescent learners in the metropolitan area of Cape Town (aged 14–15), the prevalence of depression was 41%; much lower than in the current study (Das-Munshi et al., 2016). In Soweto, South Africa, 14% of a small sample of high-risk adolescents aged between 13 and 19 (50% were HIV positive) reported depression symptoms (Buckley et al., 2020). These studies, together with the current research project, confirm that adolescents are at great risk for experiencing depression, anxiety, or mental illness, which already start during the period of EA.

9.5.2 Gender norms and depression symptoms

This study adds new insights to knowledge of the associations between the gender norms and depression symptoms, specifically among EAs. Notably, the findings identified significant associations between three gender norm scores (GSV, GSR, and GASRH) and reported depression symptoms. Firstly, those who reported a greater endorsement of GSV were more likely to report having experienced depression symptoms. In contrast, the GSR score was inversely associated with depression symptoms, suggesting that those who endorsed GSR were less likely to report depression symptoms.

This finding of the association between more equal gender traits or SDS and reduced depression was consistent with the GEAS's sites in urban cities in China, Ecuador, Belgium, and Indonesia (Koenig et al., 2021). In Ethiopia and Bangladesh, individual-level unequal gender attitudes reported by EAs (aged 10–12) significantly increased their mental illness score (Baird et al., 2019). In contrast, those who had more equal perceptions of community-level gender norms in urban areas reported reduced mental illness (Clark et al., 2018).

Regarding the association between unequal GSR and a reduced depression score, similar findings have been reported by a systematic review of previous studies, mostly from high- and middle-income countries (HMICs) (Exner-Cortens et al., 2021). This review revealed that adolescent boys (grades 6–2) who endorsed stereotypical masculinity traits reported fewer depression, anxiety, and panic symptoms. As suggested by Blum et al. (2021), these associations between unequal GSR and reduced depression may indicate that EAs who adhere to the traditional stereotypical gender norms tend to experience less discomforts or stress, compared to those who challenge these norms. An additional aspect that should be considered is the social or peers' sanction or discrimination that EAs may receive, if they challenge and do not behave in conformity to these stereotypical norms (Weber et al., 2019).

In addition to these two gender norm scores, a higher GASRH score, which measured EAs' permissiveness to sexual intercourse, was significantly associated with increased depression symptoms. A possible pathway may be that EAs who reported a higher GASRH score were more

247

likely to have initiated sexual intercourse and have been in a romantic relationship, which subsequently contributed to increased stress or anxiety among them.

9.5.3 Adverse childhood events, gender norms, and depression symptoms

The present study revealed an important association between the history of ACEs and increased depression symptoms among EAs in the adjusted model. Those who experienced five or more ACEs reported the highest number of depression symptoms. Despite significant bilateral associations between EAs' recent experience of peer violence and increased depression symptoms, these associations became rather neutral and non-significant in the adjusted model. This shows a stronger effect of ACEs on the EAs' depression symptoms, even compared to the possible negative effects of recent, and probably ongoing peer violence on their mental issues.

These findings corroborate the results from other GEAS sites from 14 countries (Blum, Li, et al., 2019). Similar to the GEAS's results from rural southwestern Uganda (where 90% of nearly 1,500 participants reported at least one ACE), significant associations were observed between the cumulative number of ACEs experienced and the severity of depression symptoms or illness, and suicide ideation. In peri-urban South Africa, Hatcher et al. (2019) found that witnessing domestic violence during childhood significantly impacted later depression symptoms among young men (aged 18–30) in peri-urban South Africa. In addition, childhood traumatic experiences or maltreatment increased depression symptoms during adulthood.

The current study adds new insights on how gender norm scores may mediate the association between ACEs and depression symptoms. Both gender stereotypical views (GSV score) and GASRH score significantly mediated the association between the history of ACEs and depression symptoms in an adjusted mediation analysis.[45] Results from five GEAS's sites also indicated a mediating role of the gender norms on depression symptoms, with girls more likely to report depression than boys.

---

[45] The mediation analysis was adjusted for the following variables: age, sex, parents' expectation on children's education level, and the number of male friends.

248

9.5.4 Other factors associated with depression symptoms

9.5.4.1 Individual and family-level factors

Using the socio-ecological approach, this analysis identified a few protective factors that influenced the EAs' depression symptoms, in synergy with the gender norm scores mentioned earlier. Firstly, girls were significantly more likely to report an increased number of depression symptoms, when adjusting for the gender norms and other covariates. This finding coincides with a global analysis of a study of adolescents in 73 countries (Campbell et al., 2021). Other studies also found that in a society with prevailing traditional masculinity-oriented norms, boys were less likely to report depression symptoms or seek support to address these issues (Patton, Darmstadt, et al., 2018; Rice et al., 2018). This may also be the case in the current study, given that a significantly higher proportion of boys than girls endorsed traditional GST. These traditional gender norms, characterized by males' toughness, could undermine boys' ability or desire to report depression symptoms and seek appropriate supports.

Secondly, at the family level, EAs whose parents or main caregiver had high expectations for their schooling, especially that they would reach university or post-graduate levels, reported significantly fewer depression symptoms. This suggests that EAs' mental health can be influenced by parents' attitudes related to their children's future education aspirations; probably combined with the EAs' close relationship or more frequent communication with caregivers. Another study has also found a positive association between a closer relationship and better communications with a caregiver and mental health well-being among adolescent females (13–17 years old) in South Africa (Thurman et al., 2020). Yang et al. (2021), in a recent study in China, similarly revealed that family dynamics could determine nearly 90% of the estimated variance in the mental health score reported by adolescents and young people aged 12–23 years. Although this study identified more risk factors than protective factors for EAs' depression symptoms, these protective factors should be considered when designing EA-specific mental health interventions.

9.5.4.2 Peer- and community-level factors associated with depression symptoms

At the peer level, having four or more male friends significantly increased the chances of EAs' reporting more depression symptoms. In the current study, EAs reported the presence of drug dealers or gangsters in their communities as the major reason for unsafety or threats that they may face daily. The current study also illustrated that boys were more likely to hang out with male peers. In addition, as reported by previous studies, boys were found to be more susceptible than girls to their (mostly male) peers' influence or pressures (King et al., 2021; McCoy et al., 2019; Stavropoulou, 2019). Although the difference was statistically insignificant, boys reported a slightly elevated risk of depression symptoms in the current study. These results confirm the findings from a recent meta-analysis, which identified adolescents' resistance to peer pressure as a key skill in protecting their mental health, for instance, their self-efficacy to refuse peer pressures related to drug or alcohol use (Skeen et al., 2019).

At the community-level, EAs who reported having been threatened or having felt scared at school, or while commuting to or from school, were significantly more likely to report an increased depression score. This is probably linked to daily, and constant, threats, violence or unsafety, experienced by adolescents in schools and communities, as revealed in previous studies from South Africa (Kutywayo et al., 2022; Swart et al., 2018). In the Western Cape province, South Africa, cumulative effects were found among secondary school students who reported violence victimization in their proximity (home and school) and exposure to community violence, with increased depression, anxiety, and stress (Sui et al., 2021).

In this study, no significant association was detected between EAs' perceptions of positive social cohesion and reduced depression symptoms. In contrast, in an Ethiopian study, strong social cohesion in the community was found to be a protective factor for adolescent learners' depression, when combined with stronger connectedness with friends at school (Hunduma et al., 2022). Casale et al., (2019) also demonstrated an imperative role of social support mechanisms or resources at multiple levels (including health centers and communities), as protective factors for poor mental health outcomes of South African adolescents living with HIV. In the absence of protective environments, these positive social cohesion or support systems, at multiple levels, appeared to contribute to building more resilience and coping mechanisms to optimize

adolescents' mental health. The next sub-section summarizes key strengths and limitation of the current study.

9.6   Strengths and limitations of this study

9.6.1. Strengths

Firstly, this study has explored, in great depth, perceived gender norms and their effects on SRH knowledge and behaviors, violence, and depression symptoms among EAs in urban, deprived areas of Cape Town, South Africa. To my knowledge, this is the first study that has identified factors that are associated with EAs' gender norm perceptions across the socio-ecological model: individual, family, peers, schools, communities, and the media. This analysis, therefore, provides a holistic understanding of EAs' gender socialization processes, interacting with different actors. The use of uniform key aspects in questionnaires across the GEAS sites, validated in the local context, facilitated a cross-country comparison of some of the results between the EAs in Cape Town and those living in similar contexts (urban areas with low socio-economic status) in different countries.

Secondly, the current research applied the established gender norm measures that were validated with EAs in over 14 countries by the larger GEAS. The analysis allowed me to identify new gender norm scores that may be appropriately incorporated into the Cape Town data collection and analysis. As identified by Moreau et al. (2019), while the GEAS's composite gender norm scores have facilitated cross-country comparison, there might be limitations, if these were not adjusted to the local socio-cultural contexts or gender concepts. Using context-specific gender norm measures with this study population allowed me to measure various dimensions of EAs' gender norm scores that were not captured by the GEAS's standard measures. Furthermore, it helped me to analyze and compare how different gender norm spheres play different roles in shaping EAs' SRH knowledge and behaviors, violence, and depression.

In addition, this PhD research project explored how EAs' perceptions of stereotypical gender norms might influence their SRH behaviors and knowledge, their exposure to violence, and their depression symptoms. To my knowledge, the Cape Town study was the first across the GEAS's

sites that analyzed potential associations between gender norms and EAs' reported romantic and sexual relationships, as well as their knowledge of pregnancy and HIV prevention. Applying a gendered lens throughout the analysis and across different outcome areas, enabled rich knowledge on how different gender norm scores may affect EAs' SRH outcomes, mediated by other factors in the socio-ecological model. The large scope of the data analysis (from SRH knowledge to violence and depression symptoms) also permitted me to compare and link the results across the outcome measures, to gain further insights on how gender norms may play a cross-cutting role in facilitating EAs' health outcomes. These results offer important insights that can be utilized for developing further research and formulating context-specific policies and programs that promote positive gender transformation and improved SRH knowledge, and facilitate prevention of violence or depression among EAs.

Finally, the use of multiple outcome variables related to the EAs' exposure to violence is an added value of this study. In addition, EAs' recent exposure to peer violence and IPV (within the six months prior to the survey), and the links between this and reported history of ACEs are novel findings. Measuring the ACEs is complex, due to the lack of uniformity in definitions of the period of "childhood" and, if questioned as adults, a potential recall bias linked to retrospective reporting. An advantage of this study is that the study population comprised EAs, reporting their recent experiences of ACEs, which minimized possible recall bias. Furthermore, despite the cross-sectional design of the current research, I was able to assess EAs' exposure to violence at two different time points: lifetime ACEs, including during their childhood, and more recent exposure.

9.6.2 Limitations

Several limitations need to be considered when interpreting the results of this study. First, the study used a cross-sectional design, which limited establishing a time-effect or causal relationships. This also restricted obtaining an optimal understanding of the pathways through which different factors in the socio-ecological model may influence EAs' gender norm constructions or socialization. As demonstrated by this study, gender socialization during EA is a complex process, with EAs interacting with various actors or at various levels in the socio-ecological model. It is also a dynamic and continuous process throughout adulthood, although

252

the period of EA is the most critical period, as explained previously. A longitudinal phase of the study, which would follow up the same cohort of EAs, could capture greater insights into the evolving gender norm construction process from early adolescence, through middle and late adolescence. The advent of the COVID-19 pandemic and a lack of research funding for the Cape Town site meant it was impossible to continue with a longitudinal study. However, to provide further insights into EA gender norm socialization and construction processes, it would be of great value to collect longitudinal data in the future.

Second, the overall sample size of the current study was relatively small, especially when variables such as IPV and the power imbalance score were used in the analysis. This was because these questions were only asked to those who were in a romantic relationship at the time of the survey. This also limited disaggregated analyses, such as by sex or age categories, which might have been important when responding to some of the research questions. Moreover, comparing the results from this study with those from other GEAS sites was not always possible, as most of the sites in other countries collected data from a significantly larger sample size than in this study. Although similar measures were used across GEAS sites to seek standardization, site-specific questions were also included to allow adaptation to relevant local settings.

The third limitation is linked to analysis methods used in the current project. The conceptual model of the study was built on the hypothesis that EAs' gender norm construction may be influenced by multiple levels in the socio-ecological model, from the most proximate levels (e.g. individual, family, peers) to the most distal (e.g. communities and media). Even though a limited number of covariates were selected, based on the literature review and exploratory analyses, because the model included factors from each layer of the socio-ecological model, a large number of covariates were retained in the final regression models. This, coupled with the cross-sectional design of this study, did not allow me to gain further insights into how these covariates may interplay each other in influencing the EAs' gender norm constructions. Future research should further assess possible interactions, mediation, and confounding and/or effect modifications among the covariates identified in the final analysis.

Fourth, this study used an epidemiologic approach, which relied on the statistical significance for the selection of covariates, reporting the final results. This might have introduced possible

omission errors. For instance, for only three out of the seven gender norm scores, my analysis was able to identify the multivariate linear regression models that could estimate between 20% and 30% of the variance, an acceptable standard for social science research. This presented a challenge in capturing other predictors of the gender norm scores, which may not have shown a statistical significance, but needed to be considered for its theoretical relevance, based on the sociological approach or findings from the previous studies.

A fifth limitation is related to the composite gender norm scores developed by the larger GEAS, for its multi-country sites. These gender norm scores were important to quantify EAs' gender norms, measuring a complexity in gender concepts that are appropriate for EAs in a comprehensive way. Yet, these measures constitute a challenge for quantitative researchers, who rely on composite indices or mean scores which were developed for different GEAS's sites, without being adjusted fully to the local context. For this reason, in the current study, I constructed three new gender norms, using data reduction methods.[46] However, these scores were "a-theoretically" constructed, not based on a qualitative analysis of "what makes sense" in the local context, or on gender norm concepts among the EAs. This was why, within the same gender norm score developed through this analysis, various parameters or domains were mixed, from individual views on gender stereotypical roles, or diverse sexual orientation, to community's perceptions on gender dynamics. Further analysis or critique of these gender norm measures used in this thesis will be addressed in a forthcoming paper to be submitted for consideration for publication in a journal.

Another, sixth, important limitation is potential social desirability bias. Some of the questions asked in this study, such as sexual activity and experience of ACEs or violence, were sensitive in nature. Although participants self-administered the questionnaire in a confidential manner, there might have been residual risk of a reporting bias, including social desirability (e.g. over-reporting equal gender norms) or recall bias (e.g. under-reporting experience of childhood adversity). These different types of reporting biases might have resulted in a selection or misclassification

---

[46] Principal component analysis (PCA) and factor explanatory analysis (FEA)

254

bias, leading to potential over- or under-estimation of the outcome variables or other covariates of interests.

Related to the selection bias, when the key characteristics of two samples (complete vs incomplete cases)[47] were compared for gender norm scores, a significant difference was observed in some of the key characteristics of the EAs. For example, the sample that included both complete and incomplete cases for the GASRH score was significantly more likely to be girls than the sample with the complete cases only, indicating a lower response rate of the girls than boys, in general. EAs who were 14 years old were also significantly more likely to belong to the complete cases' sample, compared with those aged between 11 and 13. This may indicate that older EAs had a better level of comprehension of the questionnaires and longer attention span than did the younger ones. To mitigate this risk, I compared the final linear regression models for gender norm scores and found little difference between the complete cases only, and complete/incomplete cases. However, future research should consider how to better treat missing observations in the analysis, to minimize selection bias.

A seventh limitation is that in this study, peer violence perpetration and victimization were measured by pre-defined categories of verbal violence (teasing), bullying, and physical fights. There may be other forms of violence that were not included in the questionnaire, which could have led to an under-estimation of the prevalence of peer violence. Furthermore, we could not assess poly-victimization of violence among the EAs, which is reportedly common in South African children and adolescents (Herrero Romero et al., 2021). A further challenge was measuring EAs' experiences of ACEs. In the GEAS's questionnaires adapted to the Cape Town site, questions related to ACEs were measured by asking EAs' lifetime experience of ACEs since childhood, without a precise reporting period. There may have been cases in which the EAs were exposed to ACEs and peer violence or IPV simultaneously, while this study did not distinguish the time lapse between ACEs and recent peer violence or IPV (during the previous 12 months).

---

[47] Complete cases were the EAs who provided a valid response to all the variables that constituted a particular gender norm score, while incomplete cases provided a valid response to at least one of the variables, but not all of them.

Lastly, the generalizability of the current results is limited to urban, low socio-economic settings within South Africa or other HMICs with economic and social inequity. There are also limitations to representativeness, based on socio-economic class and geography, given that this study sampled EAs who were attending schools in urban, socio-economically disadvantaged neighborhoods. In addition, due to the unexpected suspension of data collection, linked to the onset of the COVID-19 pandemic, our sample was skewed towards a higher proportion of female participants than males, and to the older age group (14 years old) rather than younger EAs (12–13 years old). The unbalanced sample may have introduced some bias in our results, which should be considered when applying the current results beyond this study population or context.

9.7 Conclusion

This chapter aimed to discuss and interpret key results from this PhD research project. The results showed that EAs' gender norm constructions were influenced by factors across the socio-ecological model. The protective or risk factors for the development of stereotypical gender norms varied by gender norm scores used in the analysis, which measured different domains of the gender norms. In addition, this study revealed that different gender norm scores influenced EAs' romantic relationships, sexual activities, and knowledge of pregnancy or HIV prevention in different directions. These associations were not independent but influenced by other covariates in the socio-ecological model, such as individual, family, peer, school, community, and media factors.

Another key result was the significant and multiple effects of ACEs on EAs' recent exposure to peer violence or IPV, which might have superseded the effects of unequal gender norms on these experience of violence. Finally, the association between depression symptoms and the gender norm scores was found to be complex. Depending on the type of gender norm scores, EAs' unequal perceptions of gender norms could be either protective or a risk factor for EAs' depression symptoms. I concluded that these differences might have been due to a degree of social sanction or peer pressure on those who challenge the traditional gender norms. Building on the discussion and the limitations of the study, the next and final chapter of this thesis will discuss policy, program, and research implications, and key recommendations.

CHAPTER TEN: IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSION

The overall goal of this PhD thesis project was to examine how gender norms were constructed, based on factors operating at different levels of the socio-ecological model among a sub-set of early adolescents (EAs) aged 11–14 years in low socio-economic, urban neighborhoods in Cape Town, South Africa. To achieve this goal, data from a cross-sectional quantitative study, collected from eligible EAs attending 11 public schools in Cape Town, were extensively analyzed, based on six research questions. This final chapter of the thesis discusses practical implications related to the study's key findings and limitations. These implications are divided into three main areas: policy, programs, and research. The chapter concludes by recommending short- and medium-term policy and programmatic actions in this post COVID-19 pandemic period.

10.1 Policy, program, and research implications and recommendations

10.1.1 Policy implications and recommendations

South Africa's legislative framework since the advent of democracy in 1994 has supported a rights-based approach to sexual and reproductive health (SRH), aligned with the 1994 International Conference on Population and Development (ICPD), 1995 Beijing conference on women,[48] and the Sustainable Development Goals (SDGs) (Cooper et al., 2016). The National Adolescent and Youth Health Policy 2017 (South African National Department of Health, 2017) aims for a practical approach to health programming in priority areas such as adolescent-friendly services, and prevention of drug and substance abuse, HIV/AIDS and early pregnancy, mental illness, and violence (Toska et al., 2019). However, a review of the policy documents related to adolescent sexual and reproductive health (ASRH) in South Africa reveals that gender aspects

---

[48] The Fourth World Conference on Women: Action for Equality, Development and Peace was the name given for a conference convened by the United Nations during 4–15 September 1995 in Beijing, China.

were largely defined in terms of sex differences, with limited consideration for focusing on gender as a social construct and gender inequality and its structural causes (Jacobs et al., 2021). To address some of these gaps, this final chapter identifies key policy implications and recommendations to improve adolescents' sexual and reproductive health.

Firstly, the current study highlights the urgent attention needed from lawmakers at local, national, and regional levels to analyze and integrate the social determinants of ASRH (e.g. education, socio-economic status, and race, given South Africa's historic context) into the legislative framework (Biermann et al., 2021; WHO, 2005). Key contextual or structural factors that affect EAs' unequal gender norms identified in the current study, shed light on necessary policy reforms or recommendations for the integration of gender-transformative strategies into different policy and strategic documents related to EAs and ASRH in South Africa. These policies include those related to prevention of violence or early pregnancies, mental health, and school safety in South Africa (Toska et al., 2019). To enable the institutionalization of gender-transformative interventions, it is urgent to concretely strengthen existing policies related to EAs' health and well-being.

Secondly, the findings of this study also help policymakers prioritize the areas of cross-cutting interventions and target populations – the EAs who are the most "left behind" – in budget allocations and policy implementation. Dedicated human and financial resources will contribute to the sustainability of the interventions and strengthen the state's accountability (Pérez-Martínez et al., 2021).

In South Africa, as part of its post-apartheid curriculum transformation, a Life Orientation program was introduced into the national education curriculum in 2005 (Abraham, 2006; Department of Basic Education, 2011; Rooth, 2005). However, the effectiveness of the program in improving ASRH, including early pregnancy prevention, appears to be a key challenge. Previous studies suggest key reasons such as a lack of context-specific curricula or pedagogies, low students' motivation, cultural taboos on sex education, and parents' criticisms of discussion about sexual issues (Mayeza & Vincent, 2019; Shefer & Macleod, 2015; Wood & Rolleri, 2014). While the Life Orientation program has recently undergone changes, it needs to be further reviewed and strengthened by linking it explicitly to gender-transformative strategies that aim to

258

build gender equitable norms. Additionally, the current study underscores the importance of starting sexual education at the beginning of early adolescence (EA) and ensuring age-appropriate information and teaching methods based on EAs' needs.

South Africa has introduced key policies and legislation on violence prevention, such as the Domestic Violence Act (Republic of South Africa, 1998, Act No. 116 of 1998) and the 365 Day National Action Plan to End Gender Violence (South African Government, 2007). Progressive laws that address violence among children and adolescents have also been implemented, such as the Children's Act No. 38 (2005) and the Sexual Offences Act No. 32 (2007; amended in 2015) (Cooper et al., 2016; Ward et al., 2012). Due to the alarmingly high rates of violence, particularly gender-based violence, an Emergency Response Action Plan was approved in 2019, followed by the first National Strategic Plan on Gender-based Violence and Femicide[49] in 2020 (Republic of South Africa, 2020). The latter features gender-responsiveness and a transformative approach as two of the guiding principles.

Although rich in a progressive legislative framework, the country needs to further strengthen its data collection and accountability systems to ensure the effective implementation of policies that aim to prevent violence against adolescents. There is also a need to review relevant legislative framework that enables adolescents' access to SRH services, especially EAs, for their younger age (Strode & Essack, 2017).

The current PhD research project provides key gender norm measures that can be used in operational research or routine information management systems in schools, to monitor the impacts of violence prevention, including positive gender norm transformation. Furthermore, this study identified the multi-faceted negative impacts on EAs of adverse childhood events (ACEs), their experiences of recent peer-violence, and their symptoms of depression. Therefore, the study also emphasizes an urgent need to incorporate screening to identify EAs who are at high risk of ACEs, as well as for interventions into existing policies to mitigate potential, short- and long-term negative impacts of ACEs. Concretely, early detection measures to identify and respond to those who are at high-risk of ACEs can be integrated into the revised youth and adolescent SRH

---

[49] Available at: https://www.justice.gov.za/vg/gbv/NSP-GBVF-FINAL-DOC-04-05.pdf

policy, the school curriculum, mental health policies, and early childhood development strategies.

Mental health has been a neglected issue globally and in sub-Saharan Africa (SSA), especially within the ASRH agenda (Sequeira et al., 2022). Adolescent mental health has mainly been addressed within HIV/AIDS services, and hence offered without specialized human resources or a dedicated budget. In 2018, South Africa was among 14 out of 191 countries that developed the National Child and Adolescent Mental Health Policy (NCAMH) 2013–2020 (Mokitimi et al., 2018). However, no provincial policies[50] or programs have been established to date, to implement this policy at decentralized levels (Mokitimi et al., 2018, 2022). Although the country has implemented specific ASRH policies, such as the Integrated School Health Policy (South Africa Ministry of Health & Ministry of Basic Education, 2012), and a policy on screening, identification, assessment and support (Department of Basic Education Republic of South Africa, 2014), none explicitly incorporate the mental health needs among adolescents, outside of HIV care (Sequeira et al., 2022). In the Western Cape Province, a general primary health care policy, 'Healthcare 2030: the Road to Wellness,' focuses on improved mental health and other health areas,[51] but does not specifically address adolescent mental health (Mokitimi et al., 2022).

Against these policy landscapes, the current study informs evidence-based advocacy among policymakers in the Western Cape Province and elsewhere in South Africa, to bring an adolescent-specific mental health focus into their relevant policies. Evidence from this study regarding the influence of gender and gender norms, as a social determinant of health, on EAs mental health should be considered, when designing the policies. As recommended previously, these policies should also drive multi-sectoral coordination in health and education services to ensure prevention, early detection, and care of depression, anxiety and other mental health disorders among EAs (Kapungu et al., 2018). The policy framework should also outline mechanisms for monitoring budget allocation and expenditure on mental health, in order to strengthen accountability and contribute to future reforms. An existing research initiative run by

---

[50] In South Africa, the provincial Departments of Health are responsible for developing implementation plans for national policies, with budgets and timelines, and for monitoring and evaluating their implementation.
[51] HIV and TB prevention, healthy lifestyle, injury and violence prevention, maternal and child health

the Alan J. Flisher Center for Public Mental Health[52] provides valuable baseline data related to the estimated cost of mental health services in each province on which to build on (Docrat et al., 2019).

10.1.2 Programmatic implications and recommendations

First, this study confirms the findings of previous studies, that the development of gender socialization processes among EAs takes place within broader structural contexts, influenced by factors that include the individual, family or peers, schools, communities, and media (Mmari et al., 2021; Tomlinson et al., 2021). This is especially important in South Africa, given that the legacy of colonization and apartheid, marked by inequity and violence, continues to influence EAs' gender norms and their SRH outcomes, in conjunction with these individual and other contextual factors (Jacobs & George, 2021). The interventions that aim to positively transform EAs' gender norms should, therefore, consider different risk or protective factors across the socio-ecological model and engage the various actors at different levels.

In designing successful gender-transformative interventions, it is crucial to apply an intersectional approach to analyzing gender inequality and gender restrictive norms as overlapping multiple vulnerabilities (Levy et al., 2020), to better respond to the needs of the most vulnerable EAs. For instance, a recent global systematic review of studies published between 2008 and 2019 (more than half were from Africa) demonstrated positive impacts of gender-transformative approaches on gender-based violence (GBV) prevention among young people and adolescents (Pérez-Martínez et al., 2021). A key lesson highlighted from this review was the crucial need to contextualize interventions, based on socio-cultural factors that could promote greater community participation.

Second, current results reveal an elevated risk of early sexual debut among EAs in urban low socio-economic areas of Cape Town. This highlights the importance of starting age-appropriate comprehensive sexuality education from the beginning of EA. Within the Life Orientation program or other ASRH interventions, the linkages between HIV and pregnancy prevention, mental health, and violence prevention should be strengthened, using gender transformative

---

[52] A collaborative initiative between University of Cape Town and Medical Research Council.

261

cross-cutting strategies. In South Africa, ongoing gender-transformative programs, such as Stepping Stones and Creating Futures, have demonstrated gradual but positive changes in promoting positive masculinities (Gibbs, Myrttinen, et al., 2020) and reduced IPV perpetration among young men (Gibbs, Myrttinen, et al., 2020). A program, 'If I Were Jack', that aims to reduce unintended early pregnancies through addressing unequal gender norms in schools, was also tested and adapted in a peri-urban informal setting of South Africa (Aventin et al., 2015, 2021). Good practices from these initiatives should be incorporated in gender-transformation interventions that target EAs.

Third, in the current study, strengthened empowerment such as "voice" or decision-making agency were found to be protective factors against the perpetration of peer violence. Hence, combining the empowerment interventions with gender-transformative programs within SRH and other programs, including the Life Orientation program, could boost their benefits for EAs' SRH, as well as have other positive outcomes. The current study suggests that the Life Orientation program should be an opportunity to further build on EAs' 'soft skills' through empowerment interventions, such as strengthening their communication and negotiation skills, and self-efficacy to resist peer pressure. These skills may also encourage EAs to adopt feasible mechanisms that increase the likelihood of translating their SRH knowledge into prevention behaviors.

Fourth, the current study suggests that the EAs who knew where to obtain contraceptives, or those who reported that both boys and girls knew of service availability, showed a higher level of knowledge on pregnancy avoidance. Acting on this result, the current South African guidelines related to contraceptive services[53] (Toska et al., 2019) should be reviewed to fully incorporate EA, and to facilitate better access to, and utilization of, SRH services adapted to adolescents' needs – such services are currently not optimal (Aventin et al., 2021; Kelly et al., 2022; Zuma, 2018). The utilization of innovative SRH service delivery platforms, such as digital technology, could improve access among adolescents, including EAs (Govender et al., 2019a), as they tend to

---

[53] These guidelines include the National Contraceptive Clinical Guidelines and the National Contraception and Fertility Planning Policy and Service Delivery Guidelines (2018 updates) (Toska, 2019).

262

be digitally literate. This was shown in the current study in which participants used self-administered digitally loaded questionnaires in a tablet.

Fifth, the high penetration of online media among South African EAs offers an opportunity to use the internet or digital tools as powerful sources of age appropriate SRH information and knowledge for EAs. While violence in South Africa should be addressed through its multi-factorial drivers (e.g. structural, intermediate and individual levels), programs such as 'Gun Free South Africa', which promotes awareness and empowerment of adolescents to protect themselves against gun violence (Niekerk & Mathews, 2019), could be expanded. Using radio, social media and other outreach activities in schools, this program has been found to contribute to greater engagement of communities, schools, and youth-led advocacy actions in calling local leaders and institutions (e.g. police and business sectors) to create gun-free communities and schools. This kind of good practice should be scaled up in the ongoing. Western Cape's Safe School Programme (The Western Cape Government, 2022) which is discussed later in this sub-seciton.

On the other hand, given EAs' high exposure to pornography, and its potential negative impacts on them, SRH interventions should incorporate raising awareness on the skewed portrayal of the act of sex in pornography and other sexually explicit online contents. They could address how EAs can navigate more balanced and informative programs via digital technologies such as social media and online chats or texting. These digital education programs should be embedded into different levels of the socio-ecological framework, to address multiple associated factors such as peer pressure, or parents' attitudes towards sex or communication with their children on sex (Crooks et al., 2019; Hardy et al., 2019).

Sixth, in line with the National School Safety Framework (2015), the Western Cape Province has implemented the Safe Schools Programme (The Western Cape Government, 2022). This program has been evaluated several times (Braun, 2007; Mabasa, 2014). However, updated evidence is required to continuously assess potential impacts and incorporate lessons learned over the years to improve the interventions. Despite ongoing efforts by the state, many EA participants in this study had reportedly felt unsafe or threatened in schools and communities, which was also found in a recent study from Cape Town (Kutywayo et al., 2022). These

263

combined findings further emphasize the importance of more active engagement with teachers, parents, and communities in creating safe environments, as a key strategy for violence prevention. A violence prevention program, Violence Prevention Through Urban Upgrading (VPUU), based in Cape Town, and similar ventures in other cities, could be highlighted as good practice for possible replication, as it offers safe public spaces for families as well as a resource center for early childhood development (Niekerk & Mathews, 2019).

Related to a safe environment in the South African context, family, school, or community connectedness should also be highlighted as an important protective factor, not only to prevent violence but also to protect the mental health of EAs. While many South African EAs live in the absence of parents, this can be a positive experience, if they have a regular and competent caregiver. Nonetheless, in this context, interventions such as mentoring programs and after-school programs may provide strengthened connectedness and support in schools and communities, as demonstrated globally (Plourde et al., 2020). Cluver et al. (2018), also demonstrate positive outcomes of a parenting program in the Eastern Cape, called Sinovuyo Teen. This program has been effective in reducing depression among caregivers and substance use among adolescents, and in increasing community support given to caregivers in a more protective environment. These examples demonstrate the need to combine mental health interventions targeting EAs with prevention of violence and substance use and to involve families, schools, and communities.

Lastly, the study results suggest the incorporation of mental health programs into school and community settings, with the aim of detecting groups who are at high-risk for mental illness and providing timely responses. These groups may include those who may be experiencing anxiety or pre-diagnosis depression symptoms, and/or have been exposed to adverse childhood events (ACEs) or peer or dating violence. For this purpose, the measures that assessed depression symptoms among EAs in this study can be of great use, subject to further review and adjustment. A recent initiative by the Stellenbosch University, which has tested and developed a questionnaire to detect anxiety and depression symptoms among isiXhosa speaking adolescents in South Africa (Marlow et al., 2022) could also inform this process.

More specifically, the Western Cape Education Department should identify an entry point to incorporate a mental health component, which includes prevention and early warning and responses to identified cases, within the existing Life Orientation program and Safe Schools initiative. Given that adolescent mental health services in South Africa are poorly provided in both school and community settings (Mokitimi & Schneider, 2021), coordinated approaches are required across sectors (e.g. early childhood development, education, health, and social welfare) to better respond to the increased demand for such services, particularly for EAs.

Recent initiatives in South Africa, such as a Perinatal Mental Health Project (PMHP) (Z. Abrahams et al., 2022; Alan J. Flisher Center for Public Mental Health & University of Cape Town, 2022) and Program for Improving Mental Health Care (PRIME) (Lund, 2018) may offer solid evidence base when integrating mental health services for EAs in health system strengthening or community-based health initiatives. Additionally, two ongoing longitudinal studies have followed up perinatal and postnatal depressive symptoms and other adversities, and their impacts on children up to 18 months (Murray et al., 2022; Valdebenito et al., 2020) or during adolescence in South Africa (Du Toit et al., 2022; Haag et al., 2022). Future interventions to improve adolescents' mental health should stocktake the results from these longitudinal trials, which are generating valuable information.

10.1.3 Research implications and recommendations

Limitations of the current study that were highlighted in the previous chapter suggest key recommendations for future research, specifically targeting EAs. Firstly, although this study was able to measure gender norms of EAs as a "snapshot" at one particular time of their life, the gender socialization process is continuous and dynamic, as EAs transition into late adolescence and adulthood. Longitudinal data would be the most appropriate method to track this process over time, preferably following up the same cohort of EAs throughout adolescence. The larger Global Early Adolescent Study (GEAS) has started a longitudinal data collection phase in several countries. Building on the baseline data from the GEAS Cape Town site used in this thesis, it is strongly recommended that a study identifies additional research funds to continue monitoring how gender norms of this cohort of EAs in urban Cape Town may shift over time. A

265

longitudinal phase could be combined with operational research to test specific gender-transformative interventions, using the results from this study as the baseline data.

Secondly, among the novel aspects of the current study, is that it offers specific gender norm measures that are appropriate for the local context and EAs. Gender norm measures developed in this analysis could be used to identify EAs who are potentially at high risk of developing stereotypical gender norms, and to monitor the impacts of gender-transformation interventions in different SRH programs – including prevention of violence and depression. EAs may be more susceptible to attitudinal changes towards equal gender views than late adolescents, who may develop more established gender norms and adopt behavioral patterns in favor of gender equality (Blum, 2020). Therefore, these gender norm measures should be adapted to the age of adolescents. Further research should also explore appropriate measures to monitor longitudinal changes in the EAs' gender norms and attitudes, to assist evaluations of gender-transformative programs.

Thirdly, this study informs future research priorities regarding EAs' health, to address new or pending research questions. For example, more research is required to better understand the relative weight of various factors in the socio-ecological model that influence EAs' gender norm construction, their SRH behaviors and knowledge, and violence or depression. This will assist to prioritize and tailor the policy and programmatic interventions for EAs within the local contexts. Availability, access, and quality of ASRH services specifically for EAs in these urban communities should also be investigated, as an improved understanding of these factors could positively facilitate EAs' knowledge and behaviors to prevent early pregnancy and HIV, and can be harnessed to tailor Life Orientation or other SRH education programs to their needs. A high rate of intimate partner violence (IPV) perpetration among girls and boys and its co-occurrence with IPV victimization in romantic relationships should also be investigated to seek possible pathways to prevention, using gender norms and other factors.

To address these research questions, it is critical to obtain information not only from EAs, but also from key actors in their environment, such as peers, families, teachers, health providers, and religious leaders. In addition, a mixed method study, combining quantitative methods with qualitative ones, such as focus group discussions or in-depth interviews, could have brought

266

additional insights to the quantitative results. Incorporation of participative qualitative methods, for instance, participatory action research, would be particularly important to gather EAs' views on sensitive topics, such as sexual relationships or violence, given their young age.

Finally, despite the new evidence that this study has provided, there remain data gaps on EAs across main SRH areas. Incorporating a new set of specific questions in existing household surveys such as Demographic and Health Survey (DHS), Multiple Indicator Cluster Surveys (MICS), or school-based surveys is urgently needed, to generate age-disaggregated data on adolescents, especially among EAs (Kapungu et al., 2018). In South Africa, the National HIV Prevalence, Incidence, Behaviour and Communication Survey (2017); the National Income Dynamic Study, started in 2008; and the National School Safety Framework's surveys (Kutywayo et al., 2022) could offer the opportunities to incorporate these EA-specific variables. Outreach to the institutions conducting these national surveys are needed by this research project or other organizations that are keen to advocate for this. Developing further collaboration efforts across national, regional, and international research institutions in emerging areas (e.g. EAs' gender norms and mental health), would be of great value to building research capacity and evidence to inform policies and interventions.

10.2 Conclusion and next steps

This cross-sectional study has offered novel information and insights that contribute to a better understanding of how gender norms develop in early adolescents in the areas of low socio-economic status in Cape Town. As discussed above, the new knowledge generated by this study will contribute to policy formulation or reform, and to designing age-appropriate gender transformation interventions to ultimately improve SRH outcomes and the well-being of EAs.

The global COVID-19 crisis has brought multiple collateral negative impacts on the health and well-being of adolescents and young people (Bhutto et al., 2022). These impacts have ranged from severe interruptions to their education, which could lead to negative learning outcomes (Kola et al., 2021; Wang et al., 2021), to increased mental health problems (Vola et al., 2021), and increased risk for domestic violence (UNFPA, 2020a; Usher et al., 2020). The pandemic has also reduced access to, or utilization of SRH services, including HIV screening (Goga et al.,

267

2020), sex education and contraceptive services for adolescents (Lindberg et al., 2020; Mambo et al., 2022). This is leading to an increased unmet need for family planning (UNFPA, 2020a), heightened risk-related sexual activities, and increased adolescent pregnancies (Lindberg et al., 2020). South Africa is no exception: recent literature has reported many of these problems, including the effects on adolescents (Bolarinwa, 2021; Chimbindi et al., 2022; Columbia University, 2020; Hoosen et al., 2022; Mudiriza & De Lannoy, 2020; Parry & Gordon, 2021). These impacts may be more severely affecting younger adolescents in urban informal settings (Haag et al., 2022).

Thus, during the COVID-19 pandemic recovery phase, gender-sensitive policies and programmes that are adapted to the current context are increasingly needed to address the aggravated issues that adolescents are grappling with. In developing these, due consideration should be given to the pandemic's multi-faceted impacts on adolescents, especially the most vulnerable EAs such as those in urban, impoverished areas, in particular (John et al., 2020; Parry & Gordon, 2021; Zulaika et al., 2022).

This study, conducted prior to the pandemic, brings rich data that facilitate better understanding of collateral effects of violence, depression symptoms, substance use, HIV, and early pregnancies on the EAs. It offers new knowledge on how gender-transformative interventions may contribute, in an accelerated manner, to overcoming these challenges during the post COVID-19 pandemic era. In this context, an immediate next step that I would recommend is use of the evidence collected in this study for advocacy with policymakers, parents, teachers, and adolescent learners at local and national levels. These advocacy sessions could contribute to promoting active participation of adolescents and key actors to co-create positive, concrete gender transformation actions for EAs, in the short-, medium-, and long-term. Additionally, the data collected in this thesis project can be used as pre-pandemic, baseline data, which can be utilized to assess medium- and long-term ramifications of the COVID-19 pandemic on this young age group.

REFERENCES

Abdallah, A. K., Magata, R. J., & Sylvester, J. N. (2017). Barriers to parent-child communication on sexual and reproductive health issues in East Africa: A review of qualitative research in four countries. *Journal of African Studies and Development*, *9*(4), 45–50. https://doi.org/10.5897/JASD2016.0410

Aboagye, R. G., Seidu, A. A., Adu, C., Cadri, A., Mireku, D. O., & Ahinkorah, B. O. (2021). Interpersonal violence among in-school adolescents in sub-Saharan Africa: Assessing the prevalence and predictors from the Global School-based health survey. *SSM - Population Health*, *16*(October), 100929. https://doi.org/10.1016/j.ssmph.2021.100929

Abraham, G. Y. (2006). Curriculum reform and life orientation education in post-apartheid South Africa. *Curriculum Reform and Life Orientation Education*, *May*, 221–237.

Abrahams, N., Mhlongo, S., Dekel, B., Chirwa, E., Ketelo, A., Lombard, C., Mathews, S., Labuschagne, G., Martin, L. J., Manganyi, T., Gounden, T., Majola, T., Variava, T., Ramsoomar, L., Shai, N., Matzopoulos, R., Prinsloo, M., Vellema, J., Saayman, G., & Jewkes, R. (2022). *Research brief: decrease in femicide in South Africa- three national studies across 18 years* (Issue March). https://www.samrc.ac.za/reports/research-brief-decrease-femicide-south-africa-three-national-studies-across-18-years

Abrahams, N., Shanaaz, M., Jewkes, R., Martin, L. J., & Lombard, C. (2012). Every eight hours : Intimate femicide in South Africa 10 years later! In *South African Medical Research Council* (Vol. 3, Issue August).

Abrahams, Z., Schneider, M., Honikman, S., Olckers, P., Boisits, S., Seward, N., & Lund, C. (2022). Health systems strengthening interventions for perinatal common mental disorders and experiences of domestic violence in Cape Town, South Africa: protocol for a pilot implementation study. *Pilot and Feasibility Studies*, *8*(1). https://doi.org/10.1186/s40814-022-01053-9

Adcock, R., & Collier, D. (2001). A shared standard for qualitative and quantitative research. *American Political Science Review*, *95*(3), 529–546. https://doi.org/10.1017/S0003055401003100

Agaku, I., Nkosi, L., & Gwar, J. (2022). Gender norms, HIV risk, and attitudes towards pre-exposure prophylaxis and other HIV preventive interventions among South African adolescents. *PanAfrican Medical Journal*, *41*(136).

Ahinkorah, B. O. (2020a). Predictors of modern contraceptive use among adolescent girls and young women in sub-Saharan Africa: a mixed effects multilevel analysis of data from 29 demographic and health surveys. *Contraception and Reproductive Medicine*, *5*(1), 1–12. https://doi.org/10.1186/s40834-020-00138-1

Ahinkorah, B. O. (2020b). Individual and contextual factors associated with mistimed and unwanted pregnancies among adolescent girls and young women in selected high fertility countries in sub- Saharan Africa: A multilevel mixed effects analysis. *PLoS ONE*, *15*(10). https://doi.org/10.1371/journal.pone.0241050

Ahinkorah, B. O., Hagan Junior, J. E., Seidu, A. A., Mintah, J. K., Sambah, F., Schack, T., & Hormenu, T. (2019). Examining pregnancy related socio-cultural factors among adolescent girls in the Komenda-Edina-Eguafo-Abrem Municipality in the Central Region of Ghana: A Case-control Study. *Frontiers in Public Health*, *7*(APR), 1–9. https://doi.org/10.3389/fpubh.2019.00093

Ahinkorah, B. O., Kang, M., Perry, L., Brooks, F., & Hayen, A. (2021). Prevalence of first adolescent pregnancy and its associated factors in sub-Saharan Africa: A multi-country analysis. *PLoS ONE*, *16*(2 February), 1–16. https://doi.org/10.1371/journal.pone.0246308

Ahinkorah, B. O., Seidu, A. A., Appiah, F., Oduro, J. K., Sambah, F., Baatiema, L., Budu, E., & Ameyaw, E. K. (2020). Effect of sexual violence on planned, mistimed and unwanted pregnancies among women of reproductive age in sub-Saharan Africa: A multi-country analysis of Demographic and Health Surveys. *SSM - Population Health*, *11*, 100601. https://doi.org/10.1016/j.ssmph.2020.100601

Ahmed, M., & Seid, A. (2020). Association between exposure to mass media family planning messages and utilization of modern contraceptive among urban and rural youth women in ethiopia. *International Journal of Women's Health*, *12*, 719–729. https://doi.org/10.2147/IJWH.S266755

Ahmmed, F. (2021). Women's empowerment and practice of maternal healthcare facilities in Bangladesh: a trend analysis. *Journal of Health Research*. https://doi.org/10.1108/JHR-11-2020-0559

Ajaero, C. K., Nzeadibe, C. T., & Igboeli, E. E. (2018). Rural-urban differences in the prevalence and predictors of depression among adolescents in South Africa. *SAJCH South African Journal of Child Health*, *12*(Special Issue), S71–S74. https://doi.org/10.7196/SAJCH.2018.v12i2.1509

Ajaero, C. K., Odimegwu, C. O., Mkwananzi, S., & Banjo, O. (2018). Inter-provincial migration effect on youth risk behaviors in South Africa: A multilevel analysis of contextual- and individual-level factors. *Cogent Social Sciences*, *4*(1), 1–19. https://doi.org/10.1080/23311886.2018.1560860

Ajayi, A. I., & Ezegbe, H. C. (2020). Association between sexual violence and unintended pregnancy among adolescent girls and young women in South Africa. *BMC Public Health*, *20*(1), 1–10. https://doi.org/10.1186/s12889-020-09488-6

Ajayi, A. I., Otukpa, E. O., Mwoka, M., Kabiru, C. W., & Ushie, B. A. (2021). Adolescent sexual and reproductive health research in sub-Saharan Africa: a scoping review of substantive focus, research volume, geographic distribution and Africa-led inquiry. *BMJ Global Health*, *6*(2), 1–10. https://doi.org/10.1136/bmjgh-2020-004129

Akamike, I. C., Uneke, C. J., Uro-Chukwu, H. C., Okedo-Alex, I. N., & Chukwu, O. E. (2019). Predictors and facilitators of gender-based violence in sub-Saharan Africa: a rapid review. *Journal of Global Health Reports*, *3*, 1–10. https://doi.org/10.29392/joghr.3.e2019076

Akombi-Inyang, B., Woolley, E., Iheanacho, C., Bayaraa, K., & Ghimire, P. R. (2022). Regional Trends and Socioeconomic Predictors of Adolescent Pregnancy in Nigeria: A Nationwide Study. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3987073

Alan J. Flisher Center for Public Mental Health, & University of Cape Town. (2022). *Perinatal mental health project*. https://pmhp.za.org

Al-Attar, G., De Meyer, S., El-Gibaly, O., Michielsen, K., Animosa, L. H., & Mmari, K. (2017). "A boy would be friends with boys … and a girl … with girls": Gender norms in early adolescent friendships in Egypt and Belgium. *Journal of Adolescent Health*, *61*(4), S30–S34. https://doi.org/10.1016/j.jadohealth.2017.03.013

Alexyeff, K., Gilbertson, A., Peidalue, A., & Klein, E. (2020). *Refocusing power : Transforming harmful social norms to prevent violence against women and girls*. https://www.equalityinstitute.org/media/pages/resources/refocusing-power-transforming-

harmful-social-norms-to-prevent-violence-against-women-and-girls/2542242135-1595397614/sn-brief_melbourne-uni_final.pdf

Ali, T. S., Karmaliani, R., Mcfarlane, J., Khuwaja, H. M. A., Somani, Y., Chirwa, E. D., & Jewkes, R. (2017). Attitude towards gender roles and violence against women and girls (VAWG): Baseline findings from an RCT of 1752 youths in Pakistan. *Global Health Action*, *10*(1). https://doi.org/10.1080/16549716.2017.1342454

Altman, D. G. (1991). 5.12. The cross-sectional study. In *Practical Statistics for Medical Research* (pp. 99–101). Chapman& Hall.

Amin, A., Kågesten, A., Adebayo, E., & Chandra-Mouli, V. (2018). Addressing gender socialization and masculinity norms among adolescent boys: Policy and programmatic implications. *Journal of Adolescent Health*, *62*(3), S3–S5. https://doi.org/10.1016/j.jadohealth.2017.06.022

Ammann, C., & Staudacher, S. (2021). Masculinities in Africa beyond crisis: Complexity, fluidity, and intersectionality. *Gender, Place and Culture*, *28*(6), 759–768. https://doi.org/10.1080/0966369X.2020.1846019

Amoateng, A. Y., Ewemooje, O. S., & Biney, E. (2022). *Prevalence and determinants of adolescent pregnancy among women of reproductive age in South Africa*. *26*(January), 82–91. https://doi.org/10.29063/ajrh2022/v26i1.9

Angold, A., Prendergast, M., Cox, A., Harrington, R., Simonoff, E., & Rutter, M. (1995). The Child and Adolescent Psychiatric Assessment (CAPA). *Psychol Med*, *25*(4), 739–753. https://doi.org/10.1017/s003329170003498x

Anik, A. I., Islam, M. R., & Rahman, M. S. (2021). Do women's empowerment and socioeconomic status predict the adequacy of antenatal care? A cross-sectional study in five South Asian countries. *BMJ Open*, *11*(6). https://doi.org/10.1136/bmjopen-2020-043940

Artz, L., Burton, P., Ward, C., Leoschut, L., Phyfer, J., Loyd, S., Kassanjee, R., & Le Mottee, C. (2016). Optimus study South Africa: Technical report. In *Zurich: UBS Optimus Foundation* (Issue May). http://www.cjcp.org.za/uploads/2/7/8/4/27845461/cjcp_ubs_web.pdf

Artz, L., Ward, C. L., Leoschut, L., Kassanjee, R., & Burton, P. (2018). The prevalence of child sexual abuse in South Africa: The optimus study South Africa. *South African Medical Journal*, *108*(10), 791–792. https://doi.org/10.7196/SAMJ.2018.v108i10.13533

Auerbach, R., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D., Green, J., Murray, E., Nock, M., Pinder-amaker, S., Sampson, N., Stein, D., Vilagut, G., Zaslavsky, A., & Kessler, R. (2019). Student project : Prevalence and distribution of mental Disorders. *Journal of Abnormal Psychology*, *127*(7), 623–638. https://doi.org/10.1037/abn0000362.The

Aventin, Á., Gordon, S., Laurenzi, C., Rabie, S., Tomlinson, M., Lohan, M., Stewart, J., Thurston, A., Lohfeld, L., Melendez-Torres, G. J., Makhetha, M., Chideya, Y., & Skeen, S. (2021). Adolescent condom use in Southern Africa: narrative systematic review and conceptual model of multilevel barriers and facilitators. *BMC Public Health*, *21*(1), 1–22. https://doi.org/10.1186/s12889-021-11306-6

Aventin, Á., Lohan, M., O'Halloran, P., & Henderson, M. (2015). Design and development of a film-based intervention about teenage men and unintended pregnancy: Applying the Medical Research Council framework in practice. *Evaluation and Program Planning*, *49*(February), 19–30. https://doi.org/10.1016/j.evalprogplan.2014.11.003

Aventin, Á., Rabie, S., Skeen, S., Tomlinson, M., Makhetha, M., Siqabatiso, Z., Lohan, M., Clarke, M., Lohfeld, L., Thurston, A., & Stewart, J. (2021). Adaptation of a gender-

transformative sexual and reproductive health intervention for adolescent boys in South Africa and Lesotho using intervention mapping. *Global Health Action*, *14*(1), 2–8. https://doi.org/10.1080/16549716.2021.1927329

Ayalew, M., Mengistie, B., & Semahegn, A. (2014). Adolescent-parent communication on sexual and reproductive health issues among high school students. *Reproductive Health*, *11*(1), 77.

Baird, S., Bhutta, Z. A., Hamad, B. A., Hicks, J. H., Jones, N., & Muz, J. (2019). Do restrictive gender attitudes and norms influence physical and mental health during very young Adolescence?Evidence from Bangladesh and Ethiopia. *SSM - Population Health*, *9*(February 2020), 100480. https://doi.org/10.1016/j.ssmph.2019.100480

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.

Bankole, A., Biddlecom, A., Guiella, G., Singh, S., & Zulu, E. (2007). Sexual behavior, knowledge and information sources of very young adolescents in four sub-Saharan African countries. *African Journal of Reproductive Health*, *11*(3), 28–43. https://doi.org/10.2307/25549730

Barron, P., Subedar, H., Letsoko, M., Makua, M., & Pillay, Y. (2021). Teenage births and pregnancies in South Africa , 2017 - 2021 – a reflection of a troubled country : Analysis of public sector data. *South African Medical Journal*, *112*(4), 252–258.

Basterfield, C., Reardon, C., & Govender, K. (2014). Relationship between constructions of masculinity, health risk behaviors and mental health among adolescent high school boys in Durban, South Africa. *International Journal of Men's Health*, *13*(2), 101–120. https://doi.org/10.3149/jmh.1302.101

Basu, S., Zuo, X., Lou, C., Acharya, R., & Lundgren, R. (2017). Learning to be gendered: gender socialization in early adolescence among urban poor in Delhi, India, and Shanghai, China. *Journal of Adolescent Health*, *61*(4), S24–S29. https://doi.org/10.1016/j.jadohealth.2017.03.012

Bearak, J., Popinchalk, A., Ganatra, B., Moller, A. B., Tunçalp, Ö., Beavin, C., Kwok, L., & Alkema, L. (2020). Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019. *The Lancet Global Health*, *8*(9), e1152–e1161. https://doi.org/10.1016/S2214-109X(20)30315-6

Berhane, Y., Canavan, C. R., Darling, A. M., Sudfeld, C. R., Vuai, S., Adanu, R., Bärnighausen, T., Dessie, Y., Bukenya, J. N., Guwatudde, D., Killewo, J., Sando, M. M., Sie, A., Oduola, A. M. J., & Fawzi, W. W. (2020). The age of opportunity: prevalence of key risk factors among adolescents 10–19 years of age in nine communities in sub-Saharan Africa. *Tropical Medicine and International Health*, *25*(1), 15–32. https://doi.org/10.1111/tmi.13339

Bhadauria, S., Gwalior, M., & Paliwal, S. (2019). Women empowerment among South Asian countries. *Pravara Management Review (PMR)* , *16*(2), 51–57.

Bhana, D., Crewe, M., & Aggleton, P. (2019). Sex, sexuality and education in South Africa. *Sex Education*, *19*(4), 361–370. https://doi.org/10.1080/14681811.2019.1620008

Bhana, D., Janak, R., Pillay, D., & Ramrathan, L. (2021). Masculinity and violence: Gender, poverty and culture in a rural primary school in South Africa. *International Journal of Educational Development*, *87*, 102509. https://doi.org/10.1016/j.ijedudev.2021.102509

Bhatia, D. S., Harrison, A. D., Kubeka, M., Milford, C., Kaida, A., Bajunirwe, F., Wilson, I. B., Psaros, C., Safren, S. A., Bangsberg, D. R., Smit, J. A., & Matthews, L. T. (2017). The role of relationship dynamics and gender inequalities as barriers to HIV-serostatus disclosure:

272

qualitative study among women and men living with HIV in Durban, South Africa. *Frontiers in Public Health*, 5(July), 1–9. https://doi.org/10.3389/fpubh.2017.00188

Bhutta, Z. A., Boerma, T., Black, M. M., Victora, C. G., Kruk, M. E., & Black, R. E. (2022). Optimising child and adolescent health and development in the post-pandemic world. *The Lancet*, 399(10337), 1759–1761. https://doi.org/10.1016/S0140-6736(21)02789-6

Biermann, O., Mwoka, M., Ettman, C. K., Abdalla, S. M., Shawky, S., Ambuko, J., Pearson, M., Zeinali, Z., Galea, S., Mberu, B., & Valladares, L. M. (2021). Data, social determinants, and better decision-making for Health: The 3-D Commission. *Journal of Urban Health*, 98, 4–14. https://doi.org/10.1007/s11524-021-00556-9

Big Win Philanthropy. (2018). *Violence against children: a review of evidence relevant to Africa on prevalence, impacts and prevention* (Issue July).

Biney, E., Amoateng, A., & Ewemooje, O. (2021). Patterns of fertility in contemporary South Africa: Prevalence and associated factors. *Cogent Social Sciences*, 7(1). https://doi.org/10.1080/23311886.2020.1858575

Bingenheimer, J. B., Asante, E., & Ahiadeke, C. (2015). Peer influences on sexual activity among adolescents in Ghana. *Studies in Family Planning*, 46(1), 1–19. https://doi.org/10.1111/j.1728-4465.2015.00012.x

Blayney, J. A., Jenzer, T., Read, J. P., Livingston, J., Testa, M., & Carroll, Q. (2021). A qualitative study on friends and the social context of sexual victimization: Implications for campus-based interventions. *Violence Against Women*, 27(11), 2092–2110. https://doi.org/10.1177/1077801220954277

Blum, R. (2016). *Findings from the Global Early Adolescent Study: What is the Global Early Adolescent Study?* (Issue November). American Public Health Association.

Blum, R. (2017). *GEAS updated application to the Institutional Review Board, School of Public Health, Johns Hopkins University.*

Blum, R. (2020). Gender norm transformative programing: Where are we now? Where do we need to be? *The Journal of Adolescent Health : Official Publication of the Society for Adolescent Medicine*, 66(2), 135–136. https://doi.org/10.1016/j.jadohealth.2019.11.299

Blum, R., Astone, N. M., Decker, M. R., & Mouli, V. C. (2014). A conceptual framework for early adolescence: a platfoprm for research. *Int J Adolesc Med Health*, 26(3), 321–331. https://doi.org/10.1515/ijamh-2013-0327.A

Blum, R., Li, M., Choiriyyah, I., Barnette, Q., Michielson, K., & Mmari, K. (2021). Body satisfaction in early adolescence: A multisite comparison. *Journal of Adolescent Health*, 69(1), S39–S46. https://doi.org/10.1016/j.jadohealth.2021.03.009

Blum, R., Li, M., & Naranjo-Rivera, G. (2019). Measuring adverse child experiences among young adolescents globally: relationships with depressive symptoms and violence perpetration. *Journal of Adolescent Health*, 65(1), 86–93. https://doi.org/10.1016/j.jadohealth.2019.01.020

Blum, R., Mmari, K., & Moreau, C. (2017). It begins at 10: How gender expectations shape early adolescence around the world. *Journal of Adolescent Health*, 61(4), S3–S4. https://doi.org/10.1016/j.jadohealth.2017.07.009

Blum, R., Sheehy, G., Li, M., Basu, S., Gibaly, O. El, Kayembe, P., Zuo, X., Ortiz, J., Chan, K. S., & Moreau, C. (2019). Measuring young adolescent perceptions of relationships: A vignette-based approach to exploring gender equality. In *PLoS ONE* (Vol. 14, Issue 6). https://doi.org/10.1371/journal.pone.0218863

Boafo, I. M., Dagbanu, E. A., & Oppong Asante, K. (2014). Dating violence and self-efficacy for delayed sex among adolescents in Cape Town, South Africa. *African Journal of Reproductive Health*, *18*(2), 46–57. http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=2012608568&site=ehost-live

Bolarinwa, O. A. (2021). Factors associated with access to condoms and sources of condoms during the COVID-19 pandemic in South Africa. *Archives of Public Health*, *79*(1). https://doi.org/10.1186/s13690-021-00701-5

Bosire, E., Chiseri, K., Comeau, D. L., Richter, L., Stein, A. D., & Norris, S. A. (2021). A qualitative study of risks and protective factors against pregnancy among sexually-active adolescents in Soweto, South Africa. *PLOS Global Public Health*, *1*(11), e0000044. https://doi.org/10.1371/journal.pgph.0000044

Bosire, E., Chiseri, K., Comeau, D., Richter, L., Stein, A., & Norris, S. (2020). A qualitative study of factors that protect against pregnancy among sexually-active teens in the South African Birth to Twenty Plus cohort. *PLoS ONE*, 1–20.

Bowleg, L. (2008). When Black + lesbian + woman ≠ Black lesbian woman: The methodological challenges of qualitative and quantitative intersectionality research. *Sex Roles*, *59*(5–6), 312–325. https://doi.org/10.1007/s11199-008-9400-z

Brahmbhatt, H., Kågesten, A., Emerson, M., Decker, M. R., Olumide, A., Ojengbede, O., Lou, C., Sonenstein, F., Blum, R., & Delany-Moretlwe, S. (2014). Prevalence and determinants of adolescent pregnancy in urban, disadvantaged settings across five cities. *J Adolesc Health*, *55*(60), S48–S57. https://doi.org/10.1016/j.jadohealth.2014.07.023.Prevalence

Brankovic, J. (2019). *What drives violence in South Africa?* https://media.africaportal.org/documents/What-Drives-Violence-in-South-Africa.pdf

Braun, C. (2007). *School safety in the Western Cape: challenges, successes, and barriers to implementation. December.*

Breckenridge, J., Yang, T., & Poon, A. W. C. (2019). Is gender important? Victimisation and perpetration of intimate partner violence in mainland China. *Health and Social Care in the Community*, *27*(1), 31–42. https://doi.org/10.1111/hsc.12572

Breinbauer, C., & Maddaleno, M. (2005). Youth: choices and change. Promoting healthy behaviours in adolescents. In *PAHO Scientific and Technical Publication No. 594*. https://doi.org/10.1111/j.1440-1754.2005.00770_1.x

Brock, R., Brundige, E., Furstenau, D., Holton-Basaldua, C., Jain, M., Kraemer, J., Mahonde, K., Osei, M., & Gaffoor, N. (2014). *Sexual violence by educators in South African schools: Gaps in accountability* (Issue May).

Bronfenbrenner, U. (2004). Making human beings human bioecological perspectives on human development. In *The SAGE Program on Applied Developmental Science*.

Bronfenbrenner, U. (2016). Developmental research, public policy, and the ecology of childhood. *Society for Research in Child Development*, *45*(1), 1–5.

Buckley, J., Otwombe, K., Joyce, C., Leshabane, G., Hornschuh, S., Hlongwane, K., Dietrich, J., Grelotti, D. J., & Violari, A. (2020). Mental health of adolescents in the era of antiretroviral therapy: Is there a difference between HIV-infected and uninfected youth in South Africa? *Journal of Adolescent Health*, *67*(1), 76–83. https://doi.org/10.1016/j.jadohealth.2020.01.010

Burton, P. (2008). *Merchants, skollies and stones: Experiences of school violence in South Africa* (pp. 1–108). https://docplayer.net/197319867-Merchants-skollies-and-stones.html

Burton, P., Ward, C. L., Artz, L., & Leoschut, L. (2016). *The Optimus Study on child Abuse, violence and neglect in South Africa (Research Report).* 1–32.

Buss, C., Entringer, S., Moog, N., Toepfer, P., Fair, D., Simhan, H., Heim, C., & Wadhwa, P. (2018). Intergenerational transmission of maternal childhood maltreatment exposure: implications for fetal brain development. *Physiology & Behavior*, *176*(5), 139–148. https://doi.org/10.1016/j.jaac.2017.03.001.Intergenerational

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, *106*(4), 676–713. https://doi.org/10.1037/0033-295X.106.4.676

Campbell, C., & Cornish, F. (2012). How can community health programmes build enabling environments for transformative communication? Experiences from India and South Africa. *AIDS and Behavior*, *16*(4), 847–857. https://doi.org/10.1007/s10461-011-9966-2

Campbell, C., & Cornish, F. (2014). Reimagining community health psychology: Maps, journeys and new terrains. *Journal of Health Psychology*, *19*(1), 3–15. https://doi.org/10.1177/1359105313500263

Campbell, O., Bann, D., & Patalay, P. (2021). The gender gap in adolescent mental health: A cross-national investigation of 566,829 adolescents across 73 countries. *SSM - Population Health*, *13*(January), 100742. https://doi.org/10.1016/j.ssmph.2021.100742

Carney, M., Buttell, F., & Dutton, D. (2007). Women who perpetrate intimate partner violence: A review of the literature with recommendations for treatment. *Aggression and Violent Behavior*, *12*(1), 108–115. https://doi.org/10.1016/j.avb.2006.05.002

Carrigan, T., Connell, R. W., & Lee, J. (1985). Toward a new sociology of masculinity. *Theory and Society*, *14*(5), 551–604.

Carter, M. (2014). Gender socialization and identity theory. *Social Sciences*, *3*(2), 242–263. https://doi.org/10.3390/socsci3020242

Casale, M., Boyes, M., Pantelic, M., Toska, E., & Cluver, L. (2019). Suicidal thoughts and behaviour among South African adolescents living with HIV: Can social support buffer the impact of stigma? *Journal of Affective Disorders*, *245*(February 2018), 82–90. https://doi.org/10.1016/j.jad.2018.10.102

CDC. (2019). *Preventing Adverse Childhood Experiences (ACEs): Leveraging the best available evidence.* 1–40.

CDC. (2021). *About the CDC-Kaiser ACE Study*. https://www.cdc.gov/violenceprevention/aces/about.html

CDC. (2022). *The social-ecological model: a framework for violence prevention*. https://www.cdc.gov/violenceprevention/about/social-ecologicalmodel.html

CDC-Division of Global HIV and TB. (2010). *Improving interview data quality through audio computer-assisted self-interviews* (Vol. 39).

Cerna-Turoff, I., Fang, Z., Meierkord, A., Wu, Z., Yanguela, J., Bangirana, C. A., & Meinck, F. (2021). Factors associated with violence against children in Low- and Middle-Income Countries: A systematic review and meta-regression of nationally representative data. *Trauma, Violence, and Abuse*, *22*(2), 219–232. https://doi.org/10.1177/1524838020985532

Chambers, B. D., & Toller Erausquin, J. (2015). The promise of intersectional stigma to understand the complexities of adolescent pregnancy and motherhood. *Journal of Child and Adolescent Behaviour*, *03*(05), 1–5. https://doi.org/10.4172/2375-4494.1000249

Chandra-Mouli, V., & Akwara, E. (2020). Improving access to and use of contraception by adolescents: What progress has been made, what lessons have been learnt, and what are the

implications for action? *Best Practice and Research: Clinical Obstetrics and Gynaecology*, *66*(April), 107–118. https://doi.org/10.1016/j.bpobgyn.2020.04.003

Chandra-Mouli, V., McCarraher, D. R., Phillips, S. J., Williamson, N. E., & Hainsworth, G. (2014). Contraception for adolescents in low and middle income countries: Needs, barriers, and access. In *Reproductive Health*. https://doi.org/10.1186/1742-4755-11-1

Chandra-Mouli, V., Neal, S., & Moller, A.-B. (2021). Adolescent sexual and reproductive health for all in sub-Saharan Africa: a spotlight on inequalities. *Reproductive Health*, *18*(S1), 1–4. https://doi.org/10.1186/s12978-021-01145-4

Chandra-Mouli, V., Parameshwar, P. S., Parry, M., Lane, C., Hainsworth, G., Wong, S., Menard-Freeman, L., Scott, B., Sullivan, E., Kemplay, M., & Say, L. (2017). A never-before opportunity to strengthen investment and action on adolescent contraception, and what we must do to make full use of it. *Reproductive Health*, *14*(1), 1–13. https://doi.org/10.1186/s12978-017-0347-9

Chandra-Mouli, V., Plesons, M., Adebayo, E., Amin, A., Avni, M., Kraft, J. M., Lane, C., Brundage, C. L., Kreinin, T., Bosworth, E., Garcia-Moreno, C., & Malarcher, S. (2017). Implications of the Global Early Adolescent Study's formative research findings for action and for research. *Journal of Adolescent Health*, *61*(4S), S5–S9. https://doi.org/10.1016/j.jadohealth.2017.07.012

Chandra-Mouli, V., Svanemyr, J., Amin, A., Fogstad, H., Say, L., Girard, F., & Temmerman, M. (2015). Twenty years after international conference on population and development: Where are we with adolescent sexual and reproductive health and rights? *Journal of Adolescent Health*. https://doi.org/10.1016/j.jadohealth.2014.09.015

Chen, J., Liu, H., & Xie, Z. (2010). Effects of rural-urban return migration on women's family planning and reproductive health attitudes and behavior in rural China. *Studies in Family Planning*, *41*(1), 31–44. https://doi.org/10.1111/j.1728-4465.2010.00222.x

Chiang, I.-C. A., Jhangiani, R. S., & Price, P. C. (2021). Reliability and validity of measurement. In *Research methods in Psychology: Vol. 2nd edition* (pp. 96–102). https://opentextbc.ca/researchmethods/chapter/reliability-and-validity-of-measurement/

Chimbindi, N., Ngema, U., Ngwenya, N., Gibbs, A., Groenewald, C., Harling, G., Mthiyane, N., Nkosi, B., Seeley, J., & Shahmanesh, M. (2022). The sexual and reproductive health needs of school-going young people in the context of COVID-19 in rural KwaZulu-Natal, South Africa. *African Journal of AIDS Research*, *21*(2), 162–170. https://doi.org/10.2989/16085906.2022.2095921

Christofides, N. J., Jewkes, R. K., Dunkle, K. L., McCarty, F., Shai, N. J., Nduna, M., & Sterk, C. (2015). Risk factors for unplanned and unwanted teenage pregnancies occurring over two years of follow-up among a cohort of young South African women. *Global Health Action*, *8*(1). https://doi.org/10.3402/gha.v7.23719

Christofides, N. J., Jewkes, R. K., Dunkle, K. L., Nduna, M., Shai, N. J., & Sterk, C. (2014). Early adolescent pregnancy increases risk of incident HIV infection in the eastern cape, south africa: A longitudinal study. *Journal of the International AIDS Society*, *17*, 1–7. https://doi.org/10.7448/IAS.17.1.18585

Chu, J. Y., Porche, M. V, & Tolman, D. L. (2005). The adolescent masculinity ideology in relationships scale: Development and validation of a new measure for boys. *Men and Masculinities*, *8*(1), 93–115. https://doi.org/10.1177/1097184X03257453

Chung, H. W., Kim, E. M., & Lee, J. E. (2018). Comprehensive understanding of risk and protective factors related to adolescent pregnancy in low- and middle-income countries: A

systematic review. *Journal of Adolescence*, *69*(October), 180–188. https://doi.org/10.1016/j.adolescence.2018.10.007

Cislaghi, B., Bhatia, A., Li, M., Lian, Q., Baird, S., Kayembe, P., Chipeta, E., & Moreau, C. (2021). Changes in the sexual double standard associated with sociodevelopmental factors among young adolescents in Kinshasa. *Journal of Adolescent Health*, *69*(1), S23–S30. https://doi.org/10.1016/j.jadohealth.2020.07.041

City of Cape Town. (2013). City of Cape Town – 2011 Census suburb overview Strand. In *City of Cape town, Statistics South Africa* (Issue July).

City of Cape Town. (2020). *City of Cape Town: Profile and Analysis*. https://www.cogta.gov.za/ddm/wp-content/uploads/2020/11/City-of-CT-September-2020.pdf

City of Cape Town Organizational Policy and Planning Department. (2018). *Violence crime in Cape Town 2005/6-2016/17 and violence crime rates by Police Precincts in Cape Town 2011/12, 2014/15 and 2016/17*. https://resource.capetown.gov.za/documentcentre/Documents/City research reports and review/Violent Crime in Cape Town and Violent Crime rates by Police Precinct 2016_17_Final.pdf

City of Cape Town, & Statistics South Africa. (2013a). *City of Cape Town – 2011 Census Suburb Kuils River* (Issue July).

City of Cape Town, & Statistics South Africa. (2013b). *City of Cape Town – 2011 Census Suburb Mfuleni* (Issue July).

Clark, C. J., Ferguson, G., Shrestha, B., Shrestha, P. N., Oakes, J. M., Gupta, J., McGhee, S., Cheong, Y. F., & Yount, K. M. (2018). Social norms and women's risk of intimate partner violence in Nepal. *Social Science and Medicine*, *202*(February), 162–169. https://doi.org/10.1016/j.socscimed.2018.02.017

Cluver, L. D., Meinck, F., Steinert, J. I., Shenderovich, Y., Doubt, J., Romero, R. H., Lombard, C. J., Redfern, A., Ward, C. L., Tsoanyane, S., Nzima, D., Sibanda, N., Wittesaele, C., De Stone, S., Boyes, M. E., Catanho, R., Lachman, J. M. L., Salah, N., Nocuza, M., & Gardner, F. (2018). Parenting for lifelong health: A pragmatic cluster randomised controlled trial of a non-commercialised parenting programme for adolescents and their families in South Africa. *BMJ Global Health*, *3*(1), 1–15. https://doi.org/10.1136/bmjgh-2017-000539

Cluver, L., Orkin, M., Boyes, M. E., & Sherr, L. (2015). Child and adolescent suicide attempts, suicidal behavior, and adverse childhood experiences in South Africa: A prospective study. *Journal of Adolescent Health*, *57*(1), 52–59. https://doi.org/10.1016/j.jadohealth.2015.03.001

Cochrane, L., & Rao, N. (2019). Is the push for gender sensitive research advancing the SDG agenda of leaving no one behind? *Forum for Development Studies*, *46*(1), 45–65. https://doi.org/10.1080/08039410.2018.1427623

Columbia University. (2020). *South Africa 2020: Impacts of COVID-19 on and Sexual and Reproductive programs and services* (Issue April).

Connell, R. (1985). Theorizing gender. *Sociology*, *19*(2), 260–272.

Connell, R. (1987). *Gender and power: Society, the person, and sexual politics*. Stanford University Press.

Connell, R. (2021). *Masculinities*. http://www.raewynconnell.net/p/masculinities_20.html

Connell, R., & Messerschmidt, J. W. (2005). Hegemonic masculinity rethinking the concept. *Gender and Society*, *19*(6), 829–859. https://doi.org/10.1177/0891243205278639

Cooper, D., Green, G., Tembo, D., & Christie, S. (2019). Levels of resilience and delivery of HIV care in response to urban violence and crime. *Journal of Advanced Nursing*, *75*(8), 1723–1731. https://doi.org/10.1111/jan.14022

Cooper, D., Harries, J., Moodley, J., Constant, D., Hodes, R., Mathews, C., Morroni, C., & Hoffman, M. (2016). Coming of age? Women's sexual and reproductive health after twenty-one years of democracy in South Africa. *Reproductive Health Matters*, *24*(48), 79–89. https://doi.org/10.1016/j.rhm.2016.11.010

Cooper, D., & Tabana, H. (2021). Women, men, and health. In R. Detels, A. K. Quarraisha, F. Baum, L. Li, & A. H. Leyland (Eds.), *Oxford textbook of Global Public Health* (7th editio, pp. 415–443). Oxford University Press. https://doi.org/10.1093/med/9780198816805.001.0001

Crooks, C. V., Jaffe, P., Dunlop, C., Kerry, A., & Exner-Cortens, D. (2019). Preventing gender-based violence among adolescents and young adults: Lessons from 25 years of program development and evaluation. *Violence Against Women*, *25*(1), 29–55. https://doi.org/10.1177/1077801218815778

Culbreth, R., Swahn, M. H., Salazar, L. F., Kasirye, R., & Musuya, T. (2019). Intimate partner violence and associated risk factors among youth in the slums of Kampala. *Journal of Interpersonal Violence*, 1–20. https://doi.org/10.1177/0886260519889927

Dahl, R. E. (2016). The developmental neuroscience of adolescence: Revisiting, refining, and extending seminal models. *Developmental Cognitive Neuroscience*, *17*(December 2015), 101–102. https://doi.org/10.1016/j.dcn.2015.12.016

Darroch, J. E., Woog, V., Bankole, A., & Ashford, L. S. (2016). *Adding it up: Costs and benefits of meeting the contraceptive needs of adolescents* (Issue May). https://www.guttmacher.org/report/adding-it-meeting-contraceptive-needs-of-adolescents

Das-Munshi, J., Lund, C., Mathews, C., Clark, C., Rothon, C., & Stansfeld, S. (2016). Mental health inequalities in adolescents growing up in post-apartheid South Africa: Cross-sectional survey, SHaW study. *PLoS ONE*, *11*(5), 1–16. https://doi.org/10.1371/journal.pone.0154478

De Meyer, S., Jaruseviciene, L., Zaborskis, A., Decat, P., Vega, B., Cordova, K., Temmerman, M., Degomme, O., & Michielsen, K. (2014). A cross-sectional study on attitudes toward gender equality, sexual behavior, positive sexual experiences, and communication about sex among sexually active and non-sexually active adolescents in Bolivia and Ecuador. *Global Health Action*. https://doi.org/10.3402/gha.v7.24089

De Neve, J. W., Karlsson, O., Canavan, C. R., Chukwu, A., Adu-Afarwuah, S., Bukenya, J., Darling, A. M., Harling, G., Moshabela, M., Killewo, J., Fink, G., Fawzi, W. W., & Berhane, Y. (2020). Are out-of-school adolescents at higher risk of adverse health outcomes? Evidence from 9 diverse settings in sub-Saharan Africa. *Tropical Medicine and International Health*, *25*(1), 70–80. https://doi.org/10.1111/tmi.13328

De Wet, N., Somefun, O., & Rambau, N. (2018). Perceptions of community safety and social activity participation among youth in South Africa. *PLoS ONE*, *13*(5), 1–11. https://doi.org/10.1371/journal.pone.0197549

Decker, M. R., Peitzmeier, S., Olumide, A., Acharya, R., Ojengbede, O., Covarrubias, L., Gao, E., Cheng, Y., Delany-Moretlwe, S., & Brahmbhatt, H. (2014). Prevalence and health impact of intimate partner violence and non-partner sexual violence among female adolescents aged 15-19 years in vulnerable urban environments: A multi-country study.

Journal of Adolescent Health, *55*(6), S58–S67.
https://doi.org/10.1016/j.jadohealth.2014.08.022

Decker, M. R., Wood, S. N., Ndinda, E., Yenokyan, G., Sinclair, J., Maksud, N., Ross, B.,
Omondi, B., & Ndirangu, M. (2018). Sexual violence among adolescent girls and young
women in Malawi: A cluster-randomized controlled implementation trial of empowerment
self-defense training. *BMC Public Health*, *18*(1), 1–13. https://doi.org/10.1186/s12889-018-
6220-0

Department of Basic Education. (2011). *Curriculum and assessment policy statement grades 7-
9: life orientation*. https://doi.org/10.4324/9781315067070

Department of Basic Education Republic of South Africa. (2014). *Policy on screening,
identification, assessment and support 2014*. http://www.education.gov.za

Department of Social Development. (2014). *South African Integrated Programme of Action:
Adressing Violence Against Women and Children 2013-2018*. www.dsd.gov.za

Dharani, B., Vergo, O., & April, K. (2021). An intersectional approach to hegemonic masculinity
and internal hegemony: a thematic analysis in South African men. *Journal of Gender
Studies*, *30*(3), 329–343. https://doi.org/10.1080/09589236.2020.1852918

Dick, B., & Ferguson, B. J. (2015). Health for the world's adolescents: A second chance in the
second decade. *Journal of Adolescent Health*, *56*(1), 3–6.
https://doi.org/10.1016/j.jadohealth.2014.10.260

Dioubaté, N., Manet, H., Bangoura, C., Sidibé, S., Kouyaté, M., Kolie, D., Ayadi, A. M. el, &
Delamou, A. (2021). Barriers to contraceptive use among urban adolescents and youth in
Conakry, in 2019, Guinea. *Frontiers in Global Women's Health*, *2*(July), 1–11.
https://doi.org/10.3389/fgwh.2021.655929

Docrat, S., Besada, D., & Lund, C. (2019). *An evaluation of the health system costs of mental
health services and programmes in South Africa* (Issue October).

Donenberg, G., Naidoo, P., Kendall, A., Emerson, E., Ward, C. L., Kagee, A., Simbayi, L.,
Vermaak, R., North, A., Mthembu, J., & MacKesy-Amiti, M. E. (2020). Pathways from
witnessing community violence to mental health problems among South African
adolescents. *South African Medical Journal*, *110*(2), 145–153.
https://doi.org/10.7196/SAMJ.2020.v110i2.13929

Du Toit, S., Haag, K., Skeen, S., Sherr, L., Orkin, M., Rudgard, W. E., Marlow, M., Mehbratu,
H., Steventon Roberts, K., & Tomlinson, M. (2022). Accelerating progress towards
improved mental health and healthy behaviours in adolescents living in adversity: findings
from a longitudinal study in South Africa. *Psychology, Health and Medicine*, *August*(08),
1–13. https://doi.org/10.1080/13548506.2022.2108081. Epub ahead of print

Duby, Z., McClinton Appollis, T., Jonas, K., Maruping, K., Dietrich, J., LoVette, A., Kuo, C.,
Vanleeuw, L., & Mathews, C. (2021). "As a young pregnant girl… The challenges you
face": Exploring the intersection between mental health and sexual and reproductive health
amongst adolescent girls and young women in South Africa. *AIDS and Behavior*, *25*(2),
344–353. https://doi.org/10.1007/s10461-020-02974-3

Durowade, K. A., Babatunde, O. A., Omokanye, L. O., Elegbede, O. E., Ayodele, L. M.,
Adewoye, K. R., Adetokunbo, S., Olomofe, C. O., Fawole, A. A., Adebola, O. E., &
Olaniyan, T. O. (2017). Early sexual debut: Prevalence and risk factors among secondary
school students in Ido-Ekiti, Ekiti state, South-West Nigeria. *African Health Sciences*,
17(3), 614–622. https://doi.org/10.4314/ahs.v17i3.3

Dzomba, A., Tomita, A., Govender, K., & Tanser, F. (2019). Effects of migration on risky sexual behavior and HIV acquisition in South Africa: A systematic review and meta-analysis, 2000–2017. *AIDS and Behavior*, *23*(6), 1396–1430. https://doi.org/10.1007/s10461-018-2367-z

East, P. L., & Felice, M. E. (1992). Pregnancy risk among the younger sisters of pregnant and childbearing adolescents. *Journal of Developmental and Behavioral Pediatrics*, *13*(2), 128–136. https://doi.org/10.1097/00004703-199204000-00010

Edberg, M., Shaikh, H., Thurman, S., & Rimal, R. N. (2015). *Background literature on violence against children in South Africa: Foundation for a phased Communications for Development (C4D) strategy*.

Edwards, K. M., Siller, L., Eliason, S., Hernandez, N., Jones, J., Richardson, A., & Schmidt, A. J. (2021). The girls' leadership academy: A promising, empowerment-based approach to the prevention of sexual violence. *Violence Against Women*. https://doi.org/10.1177/10778012211051402

Espinoza, C., Samandari, G., & Andersen, K. (2020). Abortion knowledge, attitudes and experiences among adolescent girls: a review of the literature. *Sexual and Reproductive Health Matters*, *28*(1). https://doi.org/10.1080/26410397.2020.1744225

Evans, M., Risher, K., Zungu, N., Shisana, O., Moyo, S., Celentano, D. D., Maughan-brown, B., & Rehle, T. M. (2016). Age-disparate sex and HIV risk for young women from 2002 to 2012 in South Africa. *Journal of the International AIDS Society*, *19*(1), 1–16. https://doi.org/10.1080/17582652.2016.1268794

Exner-Cortens, D., Wright, A., Claussen, C., & Truscott, E. (2021). A systematic review of adolescent masculinities and associations with internalizing behavior problems and social support. *American Journal of Community Psychology*, *68*(1–2), 215–231. https://doi.org/10.1002/ajcp.12492

Ezenwaka, U., Mbachu, C., Ezumah, N., Eze, I., Agu, C., Agu, I., & Onwujekwe, O. (2020). Exploring factors constraining utilization of contraceptive services among adolescents in Southeast Nigeria: An application of the socio-ecological model. *BMC Public Health*, *20*(1), 1–11. https://doi.org/10.1186/s12889-020-09276-2

Fabrigar, L. R., MacCallum, R. C., Wegener, D. T., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, *4*(3), 272–299. https://doi.org/10.1037/1082-989X.4.3.272

Falconer, N. S., Casale, M., Kuo, C., Nyberg, B. J., Hillis, S. D., & Cluver, L. D. (2020). Factors that protect children from community violence: Applying the INSPIRE model to a sample of South African children. *Journal of Interpersonal Violence*. https://doi.org/10.1177/0886260519898425

Fang, X., Fry, D. A., Ganz, G., Casey, T., & Ward, C. L. (2016). *Violence unwrapped: the social and economic burden of violence against children in South Africa*.

Faragó, F., Xu, J., Eggum-Wilkens, N. D., Zhang, L., An, D., Kim, E., & Adams, E. (2021). Ugandan adolescents' attitudes toward, and shared activities with, same- and other-gender peers and friends. *Youth and Society*. https://doi.org/10.1177/0044118X21998717

Fevriasanty, F. I., Suyanto, B., Soedirham, O., Sugihartati, R., & Ahsan, A. (2021). Effects of social media exposure on adolescent sexual attitudes and behavior: A systematic review. *International Journal of Public Health Science*, *10*(2), 272–280. https://doi.org/10.11591/ijphs.v10i2.20818

Figueiredo Filho, D. B., Silva, J. A., & Rocha, E. (2011). What is R2 all about? *Leviathan-Cadernos de Pesquisa Politica*, *3*, 60–68. https://doi.org/10.11606/issn.2237-4485.lev.2011.132282

Finlay, J. E., Assefa, N., Mwanyika-Sando, M., Dessie, Y., Harling, G., Njau, T., Chukwu, A., Oduola, A., Shah, I., Adanu, R., & Bukenya, J. (2020). Sexual and reproductive health knowledge among adolescents in eight sites across sub-Saharan Africa. In *Tropical Medicine and International Health* (Vol. 25, Issue 1, pp. 44–53). https://doi.org/10.1111/tmi.13332

Finlay, J. E., & Lee, M. A. (2018). Identifying causal effects of reproductive health improvements on women's economic empowerment through the population poverty research initiative. *The Milbank Quarterly*, *96*(2), 300–322.

Ford, J., MacCallum, R., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology*, *39*(2), 291–314. https://doi.org/https://doi.org/10.1111/j.1744-6570.1986.tb00583.x

Garcia-Moreno, C., Jansen, H. A. F. M., Ellsberg, M., Heise, L., & Watts, C. (2005a). *WHO multi-country study on women's health and domestic violence against women*. WHO.

Garcia-Moreno, C., Jansen, H. A. F. M., Ellsberg, M., Heise, L., & Watts, C. (2005b). WHO Multi-country study on women's health and domestic violence against women: Report on the first results. *World Health Organization*, 55–89.

Garrido, E. F., Weiler, L. M., & Taussig, H. N. (2018). Adverse childhood experiences and health-risk behaviors in vulnerable early adolescents. *Journal of Early Adolescence*, *38*(5), 661–680. https://doi.org/10.1177/0272431616687671

Gauthier-Duchesne, A., Hébert, M., & Blais, M. (2021). Child sexual abuse, self-esteem, and delinquent behaviors during adolescence: The moderating role of gender. *Journal of Interpersonal Violence*, 1–20. https://doi.org/10.1177/08862605211001466

Gebeyehu, D. A., & Mulatie, M. (2021). Risky sexual behavior and its associated factors among patients with severe mental disorder in University of Gondar Comprehensive Specialized Hospital, 2018. *BMC Psychiatry*, *21*(1), 1–10. https://doi.org/10.1186/s12888-021-03054-z

Gibbs, A., Dunkle, K., & Jewkes, R. (2018). Emotional and economic intimate partner violence as key drivers of depression and suicidal ideation: A cross-sectional study among young women in informal settlements in South Africa. *PLoS ONE*, *13*(4), 1–18. https://doi.org/10.1371/journal.pone.0194885

Gibbs, A., Dunkle, K., Ramsoomar, L., Willan, S., Jama Shai, N., Chatterji, S., Naved, R., & Jewkes, R. (2020). New learnings on drivers of men's physical and/or sexual violence against their female partners, and women's experiences of this, and the implications for prevention interventions. *Global Health Action*, *13*(1). https://doi.org/10.1080/16549716.2020.1739845

Gibbs, A., Jewkes, R., & Sikweyiya, Y. (2018). "I tried to resist and avoid bad friends": The role of social contexts in shaping the transformation of masculinities in a gender transformative and livelihood strengthening intervention in South Africa. *Men and Masculinities*, *21*(4), 501–520. https://doi.org/10.1177/1097184X17696173

Gibbs, A., Jewkes, R., Willan, S., & Washington, L. (2018). Associations between poverty, mental health and substance use, gender power, and intimate partner violence amongst young (18-30) women and men in urban informal settlements in South Africa: A cross-sectional study and structural equation model. *PLoS ONE*, *13*(10), 1–19. https://doi.org/10.1371/journal.pone.0204956

Gibbs, A., Myrttinen, H., Washington, L., Sikweyiya, Y., & Jewkes, R. (2020). Constructing, reproducing and challenging masculinities in a participatory intervention in urban informal settlements in South Africa. *Culture, Health and Sexuality*, *22*(5), 535–550. https://doi.org/10.1080/13691058.2019.1614671

Gibbs, A., Sikweyiya, Y., & Jewkes, R. (2015). "Men value their dignity": Securing respect and identity construction in urban informal settlements in South Africa. *Global Health Action*, *8*(1). https://doi.org/10.3402/gha.v7.23676

Gibbs, A., Willan, S., & Jewkes, R. (2021). Cellphones and romantic relationships of young women in urban informal settlements in South Africa. *Culture, Health and Sexuality*, *24*(10), 1380–1394. https://doi.org/10.1080/13691058.2021.1953609

Gilbert, L. K., Annor, F. B., & Kress, H. (2020). Associations between endorsement of inequitable gender norms and intimate partner violence and sexual risk behaviors among youth in Nigeria: Violence against children survey, 2014. *Journal of Interpersonal Violence*. https://doi.org/10.1177/0886260520978196

Girls Not Brides. (2022). *South Africa*. https://www.girlsnotbrides.org/learning-resources/child-marriage-atlas/regions-and-countries/south-africa/

Girmay, A., Mariye, T., & Gerensea, H. (2019). Early sexual debut and associated factors among secondary school students of central zone of tigray, Northern Ethiopia, 2018. *Pan African Medical Journal*, *34*, 1–8. https://doi.org/10.11604/pamj.2019.34.1.17139

Global Early Adolescent Study. (2021). *Ethics in research and programming with very young adolescents*. https://www.geastudy.org/training-suite-ethics

Global Early Adolescent Study, & Save the Children. (2022). *Ethics in research and programming with adolescents: Capturing the perspectives of international organizations*.

Global Health 50/50 Initiative. (2018). *The Global Health 50/50 Report. How gender-responsive are the world's most influential global health organisations?* https://globalhealth5050.org/wp-content/uploads/2018/03/GH5050-Report-2018_Final.pdf

Goga, A., Bekker, L. G., Van de Perre, P., El-Sadr, W., Ahmed, K., Malahleha, M., Ramraj, T., Ramokolo, V., Magasana, V., & Gray, G. (2020). Centering adolescent girls and young women in the HIV and COVID-19 responses. *The Lancet, 396*(10266), 1864–1866. https://doi.org/10.1016/S0140-6736(20)32552-6

Gordis, L. (2009). *Epidemiology* (4th ed.). Saunders Elsevier.

Gouws, A. (2021). Reducing women to bare life: Sexual violence in South Africa. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics*, *5*(1), 03. https://doi.org/10.20897/femenc/9740

Govender, D., Naidoo, S., & Taylor, M. (2018). Scoping review of risk factors of and interventions for adolescent repeat pregnancies: A public health perspective. *African Journal of Primary Health Care and Family Medicine*, *10*(1). https://doi.org/10.4102/phcfm.v10i1.1685

Govender, D., Naidoo, S., & Taylor, M. (2019a). Knowledge, attitudes and peer influences related to pregnancy, sexual and reproductive health among adolescents using maternal health services in Ugu, KwaZulu-Natal, South Africa. *BMC Public Health*, *19*(1), 1–16. https://doi.org/10.1186/s12889-019-7242-y

Govender, D., Naidoo, S., & Taylor, M. (2019b). Prevalence and Risk Factors of Repeat Pregnancy among South African Adolescent Females. *African Journal of Reproductive Health*, *23*(1), 73–87. https://doi.org/10.29063/ajrh2019/v23i1.8

Govender, D., Naidoo, S., & Taylor, M. (2020). "My partner was not fond of using condoms and i was not on contraception": Understanding adolescent mothers' perspectives of sexual risk behaviour in KwaZulu-Natal, South Africa. *BMC Public Health*, *20*(1), 1–17. https://doi.org/10.1186/s12889-020-08474-2

Govender, K., Bhana, A., McMurray, K., Kelly, J., Theron, L., Meyer-Weitz, A., Ward, C. L., & Tomlinson, M. (2019). A systematic review of the South African work on the well-being of young people (2000–2016). *South African Journal of Psychology*, *49*(1), 52–69. https://doi.org/10.1177/0081246318757932

Graham, C., & Pozuelo, J. R. (2022). Do high aspirations lead to better outcomes? Evidence from a longitudinal survey of adolescents in Peru. In *Journal of Population Economics* (Issue 0123456789). Springer Berlin Heidelberg. https://doi.org/10.1007/s00148-021-00881-y

Graham, L., & Mphaphuli, M. (2018). "A guy 'does' and you don't, they do you instead": Young people's narratives of gender and sexuality in a low-income context of South Africa. *SAGE Open*, *8*(4). https://doi.org/10.1177/2158244018819041

Greene, M. E., & Patton, G. C. (2020). Adolescence and gender equality in Health. *Journal of Adolescent Health*, *66*(1), S1–S2. https://doi.org/10.1016/j.jadohealth.2019.10.012

Grose, R. G., Chen, J. S., Roof, K. A., Rachel, S., & Yount, K. M. (2021). Sexual and reproductive health outcomes of violence against women and girls in lower-income countries: A review of reviews. *Journal of Sex Research*, *58*(1), 1–20. https://doi.org/10.1080/00224499.2019.1707466

Gunawardena, N., Fantaye, A. W., & Yaya, S. (2019). Predictors of pregnancy among young people in sub-Saharan Africa: A systematic review and narrative synthesis. *BMJ Global Health*, *4*(3), 1–8. https://doi.org/10.1136/bmjgh-2019-001499

Gupta, G. R., Oomman, N., Grown, C., Conn, K., Hawkes, S., Shawar, Y. R., Shiffman, J., Buse, K., Mehra, R., Bah, C. A., Heise, L., Greene, M. E., Weber, A. M., Heymann, J., Hay, K., Raj, A., Henry, S., Klugman, J., & Darmstadt, G. L. (2019). Gender equality and gender norms: framing the opportunities for health. *The Lancet*, *393*(10190), 2550–2562. https://doi.org/10.1016/S0140-6736(19)30651-8

Guttmacher Institute. (2017). *The sexual and reproductive health needs of very young adolescents In developing countries: what does the evidence show? May*. https://www.guttmacher.org/fact-sheet/srh-needs-very-young-adolescents-in-developing-countries

Güzel, H. (2019). Sprague, C. Gender and HIV in South Africa: Advancing women's health & capabilities. London: Palgrave Macmillan. (2018) 404 pp. ISBN 978-1-137-55996-8. *Sociology of Health & Illness*, *41*(3), 619–621. https://doi.org/10.1111/1467-9566.12858

Gwyther, K., Swann, R., Casey, K., Purcell, R., & Rice, S. M. (2019). Developing young men's wellbeing through community and school-based programs: A systematic review. *PLoS ONE*, *14*(5). https://doi.org/10.1371/journal.pone.0216955

Haag, K., Du Toit, S., Skeen, S., Steventon Roberts, K., Chideya, Y., Notholi, V., Sambudla, A., Gordon, S., Sherr, L., & Tomlinson, M. (2022). Predictors of COVID-related changes in mental health in a South African sample of adolescents and young adults. *Psychology, Health and Medicine*, *00*(00), 1–17. https://doi.org/10.1080/13548506.2022.2108087

Habraken, R. (2018). *Youth aspirations , gender , and peer influences in eastern Uganda* (Issue November) [University of East Anglia]. https://core.ac.uk/download/pdf/210994765.pdf

Habte, A., Dessu, S., Bogale, B., & Lemma, L. (2022). Disparities in sexual and reproductive health services utilization among urban and rural adolescents in southern Ethiopia, 2020: a comparative cross-sectional study. *BMC Public Health*, *22*(1), 1–17. https://doi.org/10.1186/s12889-022-12634-x

Hailegebreal, S., Gilano, G., Seboka, B. T., Sidelil, H., & Awol, S. M. (2022). Prevalence and associated factors of early sexual initiation among female youth in East Africa : further analysis of recent demographic and health survey. *BMC Women's Health*, 1–9. https://doi.org/10.1186/s12905-022-01895-8

Halimi, M., Davis, S. N., & Consuegra, E. (2021). The power of peers? Early adolescent gender typicality, peer relations, and gender role attitudes in Belgium. *Gender Issues*, *38*(2), 210–237. https://doi.org/10.1007/s12147-020-09262-3

Hallman, K. K., Kenworthy, N. J., Diers, J., Swan, N., & Devnarain, B. (2015). The shrinking world of girls at puberty: Violence and gender-divergent access to the public sphere among adolescents in South Africa. *Global Public Health*, *10*(3), 279–295. https://doi.org/10.1080/17441692.2014.964746

Hamber, B. (2010). Masculinity and transition: Crisis or confusion in South Africa? *Journal of Peacebuilding & Development*, *5*(3), 75–88. https://doi.org/10.1080/15423166.2010.121687238771

Hamlall, V. (2018). Heterosexual relationships among young black men in the construction of masculinity at a South African university. *Social Dynamics*, *44*(2), 306–321. https://doi.org/10.1080/02533952.2018.1481686

Han, L., You, D., Gao, X., Duan, S., Hu, G., Wang, H., Liu, S., & Zeng, F. (2019). Unintentional injuries and violence among adolescents aged 12–15 years in 68 low-income and middle-income countries: a secondary analysis of data from the Global School-Based Student Health Survey. *The Lancet Child and Adolescent Health*, *3*(9), 616–626. https://doi.org/10.1016/S2352-4642(19)30195-6

Hankivsky, O. (2014). Rethinking care ethics: On the promise and potential of an intersectional analysis. *American Political Science Review*, *108*(2), 252–264. https://doi.org/10.1017/S0003055414000094

Hardy, S. A., Hurst, J. L., Price, J., & Denton, M. L. (2019). The socialization of attitudes about sex and their role in adolescent pornography use. *Journal of Adolescence*, *72*(February), 70–82. https://doi.org/10.1016/j.adolescence.2019.02.007

Harrison, A., Hoffman, S., Mantell, J. E., Smit, J. A., Leu, C. S., Exner, T. M., & Stein, Z. A. (2016). Gender-focused HIV and pregnancy prevention for school-going adolescents: the Mpondombili pilot intervention in KwaZulu-Natal, South Africa. *J HIV AIDS Soc Serv.*, *15*(1), 29–47. https://doi.org/10.1080/15381501.2014.999183

Hatcher, A. M., Gibbs, A., Jewkes, R., McBride, R. S., Peacock, D., & Christofides, N. (2019). Effect of childhood poverty and trauma on adult depressive symptoms among young men in peri-urban South African settlements. *Journal of Adolescent Health*, *64*(1), 79–85. https://doi.org/10.1016/j.jadohealth.2018.07.026

Hatcher, A. M., Gibbs, A., McBride, R. S., Rebombo, D., Khumalo, M., & Christofides, N. J. (2019). Gendered syndemic of intimate partner violence, alcohol misuse, and HIV risk among peri-urban, heterosexual men in South Africa. *Social Science and Medicine*, *295*(2022), 112637. https://doi.org/10.1016/j.socscimed.2019.112637

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative Research. *Evidence-Based Nursing*, *18*(3), 66–67. https://doi.org/10.15295/bmij.v8i3.1540

Hearn, J., Howson, R., & Shefer, T. (2019). Routledge international handbook of masculinity studies. In *Routledge International Handbook of Masculinity Studies* (pp. 19–30). Routledge. https://doi.org/10.4324/9781315165165-2

Heinze, J. E., Hsieh, H., Thulin, E., Howe, K., Miller, A. L., & Marc, A. (2021). Adolescent exposure to violence and intimate-partner violence mediated by mental distress. *J Appl Dev Psychol.*, *72*. https://doi.org/10.1016/j.appdev.2020.101215

Heise, L. (1998). Violence against women: an integrated, ecological framework. *Violence Against Women*, *4*(3), 262–290.

Heise, L., Greene, M. E., Opper, N., Stavropoulou, M., Harper, C., Nascimento, M., & Zewdie, D. (2019). Gender inequality and restrictive gender norms: framing the challenges to health. *The Lancet*, *393*(10189), 2440–2454. https://doi.org/10.1016/S0140-6736(19)30652-X

Heise, L., & Kotsadam, A. (2015). Cross-national and multilevel correlates of partner violence: An analysis of data from population-based surveys. *The Lancet Global Health*, *3*(6), e332–e340. https://doi.org/10.1016/S2214-109X(15)00013-3

Herrero Romero, R., Hall, J., Cluver, L., Meinck, F., & Hinde, E. (2021). How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa? *Journal of Interpersonal Violence*, *36*(7–8), NP3661–NP3694. https://doi.org/10.1177/0886260518779597

Hess, L. (2012). *Intersectionality: A systematic review and application to explore the complexity of teen pregnancy involvement*. Columbia University.

Hillis, S., Mercy, J., Amobi, A., & Kress, H. (2016). Global prevalence of past-year violence against children: A systematic review and minimum estimates. *Pediatrics*, *137*(3). https://doi.org/10.1542/peds.2015-4079

Högnäs, R. S., Almquist, Y. B., & Modin, B. (2020). Adolescent social isolation and premature mortality in a Swedish birth cohort. *Journal of Population Research*, *37*(1), 1–23. https://doi.org/10.1007/s12546-019-09237-6

Holmes, M. R., Berg, K. A., Bender, A. E., Evans, K. E., O'Donnell, K., & Miller, E. K. (2022). Nearly 50 years of child exposure to intimate partner violence empirical research: Evidence mapping, overarching themes, and future directions. *Journal of Family Violence*, *0123456789*. https://doi.org/10.1007/s10896-021-00349-3

Hoosen, P., Adams, S., Tiliouine, H., & Savahl, S. (2022). Youth and adolescents' perceptions of violence in post-Apartheid South Africa: A systematic review of the literature. *Child Indicators Research*, *15*(3), 885–911. https://doi.org/10.1007/s12187-021-09890-5

Hopkins, P. (2018). Feminist geographies and intersectionality. *Gender, Place and Culture*, *25*(April), 585–590.

Howell, J., Miller, P., Park, H. H., Sattler, D., Schack, T., Spery, E., Widhalm, S., & Palmquist, M. (2021). *Reliability and validity*. The WAC Clearinghouse. Colorado State University. https://wac.colostate.edu/resources/writing/guides/

Hsiao, C., Fry, D., Ward, C. L., Ganz, G., Casey, T., Zheng, X., & Fang, X. (2018). Violence against children in South Africa: The cost of inaction to society and the economy. *BMJ Global Health*, *3*(1), 1–7. https://doi.org/10.1136/bmjgh-2017-000573

Huda, M. M., O'Flaherty, M., Finlay, J. E., & Al Mamun, A. (2021). Time trends and sociodemographic inequalities in the prevalence of adolescent motherhood in 74 low-income and middle-income countries: a population-based study. *The Lancet Child and Adolescent Health*, *5*(1), 26–36. https://doi.org/10.1016/S2352-4642(20)30311-4

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, *2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Huguley, J. P., Wang, M., & Vasquez, A. C. (2019). Supplemental material for parental ethnic–racial socialization practices and the construction of children of color's ethnic–racial identity: A research synthesis and meta-analysis. *Psychological Bulletin*, *145*(5), 437–458. https://doi.org/10.1037/bul0000187.supp

Hunduma, G., Deyessa, N., Dessie, Y., Geda, B., & Yadeta, T. A. (2022). High social capital is associated with decreased mental health problem among in-school adolescents in Eastern Ethiopia: A cross-sectional study. *Psychology Research and Behavior Management*, *15*(February), 503–516. https://doi.org/10.2147/PRBM.S347261

ICPD. (2014). ICPD beyond 2014. High-level global commitments: Implementing the population and development agenda. In *ICPD Beyond*.

Igras, S. M., Macieira, M., Murphy, E., & Lundgren, R. (2014). Investing in very young adolescents' sexual and reproductive health. *Global Public Health*, *9*(5), 555–569. https://doi.org/10.1080/17441692.2014.908230

Institute for Security Studies. (2019). *Policy Brief: What will it take to prevent interpersonal violence in South Africa?*

Institute of Medicine (US) Committee on Understanding the Biology of Sex and Gender Differences. (2001). *Exploring the biological contributions to human health: does sex matter?* (T. M. Wizemann & M.-L. Pardue, Eds.). National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK222288/

International Bank for Reconstruction and Development, The World Bank, & Stats SA. (2018). *Overcoming poverty and inequality in South Africa: An assessment of drivers, constraints and opportunities*. https://doi.org/10.1596/29614

Inthavong, K., Ha, L. T. H., Anh, L. T. K., & Sychareun, V. (2020). Knowledge of safe sex and sexually transmitted infections among high school students, Vientiane Prefecture, Lao PDR. *Global Health Action*, *13*(sup2). https://doi.org/10.1080/16549716.2020.1785159

Ipas. (2019). *Abortion among adolescents and girls*. https://doi.org/10.1037/0003-066X.58.3.211

Jacobs, T., & George, A. (2021). Democratic South Africa at 25 – a conceptual framework and narrative review of the social and structural determinants of adolescent health. *Globalization and Health*, *17*(1), 1–11. https://doi.org/10.1186/s12992-021-00679-3

Jacobs, T., George, A., & Jong, M. De. (2021). Policy foundations for transformation: a gender analysis of adolescent health policy documents in South Africa. *Health Policy And Planning*, *April*. https://doi.org/10.1093/heapol/czab041

Jalanko, E., Leppälahti, S., Heikinheimo, O., & Gissler, M. (2017). Increased risk of premature death following teenage abortion and childbirth-a longitudinal cohort study. *European Journal of Public Health*, *27*(5), 845–849. https://doi.org/10.1093/eurpub/ckx065

Janmaat, A. (2020). *Who influences the gender norms of adolescents?* (Issue June). Utreht University.

Jaspan, H. B., Flisher, A. J., Myer, L., Mathews, C., Seebregts, C., Berwick, J. R., Wood, R., & Bekker, L. G. (2007). Brief report: Methods for collecting sexual behaviour information from South African adolescents- a comparison of paper versus personal digital assistant questionnaires. *Journal of Adolescence*, *30*(2), 353–359. https://doi.org/10.1016/j.adolescence.2006.11.002

286

Jewkes, R., & Abrahams, N. (2002). The epidemiology of rape and sexual coercion in South Africa: An overview. *Social Science and Medicine*, *55*(7), 1231–1244. https://doi.org/10.1016/S0277-9536(01)00242-8

Jewkes, R., Dunkle, K., Nduna, M., & Shai, N. (2010). Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: A cohort study. *The Lancet*, *376*(9734), 41–48. https://doi.org/10.1016/S0140-6736(10)60548-X

Jewkes, R., Dunkle, K., Nduna, M., Shai, P. N. J., & Puren, A. (2010). Associations between childhood adversity and depression, substance abuse and HIV & HSV2 incident infections in rural South African youth. *Child Abuse Negl*, *34*(11), 833–841. https://doi.org/10.1016/j.chiabu.2010.05.002.Associations

Jewkes, R., Flood, M., & Lang, J. (2015). From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls. *The Lancet*, *385*(9977), 1580–1589. https://doi.org/10.1016/S0140-6736(14)61683-4

Jewkes, R., & Morrell, R. (2010). Gender and sexuality: Emerging perspectives from the heterosexual epidemic in South Africa and implications for HIV risk and prevention. *Journal of the International AIDS Society*, *13*(1), 1–11. https://doi.org/10.1186/1758-2652-13-6

Jewkes, R., & Morrell, R. (2012). Sexuality and the limits of agency among South African teenage women: Theorising femininities and their connections to HIV risk practises. *Social Science and Medicine*, *74*(11), 1729–1737. https://doi.org/10.1016/j.socscimed.2011.05.020

Jewkes, R., & Morrell, R. (2018). Hegemonic masculinity, violence, and gender equality: Using latent vlass snalysis to investigate the origins and correlates of differences between men. *Men and Masculinities*, *21*(4), 547–571. https://doi.org/10.1177/1097184X17696171

Jewkes, R., Morrell, R., & Christofides, N. (2009). Empowering teenagers to prevent pregnancy: Lessons from South Africa. *Culture, Health and Sexuality*, *11*(7), 675–688. https://doi.org/10.1080/13691050902846452

Jewkes, R., Morrell, R., Hearn, J., Lundqvist, E., Blackbeard, D., Lindegger, G., Quayle, M., Sikweyiya, Y., & Gottzén, L. (2015). Hegemonic masculinity: combining theory and practice in gender interventions. *Culture, Health and Sexuality*, *17*, 96–111. https://doi.org/10.1080/13691058.2015.1085094

Jewkes, R., Sikweyiya, Y., Morrell, R., & Dunkle, K. (2009). *Understanding men's health and use of violence: interface of rape and HIV in South Africa*.

Jewkes, R., Vundule, C., Maforah, F., & Jordaan, E. (2001). Relationship dynamics and teenage pregnancy in South Africa. *Social Science and Medicine*, *52*(5), 733–744. https://doi.org/10.1016/S0277-9536(00)00177-5

Jiang, W., Ji, M., Chi, X., & Sun, X. (2022). Relationship between adverse childhood experiences and mental health in Chinese adolescents: Differences among girls and boys. *Children*, *9*(5). https://doi.org/10.3390/children9050689

Jochim, J., Cluver, L. D., & Meinck, F. (2021). Learner pregnancy in South Africa's Eastern Cape: The Factors affecting adolescent girls' school withdrawal during pregnancy. *International Journal of Educational Development*, *87*(March), 102484. https://doi.org/10.1016/j.ijedudev.2021.102484

John, N., Casey, S. E., Carino, G., & McGovern, T. (2020). Lessons never learned: Crisis and gender-based violence. *Developing World Bioethics*, *20*(2), 65–68. https://doi.org/10.1111/dewb.12261

John, N., Stoebenau, K., Ritter, S., Edmeades, J., & Balvin, N. (2017). *Gender socialization during adolescence in low-and middle-income countries: Conceptualization, influences and outcomes* (Innocenti Discussion Paper, Vol. 01, Issue 09, pp. 17–101). https://www.unicef-irc.org/publications/pdf/IDP_2017_01.pdf

Johns Hopkins University. (2021). *Global Early Adolescent Study*. https://www.geastudy.org

Jokinen, T., Alexander, E. C., Manikam, L., Huq, T., Patil, P., Benjumea, D., Das, I., & Davidson, L. L. (2021). A systematic review of household and family alcohol use and adolescent behavioural outcomes in low- and middle-income countries. *Child Psychiatry and Human Development*, *52*(4), 554–570. https://doi.org/10.1007/s10578-020-01038-w

Jones, C. M., Gautier, L., Kadio, K., Mac-Seing, M., Miranda, É., Omenka, C., Ouédraogo, S., Pérez, M. C., Turcotte-Tremblay, A. M., & Tiné, S. (2018). Equity in the gender equality movement in global health. *The Lancet*, *392*(10142), e2–e3. https://doi.org/10.1016/S0140-6736(18)31561-7

Jones, N., Pincock, K., Baird, S., Yadete, W., & Hamory Hicks, J. (2020). Intersecting inequalities, gender and adolescent health in Ethiopia. *International Journal for Equity in Health*, *19*(1), 1–12. https://doi.org/10.1186/s12939-020-01214-3

Jorns-Presentati, A., Napp, A. K., Dessauvagie, A. S., Stein, D. J., Jonker, D., Breet, E., Charles, W., Swart, R. L., Lahti, M., Suliman, S., Jansen, R., Van Den Heuvel, L. L., Seedat, S., & Groen, G. (2021). The prevalence of mental health problems in sub-Saharan adolescents: A systematic review. *PLoS ONE*, *16*(5 May). https://doi.org/10.1371/journal.pone.0251689

Joyner, K., Rees, K., & Honikman, S. (2015). Intimate Partner Violence (IPV) in South Africa: How to break the vicious cycle. In *CPMH Policy Brief* (Issue November).

Kabiru, C. W. (2019). Adolescents' sexual and reproductive health and rights: What has been achieved in the 25 Years since the 1994 International Conference on Population and Development and what remains to be done? *Journal of Adolescent Health*, *65*(6), S1–S2. https://doi.org/10.1016/j.jadohealth.2019.09.010

Kabiru, C. W., Elung'ata, P., Mojola, S. A., & Beguy, D. (2014). Adverse life events and delinquent behavior among Kenyan adolescents: A cross-sectional study on the protective role of parental monitoring, religiosity, and self-esteem. *Child and Adolescent Psychiatry and Mental Health*, *8*(1), 1–11. https://doi.org/10.1186/1753-2000-8-24

Kågesten, A. (2017). *"A window of opportunity": gender attitudes and patterns of romantic and sexual experiences in early adolescence* (Issue March). Johns hopkins university.

Kågesten, A., Gibbs, S., Blum, R. W., Moreau, C., Chandra-Mouli, V., Herbert, A., & Amin, A. (2016). Understanding factors that shape gender attitudes in early adolescence globally: A mixed-methods systematic review. *PLoS ONE*, *11*(6), 1–36. https://doi.org/10.1371/journal.pone.0157805

Kågesten, A., Pinandari, A. W., Page, A., Wilopo, S. A., & van Reeuwijk, M. (2021). Sexual wellbeing in early adolescence: a cross-sectional assessment among girls and boys in urban Indonesia. *Reproductive Health*, *18*(1), 1–17. https://doi.org/10.1186/s12978-021-01199-4

Kane, J., Lohan, M., & Kelly, C. (2019). Adolescent men's attitudes and decision making in relation to pregnancy and pregnancy outcomes: An integrative review of the literature from 2010 to 2017. *Journal of Adolescence*, *72*(December 2017), 23–31. https://doi.org/10.1016/j.adolescence.2018.12.008

Kangbai, D. M., Bandoh, D. A., Manu, A., Kangbai, J. Y., Kenu, E., & Addo-Lartey, A. (2022). Socio-economic determinants of maternal health care utilization in Kailahun District, Sierra

Leone, 2020. *BMC Pregnancy and Childbirth*, *22*(1), 1–14. https://doi.org/10.1186/s12884-022-04597-z

Kantorová, V. (2020). Unintended pregnancy and abortion: what does it tell us about reproductive health and autonomy? *The Lancet Global Health*, *8*(9), e1106–e1107. https://doi.org/10.1016/S2214-109X(20)30342-9

Kapungu, C., & Petroni, S. (2017). Understanding and tackling the gendered drivers of poor adolescent mental health. *International Center for Research on Women, UNICEF*, 0–23. https://www.icrw.org/wp-content/uploads/2017/09/ICRW_Unicef_MentalHealth_WhitePaper_FINAL.pdf

Kapungu, C., Petroni, S., Allen, N. B., Brumana, L., Collins, P. Y., De Silva, M., Dua, T., Haj-Ahmad, J., Leichner, A., Patton, G., Pringle, B., Omigbodun, O., Silver, K. L., Estrin, G. L., Singh, S., Zaka, N., & Zeck, W. (2018). Gendered influences on adolescent mental health in low-income and middle-income countries: recommendations from an expert convening. *The Lancet Child and Adolescent Health*, *2*(2), 85. https://doi.org/10.1016/S2352-4642(17)30152-9

Kara, R. (2020). *Non-marital fertility in South Africa: trends, determinants and implications* (Issue January) [Rhodes University]. https://commons.ru.ac.za/vital/access/services/Download/vital:41264/SOURCE1

Kassa, G. M., Arowojolu, A. O., Odukogbe, A. A., & Yalew, A. W. (2018). Prevalence and determinants of adolescent pregnancy in Africa: a systematic review and Meta-analysis. *Reproductive Health*, *15*(1), 1–17. https://doi.org/10.1186/s12978-018-0640-2

Katchova, A. (2013). *Econometrics Academy: Principal Component Analysis and Factor Analysis*. ttps://sites.google.com/site/econometricsacademy/econometrics-models/principal-component-analysis

Kawabata, Y. (2020). Measurement of peer and friend relational and physical victimization among early adolescents. *Journal of Adolescence*, *82*(March), 82–85. https://doi.org/10.1016/j.adolescence.2020.05.004

Kawuki, J., Gatasi, G., Sserwanja, Q., Mukunya, D., & Musaba, M. W. (2022). Utilisation of modern contraceptives by sexually active adolescent girls in Rwanda: a nationwide cross-sectional study. *BMC Women's Health*, *22*(1), 1–10. https://doi.org/10.1186/s12905-022-01956-y

Kelly, J., Gittings, L., Laurenzi, C., Glinski, C. D., Mangqalaza, H., Ralayo, N., Langwenya, N., Sidloyi, L., Mbiko, A., Taleni, B., Saliwe, B., & Toska, E. (2022). HIV and SRH healthcare delivery experiences of South African healthcare workers and adolescents and young people during COVID-19. *Psychology, Health and Medicine*, *00*(00), 1–12. https://doi.org/10.1080/13548506.2022.2108080

Khajehpour, M., Ghazvini, S. D., Memari, E., & Rahmani, M. (2011). Social cognitive theory of gender development and differentiation. *Procedia - Social and Behavioral Sciences*, *15*(November 1999), 1188–1198. https://doi.org/10.1016/j.sbspro.2011.03.261

Khuzwayo, N., & Taylor, M. (2018). Exploring the socio-ecological levels for prevention of sexual risk behaviours of the youth in uMgungundlovu District Municipality, KwaZulu-Natal. *African Journal of Primary Health Care and Family Medicine*, *10*(1), 1–8. https://doi.org/10.4102/phcfm.v10i1.1590

Khuzwayo, N., Taylor, M., & Connolly, C. (2020). Changing youth behaviour in South Africa. *Health SA Gesondheid*, *25*, 1–7. https://doi.org/10.4102/hsag.v25i0.1031

Kidman, R., Violari, A., & Kidman, R. (2018). Dating violence against HIV-infected youth in South Africa: Associations with sexual risk behavior, medication adherence, and mental health. *Journal of Acquired Immune Deficiency Syndromes*, *77*(1), 64–71. https://doi.org/10.1097/QAI.0000000000001569

Kiekens, W. J., Baams, L., Fish, J. N., & Watson, R. J. (2021). Associations of relationship experiences, dating violence, sexual harassment, and assault with alcohol use among sexual and gender minority adolescents. *Journal of Interpersonal Violence*. https://doi.org/10.1177/08862605211001469

Kim, Y., Lee, H., & Park, A. (2022). Patterns of adverse childhood experiences and depressive symptoms: self-esteem as a mediating mechanism. *Social Psychiatry and Psychiatric Epidemiology*, *57*(2), 331–341. https://doi.org/10.1007/s00127-021-02129-2

King, K., Rice, S., Schlichthorst, M., Chondros, P., & Pirkis, J. (2021). Gender norms and the wellbeing of girls and boys. *The Lancet Global Health*, *9*(4), e398. https://doi.org/10.1016/S2214-109X(20)30551-9

Kleijn, A. (2010). *Summary of doctoral thesis findings: The demographic profile and psychosocial history of a group of convicted perpetrators of the rape of children under the age of three years* [University of Witwatersrand]. https://doi.org/10.7312/zhao12754-003

Koenig, L. R., Blum, R. W., Shervington, D., Green, J., Li, M., Tabana, H., & Moreau, C. (2021). Unequal gender norms are related to symptoms of depression among young adolescents: A cross-sectional, cross-cultural study. *Journal of Adolescent Health*, *69*(1), S47–S55. https://doi.org/10.1016/j.jadohealth.2021.01.023

Koenig, L. R., Li, M., Zimmerman, L. A., Kayembe, P., Lou, C., Mafuta, E., Ortiz, J., & Moreau, C. (2020). Associations between agency and sexual and reproductive health communication in early adolescence: A cross-cultural, cross-sectional Study. *Journal of Adolescent Health*, *67*(3), 416–424. https://doi.org/10.1016/j.jadohealth.2020.02.026

Kola, L., Kohrt, B. A., Hanlon, C., Naslund, J. A., Sikander, S., Balaji, M., Benjet, C., Cheung, E. Y. L., Eaton, J., Gonsalves, P., Hailemariam, M., Luitel, N. P., Machado, D. B., Misganaw, E., Omigbodun, O., Roberts, T., Salisbury, T. T., Shidhaye, R., Sunkel, C., … Patel, V. (2021). COVID-19 mental health impact and responses in low-income and middle-income countries: reimagining global mental health. *The Lancet Psychiatry*, *8*(6), 535–550. https://doi.org/10.1016/S2215-0366(21)00025-0

Koletić, G., Kohut, T., & Štulhofer, A. (2018). Associations between adolescents' use of sexually explicit material and risky sexual behavior: A longitudinal assessment. *PLoS ONE*, *14*(6), 1–14. https://doi.org/10.1371/journal.pone.0218962

Korstanje, J. (2020). *Towards data science: what is the difference between PCA and Factor Analysis?* https://towardsdatascience.com/what-is-the-difference-between-pca-and-factor-analysis-5362ef6fa6f9

Kuo, C., Stein, D. J., Cluver, L. D., Brown, L. K., Atujuna, M., & Martin, J. (2019). Building resilient families: Developing family interventions for preventing adolescent depression and HIV in low resource settings. *Transcult Psychiatry*, *56*(1), 187–212. https://doi.org/10.1177/1363461518799510.Building

Kushal, S. A., Amin, Y. M., Reza, S., Hossain, F. B., & Shawon, M. S. R. (2022). Regional and sex differences in the prevalence and correlates of early sexual initiation among adolescents aged 12–15 years in 50 countries. *Journal of Adolescent Health*, *70*(4), 607–616. https://doi.org/10.1016/j.jadohealth.2021.10.027

Kutywayo, A., Mabetha, K., Naidoo, N. P., Mahuma, T., Njobe, P., Hlongwane, R., & Mullick, S. (2022). Learner experiences of safety at public high schools in three South African townships: Baseline findings from the National School Safety Framework learner surveys. *Gates Open Research*, *6*(6).

Kuzma, E. K., & Peters, R. M. (2016). Adolescent vulnerability, sexual health, and the NP's role in health advocacy. *Journal of the American Association of Nurse Practitioners*, *28*(7), 353–361. https://doi.org/10.1002/2327-6924.12331

Lam, D., Ardington, C., Branson, N., Case, A., Menendez, A., Leibbrandt, M., Seekings, J., & Sparks, M. (2008). *The Cape Area Panel Study: A very short introduction to the integrated Waves 1-2-3- 4-5 Data* (Vol. 4, Issue October). https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/266/related-materials

Lamb, G. (2019). Social cohesion and violence in South Africa: constructing a puzzle with missing pieces. *Crime, Law and Social Change*, *72*(4), 365–385. https://doi.org/10.1007/s10611-019-09828-7

Lan, M., & Isacoff, N. (2022). Parents' attitudes predict adolescent gender expression. *Psychology*, *13*(02), 301–312. https://doi.org/10.4236/psych.2022.132018

Landis, A. M. (2020). General adolescent development. In Y. N. Evans & A. Dixon Docter (Eds.), *Adolescent Nutrition* (pp. 3–18). Springer. https://doi.org/10.1007/978-3-030-45103-5_26

Landry, M., Vyas, A., Malhotra, G., & Nagaraj, N. (2020). Adolescents' development of gender equity attitudes in India. *International Journal of Adolescence and Youth*, *25*(1), 94–103. https://doi.org/10.1080/02673843.2019.1590852

Langa, M. (2020). *Becoming men: Black masculinities in a South African township*. Wits University Press.

Last, J. M. (2001). *A dictionary of epidemiology* (4th ed.). Oxford University Press.

Le, M. T. H., Holton, S., Romero, L., & Fisher, J. (2018). Polyvictimization among children and adolescents in low- and lower-middle-income countries: A systematic review and meta-analysis. *Trauma, Violence, and Abuse*, *19*(3), 323–342. https://doi.org/10.1177/1524838016659489

Lee, R. L. T., Yuen Loke, A., Hung, T. T. M., Sobel, H., Loke, A. Y., Hung, T. T. M., & Sobel, H. (2018). A systematic review on identifying risk factors associated with early sexual debut and coerced sex among adolescents and young people in communities. *Journal of Clinical Nursing*, *27*(3–4), 478–501. https://doi.org/10.1111/jocn.13933

Lees, S., Marchant, M., & Desmond, N. (2019). Addressing intimate partner violence using gender-transformative approaches at a community level in rural Tanzania: The UZIKWASA program. *Journal of Interpersonal Violence*, 15–17. https://doi.org/10.1177/0886260519831373

Leoschut, L., & Kafaar, Z. (2017). The frequency and predictors of poly-victimisation of South African children and the role of schools in its prevention. *Psychology, Health and Medicine*, *22*(January), 81–93. https://doi.org/10.1080/13548506.2016.1273533

Levy, J. K., Darmstadt, G. L., Ashby, C., Quandt, M., Halsey, E., Nagar, A., & Greene, M. E. (2020). Characteristics of successful programmes targeting gender inequality and restrictive gender norms for the health and wellbeing of children, adolescents, and young adults: a systematic review. *The Lancet Global Health*, *8*(2), e225–e236. https://doi.org/10.1016/S2214-109X(19)30495-4

Li, Z., Patton, G., Sabet, F., Zhou, Z., Subramanian, S. V., & Lu, C. (2020). Contraceptive use in adolescent girls and adult women in low- and middle-income countries. *JAMA Network Open*, *3*(2), 1–15. https://doi.org/10.1001/jamanetworkopen.2019.21437

Liang, M., Simelane, S., Fortuny Fillo, G., Chalasani, S., Weny, K., Salazar Canelos, P., Jenkins, L., Moller, A. B., Chandra-Mouli, V., Say, L., Michielsen, K., Engel, D. M. C., & Snow, R. (2019). The state of adolescent sexual and reproductive health. *Journal of Adolescent Health*, *65*(6), S3–S15. https://doi.org/10.1016/j.jadohealth.2019.09.015

Lin, H., Harrist, A. W., Lansford, J. E., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2020). Adolescent social withdrawal, parental psychological control, and parental knowledge across seven years: A developmental cascade model. *Journal of Adolescence*, *81*(April), 124–134. https://doi.org/10.1016/j.adolescence.2020.04.007

Lin, W.-H., Liu, C.-H., & Yi, C.-C. (2020). Exposure to sexually explicit media in early adolescence is related to risky sexual behavior in emerging adulthood. *PLoS ONE*, *15*(4), 1–26. https://doi.org/10.1371/journal.pone.0230242

Lindberg, L., Bell, D. L., & Kantor, L. M. (2020). The sexual and reproductive health of adolescents and young adults during the COVID -19 pandemic. *Perspectives on Sexual and Reproductive Health*, *52*(2), 75–79. https://doi.org/10.1363/psrh.12151

Lindberg, L., Danielsson, P., Persson, M., Marcus, C., & Hagman, E. (2020). Association of childhood obesity with risk of early all-cause and cause-specific mortality: A Swedish prospective cohort study. *PLoS Medicine*, *17*(3), 1–14. https://doi.org/10.1371/JOURNAL.PMED.1003078

Loschert, K. (2019). *Science of learning: what educators need to know about adolescent development* (Issue September). https://all4ed.org/reports-factsheets/science-of-learning-what-educators-need-to-know-about-adolescent-development/

Lund, C. (2018). Improving quality of mental health care in low-resource settings: lessons from PRIME. *World Psychiatry*, *17*(1), 47–48. https://doi.org/10.1002/wps.20489

Lundgren, R., & Amin, A. (2015). Addressing intimate partner violence and sexual violence among adolescents: Emerging evidence of effectiveness. *Journal of Adolescent Health*, *56*(1), S42–S50. https://doi.org/10.1016/j.jadohealth.2014.08.012

Lundgren, R., Burgess, S., Chantelois, H., Oregede, S., Kerner, B., & Kågesten, A. E. (2019). Processing gender: lived experiences of reproducing and transforming gender norms over the life course of young people in Northern Uganda. *Culture, Health and Sexuality*, *21*(4), 387–403. https://doi.org/10.1080/13691058.2018.1471160

Lünnemann, M. K. M., Horst, F. C. P. V. der, Prinzie, P., Luijk, M. P. C. M., & Steketee, M. (2019). The intergenerational impact of trauma and family violence on parents and their children. *Child Abuse and Neglect*, *96*. https://doi.org/10.1016/j.chiabu.2019.104134

Mabasa, L. (2014). Implementation of the Safe Schools Programme in the secondary schools of the Limpopo Province in South Africa. *Mediterranean Journal of Social Sciences*, *5*(27), 752–759. https://doi.org/10.5901/mjss.2014.v5n27p752

Mabaso, M., Maseko, G., Sewpaul, R., Naidoo, I., Jooste, S., Takatshana, S., Reddy, T., Zuma, K., & Zungu, N. (2021). Trends and correlates of HIV prevalence among adolescents in South Africa: evidence from the 2008, 2012 and 2017 South African National HIV Prevalence, Incidence and Behaviour surveys. *AIDS Research and Therapy*, *18*(1), 1–8. https://doi.org/10.1186/s12981-021-00422-3

Maccoby, E. E., & Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford University Press.

Mahendra, I. G. A. A., Pinandari, A. W., Choiriyah, I., & Wilopo, S. A. (2021). Are we passing on violence to the next generation?: gender norms and gender-based violence attitudes among early adolescents in Indonesia. *Kesmas: National Public Health Journal*, *16*(4), 279–288. https://doi.org/10.21109/kesmas.v16i4.4538

Mahlangu, P., Machisa, M., Sikweyiya, Y., Nunze, N., Dartnall, E., Pillay, M., & Jewkes, R. (2021). Preliminary evidence of promise of a sexual violence risk reduction intervention for female students in South African tertiary education institutions. *Global Public Health*, *0*(0), 1–17. https://doi.org/10.1080/17441692.2021.1998574

Makola, L., Mlangeni, L., Mabaso, M., Chibi, B., Sokhela, Z., Silimfe, Z., Seutlwadi, L., Naidoo, D., Khumalo, S., Mncadi, A., & Zuma, K. (2019). Predictors of contraceptive use among adolescent girls and young women (AGYW) aged 15 to 24 years in South Africa: results from the 2012 national population-based household survey. *BMC Women's Health*, *19*(1), 1–7. https://doi.org/10.1186/s12905-019-0861-8

Malga, P. F., Setlalentoa, B. M., Oduaran, C., & Maforah, N. (2018). Factors influencing HIV/AIDS and risky sexual behaviour among learners in South Africa. *Global Journal of Health Science*, *10*(5), 197. https://doi.org/10.5539/gjhs.v10n5p197

Mambo, S. B., Sikakulya, F. K., Ssebuufu, R., Mulumba, Y., Wasswa, H., Mbina, S. A., Rusatira, J. C., Bhondoekhan, F., Kamyuka, L. K., Akib, S. O., Kirimuhuzya, C., Nakawesi, J., & Kyamanywa, P. (2022). Challenges in access and utilization of sexual and reproductive health services among youth during the COVID-19 pandemic lockdown in Uganda: An online cross-sectional survey. *Frontiers in Reproductive Health*, *3*(March). https://doi.org/10.3389/frph.2021.705609

Manandhar, M., Hawkes, S., Buse, K., Nosrati, E., & Magar, V. (2018). Gender, health and the 2030 Agenda for sustainable development. *Bulletin of the World Health Organization*, *96*(9), 644–653. https://doi.org/10.2471/BLT.18.211607

Mandiwa, C., Namondwe, B., & Munthali, M. (2021). Prevalence and correlates of comprehensive HIV/AIDS knowledge among adolescent girls and young women aged 15–24 years in Malawi: evidence from the 2015–16 Malawi demographic and health survey. *BMC Public Health*, *21*(1), 1–9. https://doi.org/10.1186/s12889-021-11564-4

Manyema, M., & Richter, L. M. (2019). Adverse childhood experiences: prevalence and associated factors among South African young adults. *Heliyon*, *5*(12), e03003. https://doi.org/10.1016/j.heliyon.2019.e03003

Marcus, R., Harper, C., Brodbeck, S., & Page, E. (2015). *Social norms, gender norms and adolescent girls: a brief guide*. *September*, 1–17. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9818.pdf

Marlow, M., Skeen, S., Grieve, C., L., Carvajal., Ähs, J. W., Kohrt, B. A., Requejo, J., Stewart, J., Henry, J., Goldstone, D., Kara, T., & Tomlinson., M. (2022). Detecting depression and anxiety among adolescents in South Africa: Validity of the Patient Health Questionnaire-9 and Generalized Anxiety Disorder-7. *Journal of Adolescent Health*. https://doi.org/10.1016/j.jadohealth.2022.09.013

Martel, P., Mbofana, F., & Cousens, S. (2021). The polychoric dual-component wealth index as an alternative to the DHS index: Addressing the urban bias. *Journal of Global Health*, *11*, 1–19. https://doi.org/10.7189/jogh.11.04003

Martin, C. L., Ruble, D. N., & Szkrybalo, J. (2002). Cognitive theories of early gender development. *Psychological Bulletin*, *128*(6), 903–933. https://doi.org/10.1037/0033-2909.128.6.903

Martin, J., & Hadwin, J. A. (2022). The roles of sex and gender in child and adolescent mental health. *JCPP Advances*, *2*(1), 2–5. https://doi.org/10.1002/jcv2.12059

Martyniuk, U., & Štulhofer, A. (2018). A longitudinal exploration of the relationship between pornography use and sexual permissiveness in female and male adolescents. *Journal of Adolescence*, *69*(September), 80–87. https://doi.org/10.1016/j.adolescence.2018.09.006

Mason-Jones, A. J., De Koker, P., Eggers, S. M., Mathews, C., Temmerman, M., Leye, E., de Vries, P. J., & de Vries, H. (2016). Intimate partner violence in early adolescence: The role of gender, socioeconomic factors and the school. *South African Medical Journal*, *106*(5), 502–509. https://doi.org/10.7196/SAMJ.2016.v106i5.9770

Masters, S. L., Hixson, K., & Hayes, A. R. (2021). Perceptions of gender norm violations among middle school students: an experimental study of the effects of violation type on exclusion expectations. *Journal of Early Adolescence*, *41*(4), 527–549. https://doi.org/10.1177/0272431620931193

Mathews, S. (2018). *Violence in the lives of children – what have we learnt from the Birth to 20+ Study*. https://www.scribd.com/document/427031036/Violence-in-the-Lives-of-Children-What-Have-We-Learnt-From-the-Birth-to-20-Study-2018#download&from_embed

Mathews, S., Jewkes, R., & Abrahams, N. (2011). "I had a hard life": Exploring childhood adversity in the shaping of masculinities among men who killed an intimate partner in South Africa. *British Journal of Criminology*, *51*(6), 960–977. https://doi.org/10.1093/bjc/azr051

Mathur, S., Pilgrim, N., Patel, S. K., Okal, J., Mwapasa, V., Chipeta, E., Musheke, M., Mahapatra, B., & Pulerwitz, J. (2020). HIV vulnerability among adolescent girls and young women: a multi-country latent class analysis approach. *International Journal of Public Health*, *65*(4), 399–411. https://doi.org/10.1007/s00038-020-01350-1

Max, J. L., Sedivy, V., & Garrido, M. (2015). Increasing our impact by using a social-ecological approach. In *Administration on Children, Youth and Families, Family and Youth Services Bureau* (Issue March).

Mayeza, E., & Bhana, D. (2021). Boys and bullying in primary school: Young masculinities and the negotiation of power. *South African Journal of Education*, *41*(1), 1–8. https://doi.org/10.15700/saje.v41n1a1858

Mayeza, E., & Vincent, L. (2019). Learners' perspectives on Life orientation sexuality education in South Africa. *Sex Education*, *19*(4), 472–485. https://doi.org/10.1080/14681811.2018.1560253

Mbachu, C. O., Agu, I. C., Eze, I., Agu, C., Ezenwaka, U., Ezumah, N., & Onwujekwe, O. (2020). Exploring issues in caregivers and parent communication of sexual and reproductive health matters with adolescents in Ebonyi state, Nigeria. *BMC Public Health*. https://doi.org/10.1186/s12889-019-8058-5

McCarthy, K., Mehta, R., & Haberland, N. A. (2018). Gender, power, and violence: A systematic review of measures and their association with male perpetration of IPV. *PLoS ONE*, *13*(11), 1–27. https://doi.org/10.1371/journal.pone.0207091

McCleary-Sills, A., Sexton, M., Petroni, S., Kanesathasan, A., Edmeades, J., Warner, A., Stoebenau, K., & Hollingworth, G. (2014). Understanding the adolescent family planning evidence base. *International Center for Research on Women*, 1–68. https://doi.org/10.1017/CBO9781107415324.004

McClinton Appollis, T., Jonas, K., Beauclair, R., Lombard, C., Duby, Z., Cheyip, M., Maruping, K., Dietrich, J., & Mathews, C. (2022). Early sexual debut and the effects on well-being

among South African adolescent girls and young women aged 15 to 24 years. *International Journal of Sexual Health*, *34*(2), 242–253. https://doi.org/10.1080/19317611.2021.1979162

McCoy, S. S., Dimler, L. M., Samuels, D. V., & Natsuaki, M. N. (2019). Adolescent susceptibility to deviant peer pressure: Does gender matter? *Adolescent Research Review*, *4*(1), 59–71. https://doi.org/10.1007/s40894-017-0071-2

McMillan, C., Felmlee, D., & Osgood, D. W. (2018). *Peer influence, friend selection, and gender: how network processes shape adolescent smoking, drinking, and deliquency*.

Mediterranean Institute of Gender Studies. (2005). *Glossary of gender-related terms*. http://www.peacewomen.org/assets/file/AdvocacyEducationTools/genderglossary_migs_aug2005.pdf

Meinck, F., Cluver, L. D., Boyes, M. E., & Loening-Voysey, H. (2016). Physical, emotional and sexual adolescent abuse victimisation in South Africa: Prevalence, incidence, perpetrators and locations. *Journal of Epidemiology and Community Health*, *70*(9), 910–916. https://doi.org/10.1136/jech-2015-205860

Melesse, D. Y., Cane, R. M., Mangombe, A., Ijadunola, M. Y., Manu, A., Bamgboye, E., Mohiddin, A., Kananura, R. M., Akwara, E., du Plessis, E., Wado, Y. D., Mutua, M. K., Mekonnen, W., Faye, C. M., Neal, S., & Boerma, T. (2021). Inequalities in early marriage, childbearing and sexual debut among adolescents in sub-Saharan Africa. *Reproductive Health*, *18*(S1), 1–15. https://doi.org/10.1186/s12978-021-01125-8

Melesse, D. Y., Mutua, M. K., Choudhury, A., Wado, Y. D., Faye, C. M., Neal, S., & Boerma, T. (2020). Adolescent sexual and reproductive health in sub-Saharan Africa: Who is left behind? *BMJ Global Health*, *5*(1), 1–8. https://doi.org/10.1136/bmjgh-2019-002231

Memiah, P., Cook, C., Kingori, C., Munala, L., Howard, K., Ayivor, S., & Bond, T. (2021). Correlates of intimate partner violence among adolescents in East Africa: A multi-country analysis. *Pan African Medical Journal*, *40*. https://doi.org/10.11604/pamj.2021.40.142.23311

Meskele, M., Khuzwayo, N., & Taylor, M. (2019). Intimate partner violence against women living with and without HIV, and the associated factors in Wolaita Zone, Southern Ethiopia: A comparative cross-sectional study. *PLoS ONE*, *14*(8), 1–18. https://doi.org/10.1371/journal.pone.0220919

Mexican Council for Public Security and Criminal Justice. (2021). *Methdología del raking (2020) de las 50 ciudades más violentas del mundo*. http://www.seguridadjusticiaypaz.org.mx/sala-de-prensa/1597-metodologi-a-del-ranking-2020-de-las-50-ciudades-ma-s-violentas-del-mundo

Miller, J. A., Smith, E. A., Caldwell, L. L., Mathews, C., & Wegner, L. (2021). Boys are victims, too: The influence of perpetrators' age and gender in sexual coercion against boys. *Journal of Interpersonal Violence*, *36*(7–8), NP3409–NP3432. https://doi.org/10.1177/0886260518775752

Mkwananzi, S. (2017). Teenage pregnancy in South Africa: Setting a new research agenda. *South African Review of Sociology*, *48*(1), 42–66. https://doi.org/10.1080/21528586.2016.1216801

Mmari, K., Blum, R. W., Atnafou, R., Chilet, E., De Meyer, S., El-Gibaly, O., Basu, S., Bello, B., Maina, B., & Zuo, X. (2017). Exploration of gender norms and socialization among early adolescents: The use of qualitative methods for the Global Early Adolescent Study. *Journal of Adolescent Health*, *61*(4), S12–S18. https://doi.org/10.1016/j.jadohealth.2017.07.006

Mmari, K., Cooper, D., Moreau, C., Koenig, L., Martinez, M., Mafuta, E., Kayembe, P., De Meyer, S., Michielson, K., Yu, C., Zuo, X., & Blum, R. W. (2021). The social context of early adolescents in the Global Early Adolescent Study. *Journal of Adolescent Health*, *69*(1), S5–S15. https://doi.org/10.1016/j.jadohealth.2021.01.024

Mmari, K., Kalamar, A. M., Brahmbhatt, H., & Venables, E. (2016). The influence of the family on adolescent sexual experience: A comparison between Baltimore and Johannesburg. *PLoS ONE*, *11*(11), 1–14. https://doi.org/10.1371/journal.pone.0166032

Mmari, K., Moreau, C., Gibbs, S. E., De Meyer, S., Michielsen, K., Kabiru, C. W., Bello, B., Fatusi, A., Lou, C., Zuo, X., Yu, C., Al-Attar, G. S. T., & El-Gibaly, O. (2018). 'Yeah, I've grown; I can't go out anymore': differences in perceived risks between girls and boys entering adolescence. *Culture, Health and Sexuality*, *20*(7), 787–798. https://doi.org/10.1080/13691058.2017.1382718

Mmari, K., & Sabherwal, S. (2013). A review of risk and protective factors for adolescent sexual and reproductive health in developing countries: An update. *Journal of Adolescent Health*, *53*(5), 562–572. https://doi.org/10.1016/j.jadohealth.2013.07.018

Mokitimi, S., Schneider, M., & De Vries, P. J. (2021). A situational analysis of child and adolescent mental health services and systems in the Western Cape Province of South Africa (preliminary reports). *Research Square*, 1–19.

Mokitimi, S., Schneider, M., & de Vries, P. J. (2018). Child and adolescent mental health policy in South Africa: History, current policy development and implementation, and policy analysis. *International Journal of Mental Health Systems*, *12*(1), 1–15. https://doi.org/10.1186/s13033-018-0213-3

Mokitimi, S., Schneider, M., & de Vries, P. J. (2022). A situational analysis of child and adolescent mental health services and systems in the Western Cape Province of South Africa. *Child and Adolescent Psychiatry and Mental Health*, *16*(1). https://doi.org/10.1186/s13034-022-00440-7

Moreau, C., Li, M., Ahmed, S., Zuo, X., & Cislaghi, B. (2021). Assessing the spectrum of gender norms perceptions in early adolescence: A cross-cultural analysis of the Global Early Adolescent Study. *Journal of Adolescent Health*, *69*(1), S16–S22. https://doi.org/10.1016/j.jadohealth.2021.03.010

Moreau, C., Li, M., de Meyer, S., Vu Manh, L., Guiella, G., Acharya, R., Bello, B., Maina, B., & Mmari, K. (2019). Measuring gender norms about relationships in early adolescence: Results from the global early adolescent study. *SSM - Population Health*, *7*(100314). https://doi.org/10.1016/j.ssmph.2018.10.014

Moreno-Ruiz, D., Estévez, E., Jiménez, T. I., & Murgui, S. (2018). Parenting style and reactive and proactive adolescent violence: evidence from Spain. *International Journal of Environmental Research and Public Health*, *15*(12). https://doi.org/10.3390/ijerph15122634

Morrell, R. (1998). Of boys and men: Masculinity and gender in Southern African studies. *Journal of Southern African Studies*, *24*(4), 605–630. https://doi.org/10.1080/03057079808708593

Morrell, R., Jewkes, R., & Lindegger, G. (2012). Hegemonic masculinity/ masculinities in South Africa: Culture, power, and gender politics. *Men and Masculinities*, *15*(1), 11–30. https://doi.org/10.1177/1097184X12438001

Mthembu, J., Mabaso, M., Reis, S., Zuma, K., & Zungu, N. (2021). Prevalence and factors associated with intimate partner violence among the adolescent girls and young women in

South Africa: findings the 2017 population based cross-sectional survey. *BMC Public Health*, *21*(1). https://doi.org/10.1186/s12889-021-11183-z

Mudaly, R. (2018). The power of love: Young South Africans re-conceptualising love and sexual relationships. *Agenda*, *27*(2), 38–46. https://doi.org/10.1080/10130950.2013.807086

Mudiriza, G., & De Lannoy, A. (2020). Youth emotional well-being during the COVID-19-related lockdown in South Africa. In *Southern Africa Labour Development Research Unit Working Paper No. 268* (Issue 268). http://hdl.handle.net/11090/991

Mulawa, M., MacNaughton Reyes, H. L., Foshee, V., Halpern, C. T., Martin, S. L., Kajula, L. J., & Maman, S. (2018). Associations between peer network gender norms and the perpetration of intimate partner violence among urban Tanzania men: a multilevel analysis. *Prev Sci.*, *19*(4), 427–436. https://doi.org/10.1007/s11121-017-0835-8.

Murphy, M., Jones, N., Yadete, W., & Baird, S. (2021). Gender-norms, violence and adolescence: Exploring how gender norms are associated with experiences of childhood violence among young adolescents in Ethiopia. *Global Public Health*, *16*(6), 842–855. https://doi.org/10.1080/17441692.2020.1801788

Murray, A. L., Hemady, C. L., Do, H., Dunne, M., Foley, S., Osafo, J., Sikander, S., Madrid, B., Baban, A., Taut, D., Ward, C. L., Asvini, F., Thang, V. Van, Eisner, M., Hughes, C., Fearon, P., Valdebenito, S., Tomlinson, M., Pathmeswaran, A., & Walker, S. (2022). Measuring antenatal depressive symptoms across the world: A validation and cross-country invariance analysis of the Patient Health Questionnaire-9 (PHQ-9) in eight diverse low-resource settings. *Psychol Assess*, Oct 13. https://doi.org/10.1037/pas0001154. Online ahead of print.

Mushwana, L., Monareng, L., Richter, S., & Muller, H. (2015). Factors influencing the adolescent pregnancy rate in the Greater Giyani Municipality, Limpopo Province - South Africa. *International Journal of Africa Nursing Sciences*, *2*, 10–18. https://doi.org/10.1016/j.ijans.2015.01.001

Mutua, M. K., Wado, Y. D., Malata, M., Kabiru, C. W., Akwara, E., Melesse, D. Y., Fall, N. A., Coll, C. V. N., Faye, C., & Barros, A. J. D. (2021). Wealth-related inequalities in demand for family planning satisfied among married and unmarried adolescent girls and young women in sub-Saharan Africa. *Reproductive Health*, *18*(S1), 1–13. https://doi.org/10.1186/s12978-021-01076-0

Mwale, M., & Muula, A. S. (2021). Stakeholder acceptability of the risk reduction behavioural model [RRBM] as an alternative model for adolescent HIV risk reduction and sexual behavior change in Northern Malawi. *PLoS ONE*, *16*(October), 1–14. https://doi.org/10.1371/journal.pone.0258527

Nabugoomu, J., Seruwagi, G. K., & Hanning, R. (2020). What can be done to reduce the prevalence of teen pregnancy in rural Eastern Uganda?: Multi-stakeholder perceptions. *Reproductive Health*, *17*(1), 1–12. https://doi.org/10.1186/s12978-020-00984-x

Naicker, S. N., Ahun, M. N., Besharati, S., Norris, S. A., Orri, M., & Richter, L. M. (2022). The long-term health and human capital consequences of adverse childhood experiences in the Birth to Thirty cohort: Single, cumulative, and clustered adversity. *International Journal of Environmental Research and Public Health*, *19*(3), 1–19. https://doi.org/10.3390/ijerph19031799

Nalukwago, J., Crutzen, R., van den Borne, B., Bukuluki, P. M., Bufumbo, L., Burke, H. M. C., Field, S., Zikusooka, A., Fiedler, A. A., & Alaii, J. (2019). Gender norms associated with

297

adolescent sexual behaviours in Uganda. *International Social Science Journal*, *69*(231), 35–48. https://doi.org/10.1111/issj.12203

National Academies of Sciences Engineering and Medicine. (2019). *The promise of adolescence: realizing opportunity for all youth*. National Academies Press. https://doi.org/10.17226/25388

Ndhlovu, G. N., & Tanga, P. T. (2021). Negotiating patriarchy and gender in Africa: discourses, practices, and policies. In E. Uchendu & N. Edeagu (Eds.), *Negotiating patriarchy and gender in Africa: discourses, practices, and policies* (pp. 73–89). The Rowman & Littlefield Publishing Group, Inc. https://www.researchgate.net/publication/353849172_Negotiating_Patriarchy_and_Gender_in_Africa_Discourses_Practices_and_Policies/link/61154b131e95fe241aca2cf3/download

Neal, S., Channon, A. A., Chandra-Mouli, V., & Madise, N. (2020). Trends in adolescent first births in sub-Saharan Africa: A tale of increasing inequity? *International Journal for Equity in Health*, *19*(1), 1–11. https://doi.org/10.1186/s12939-020-01251-y

Negriff, S. (2020). ACEs are not equal: Examining the relative impact of household dysfunction versus childhood maltreatment on mental health in adolescence. *Social Science and Medicine*, *245*(July 2019), 112696. https://doi.org/10.1016/j.socscimed.2019.112696

Nguyen, K. H., Padilla, M., Villaveces, A., Patel, P., Atuchukwu, V., Onotu, D., Apondi, R., Aluzimbi, G., Chipimo, P., Kancheya, N., & Kress, H. (2019). Coerced and forced sexual initiation and its association with negative health outcomes among youth: Results from the Nigeria, Uganda, and Zambia Violence Against Children Surveys. *Child Abuse and Neglect*, *96*(October 2018), 104074. https://doi.org/10.1016/j.chiabu.2019.104074

Ngwenya, N., Nkosi, B., McHunu, L. S., Ferguson, J., Seeley, J., & Doyle, A. M. (2020). Behavioural and socio-ecological factors that influence access and utilisation of health services by young people living in rural KwaZulu-Natal, South Africa: Implications for intervention. *PLoS ONE*, *15*(4), 1–15. https://doi.org/10.1371/journal.pone.0231080

Niekerk, A. van, & Mathews, S. (2019). Violence, injury and child safety: The new challenge for child health. *South African Child Gauge 2019*, 114–130.

Ninsiima, A. B., Leye, E., Michielsen, K., Kemigisha, E., Nyakato, V. N., & Coene, G. (2018). "Girls have more challenges; they need to be locked up": A qualitative study of gender norms and the sexuality of young adolescents in Uganda. *International Journal of Environmental Research and Public Health*. https://doi.org/10.3390/ijerph15020193

Nkani, N., & Bhana, D. (2016). Sexual and reproductive well-being of teenage mothers in a South African township school. *South African Journal of Education*, *36*(2), 1–10. https://doi.org/10.15700/saje.v36n2a1181

Nkhoma, D. E., Lin, C. P., Katengeza, H. L., Soko, C. J., Estinfort, W., Wang, Y. C., Juan, S. H., Jian, W. S., & Iqbal, U. (2020). Girls' empowerment and adolescent pregnancy: A systematic review. *International Journal of Environmental Research and Public Health*, *17*(5). https://doi.org/10.3390/ijerph17051664

Noori, N., Proctor, J. L., Efevbera, Y., & Oron, A. P. (2022). Effect of adolescent pregnancy on child mortality in 46 countries. *BMJ Global Health*, *7*(5), 1–28. https://doi.org/10.1136/bmjgh-2021-007681

Norman, R., Schneider, M., Bradshaw, D., Jewkes, R., Abrahams, N., Matzopoulos, R., & Vos, T. (2010). Interpersonal violence: An important risk factor for disease and injury in South Africa. *Population Health Metrics*, *8*(1), 32. https://doi.org/10.1186/1478-7954-8-32

Nussbaum, M. (1999). Women and equality: The capabilities approach. *International Labour Review*, *138*(3), 227–245. https://doi.org/10.1111/j.1564-913X.1999.tb00386.x

Nyakangi, V. N., Maina, B., Mbuthia, M., & Bangha, M. (2021). Gender differences in parenting of early adolescents in Viwandani informal settlement, Nairobi : a qualitative study. *Research Series*, 1–14. https://doi.org/10.21203/rs.3.rs-154056/v1%0ALicense:

Nyato, D., Materu, J., Kuringe, E., Zoungrana, J., Mjungu, D., Lemwayi, R., Majani, E., Mtenga, B., Nnko, S., Munisi, G., Shao, A., Wambura, M., Changalucha, J., Drake, M., & Komba, A. (2019). Prevalence and correlates of partner violence among adolescent girls and young women: Evidence from baseline data of a cluster randomised trial in Tanzania. *PLoS ONE*, *14*(10), 1–17. https://doi.org/10.1371/journal.pone.0222950

O'Connor, J., Nikolova, K., Cardenas, I., & Snyder, S. (2023). The mediating effect of traditional gender beliefs on the relationship between gender disparities and intimate partner violence perpetration. *Journal of Aggression, Maltreatment and Trauma*, *32*(1–2), 53–70.

Odejimi, O., & Bellingham-Young, D. (2014). A policy pathway to reducing teenage pregnancy in Africa. *Journal of Human Growth and Development*, *24*(2), 135–141. https://doi.org/10.7322/jhgd.79915

Odimegwu, C., Amoo, E., & De Wet, N. (2018). Teenage pregnancy in South Africa: Where are the young men involved? *SAJCH South African Journal of Child Health*, *12*(Special Issue), S44–S50. https://doi.org/10.7196/SAJCH.2018.v12i2.1523

Odimegwu, C., & Mkwananzi, S. (2016). Factors associated with teen pregnancy in sub-Saharan Africa: q multi-country cross-sectional study. *African Journal of Reproductive Health*, *20*(3), 94–107. https://doi.org/10.29063/ajrh2016/v20i3.14

Okigbo, C. C., & Speizer, I. S. (2015). Determinants of sexual activity and pregnancy among unmarried young women in urban Kenya: A cross-sectional study. *PLoS ONE*, *10*(6). https://doi.org/10.1371/journal.pone.0129286

Oluwaseyi, S. D., & Simo Fotso, A. (2020). The effect of family and neighbourhood social capital on youth mental health in South Africa. *Journal of Adolescence*, *83*(June), 22–26. https://doi.org/10.1016/j.adolescence.2020.06.009

Osborne, J. W., Costello, A. B., & Kellow, J. T. (2011). Best practices in exploratory factor analysis. In *Best Practices in Quantitative Methods* (Issue October). https://doi.org/10.4135/9781412995627.d8

Pacheco-Montoya, D., Murphy-Graham, E., Valencia López, E. E., & Cohen, A. K. (2022). Gender norms, control over girls' sexuality, and child marriage: A Honduran case study. *Journal of Adolescent Health*, *70*(3), S22–S27. https://doi.org/10.1016/j.jadohealth.2021.11.007

Paluck, E., & Ball, L. (2010). Social norms marketing aimed at gender-based violence: A literature review and critical assessment. In *New York: International Rescue Committee* (Issue May). http://www.betsylevypaluck.com/s/Paluck-Ball-IRC-Social-Norms-Marketing-Long.pdf

Panday, S., Makiwane, M., Ranchod, C., & Letsoalo, T. (2009). *Teenage pregnancy in South Africa: with a specific focus on school-going learners*. http://repository.hsrc.ac.za/handle/20.500.11910/4711

Parliament of the Republic of South Africa. (2015). *Country report: The protection of children against child marriages in South Africa- 37th SADC-PF Plenary Assembly*. https://static.pmg.org.za/150324sadc-pf.pdf

Parry, B. R., & Gordon, E. (2021). The shadow pandemic: Inequitable gendered impacts of COVID-19 in South Africa. *Gender, Work and Organization*, *28*(2), 795–806. https://doi.org/10.1111/gwao.12565

Patel, L., & Mavungu, E. M. (2016). 'Children, families and the conundrum about men': Exploring factors contributing to father absence in South Africa and its implications for social and care policies. *South African Review of Sociology*, *47*(2), 19–39. https://doi.org/10.1080/21528586.2016.1161543

Patel, S. K., Santhya, K. G., & Haberland, N. (2021). What shapes gender attitudes among adolescent girls and boys? Evidence from the UDAYA Longitudinal study in India. *PLoS ONE*, *16*(3 March), 1–20. https://doi.org/10.1371/journal.pone.0248766

Patton, G. C. (2016a). Our Future: a Lancet Commission on Adolescent Health and Wellbeing (presentations). In *The Lancet*.

Patton, G. C. (2016b). *Our future: A Lancet Commission on adolescent health and wellbeing - Report Overview (a powerpoint presentation)*. https://els-jbs-prod-cdn.jbs.elsevierhealth.com/pb/assets/raw/Lancet/stories/commissions/adolescent-health-2016/report_overview_george_presentation.pdf

Patton, G. C., Darmstadt, G. L., Petroni, S., & Sawyer, S. M. (2018). A gender lens on the health and well-being of young males. *Journal of Adolescent Health*, *62*(3), S6–S8. https://doi.org/10.1016/j.jadohealth.2017.06.020

Patton, G. C., Olsson, C. A., Skirbekk, V., Saffery, R., Wlodek, M. E., Azzopardi, P. S., Stonawski, M., Rasmussen, B., Spry, E., Francis, K., Bhutta, Z. A., Kassebaum, N. J., Mokdad, A. H., Murray, C. J. L., Prentice, A. M., Reavley, N., Sheehan, P., Sweeny, K., Viner, R. M., & Sawyer, S. M. (2018). Adolescence and the next generation. *Nature*, *554*(7693), 458–466. https://doi.org/10.1038/nature25759

Patton, G. C., & Temmerman, M. (2016). Evidence and evidence gaps in adolescent health. *Journal of Adolescent Health*, *59*(2), S1–S3. https://doi.org/10.1016/j.jadohealth.2016.08.001

Pérez-Martínez, V., Marcos-Marcos, J., Cerdán-Torregrosa, A., Briones-Vozmediano, E., Sanz-Barbero, B., Davó-Blanes, Mc., Daoud, N., Edwards, C., Salazar, M., La Parra-Casado, D., & Vives-Cases, C. (2021). Positive masculinities and gender-based violence educational interventions among young people: A systematic review. *Trauma, Violence, and Abuse*. https://doi.org/10.1177/15248380211030242

Perry, D. L. (2005). Wolof women, economic liberalization, and the crisis of masculinity in rural Senegal. *Ethnology*, *44*(3), 207–226.

Pettifor, A., Stoner, M., Pike, C., & Bekker, L. G. (2018). Adolescent lives matter: Preventing HIV in adolescents. *Current Opinion in HIV and AIDS*, *13*(3), 265–273. https://doi.org/10.1097/COH.0000000000000453

Phillips, S. J., & Mbizvo, M. T. (2016). Empowering adolescent girls in Sub-Saharan Africa to prevent unintended pregnancy and HIV: A critical research gap. *International Journal of Gynecology and Obstetrics*, *132*(1), 1–3. https://doi.org/10.1016/j.ijgo.2015.10.005

Plourde, K. F., Thomas, R., & Nanda, G. (2020). Boys mentoring, gender norms, and reproductive health—Potential for transformation. *Journal of Adolescent Health*, *67*(4), 479–494. https://doi.org/10.1016/j.jadohealth.2020.06.013

Plüddemann, A., Morojele, N., Myers, B., Townsend, L., Lombard, C. J., Williams, P. P., Carney, T., & Nel, E. (2014). The prevalence of risk for mental health problems among

high school students in the Western Cape Province, South Africa. *South African Journal of Psychology*, *44*(1), 30–35. https://doi.org/10.1177/0081246313516264

Poirier, M. J. P., Grépin, K. A., & Grignon, M. (2020). Approaches and alternatives to the wealth index to measure socioeconomic status using survey Data: A Critical Interpretive Synthesis. In *Social Indicators Research* (Vol. 148, Issue 1). Springer Netherlands. https://doi.org/10.1007/s11205-019-02187-9

Pöllänen, K., de Vries, H., Mathews, C., Schneider, F., & de Vries, P. J. (2021). Beliefs about sexual intimate partner violence perpetration among adolescents in South Africa. *Journal of Interpersonal Violence*, *36*(3–4), NP2056-2078NP. https://doi.org/10.1177/0886260518756114

Popoola, O. E. (2021). Traditional review of health and socio-economic implications of adolescent motherhoods. *African Journal of Health, Nursing and Midwifery*, *4*(1), 69–84.

Potgieter, C., Eslen-Ziya, H., & Sheffer, T. (2017). South african psychological work on boys, men and masculinities: Two decades of masculinity research post first democratic elections (1994 – 2011). *Sosyoloji Araştırmaları Dergisi*, *20*(1), 176–176. https://doi.org/10.18490/sosars.308754

Pozuelo, J. R., Desborough, L., Stein, A., & Cipriani, A. (2022). Systematic review and meta-analysis: Depressive symptoms and risky behaviors among adolescents in low- and middle-income countries. *Journal of the American Academy of Child and Adolescent Psychiatry*, *61*(2), 255–276. https://doi.org/10.1016/j.jaac.2021.05.005

Prata, N., Fraser, A., Huchko, M. J., Gipson, J. D., Withers, M., Lewis, S., Ciarald, E. J., & Upadhyay, U. D. (2017). Women's empowerment and family planning. *Journal of Biosocial Science*, *49*(6), 713–743. https://doi.org/10.1017/S0021932016000663.WOMEN

Prinsloo, M., Mhlongo, S., Dekel, B., Gwebushe, N., Martin, L., Saayman, G., Vellema, J., Dempers, J., Ketelo, A., Ntsele, S., Lombard, C., Jewkes, R., Abrahams, N., & Matzopoulos, R. (2021). *The 2nd Injury Mortality Survey: A national study of injury mortality levels and causes in South Africa in 2017*. https://www.samrc.ac.za/reports/2nd-injury-mortality-survey-national-study-injury-mortality-levels-and-causes-south-africa?bc=254

Protogerou, C., Johnson, B. T., & Hagger, M. S. (2016). An integrated model of condom use in sub-Saharan African youth: a meta-analysis. *Physiology & Behavior*, *176*(1), 100–106. https://doi.org/10.1037/hea0000604.An

Pryor, E. C., & Seck, P. A. (2019). Improving gender data is essential for progress on equity and empowerment. *SSM - Population Health*, *9*(November), 100494. https://doi.org/10.1016/j.ssmph.2019.100494

Pulerwitz, J., Blum, R., Cislaghi, B., Costenbader, E., Harper, C., Heise, L., Kohli, A., & Lundgren, R. (2019). Proposing a conceptual framework to address social norms that influence adolescent sexual and reproductive health. *Journal of Adolescent Health*, *64*(4), S7–S9. https://doi.org/10.1016/j.jadohealth.2019.01.014

Pulerwitz, J., Mathur, S., & Woznica, D. (2018). How empowered are girls/young women in their sexual relationships? Relationship power, HIV risk, and partner violence in Kenya. *PLoS ONE*, *13*(7), 1–14. https://doi.org/10.1371/journal.pone.0199733

Querejeta, M. (2022). Impact of female peer composition on gender norm perceptions and skills formation in secondary school. In *WIDER Working Paper 2022/28* (Issue March). https://doi.org/10.35188/UNU-WIDER/2022/159-4

Rahdert, E. R. (1991). *The Adolescent Assessment/Referral System Manual*. National Institute on Drug Abuse.

Rahman, A. (2013). Women's empowerment: Concept and beyond. *Global Journal Og Human Social Science. Sociology & Culture*, *13*(6), 9–14. https://globaljournals.org/GJHSS_Volume13/2-Womens-Empowerment-Concept.pdf

Raj, A., Johns, N. E., Bhan, N., Silverman, J. G., & Lundgren, R. (2021). Effects of gender role beliefs on social connectivity and marital safety: Findings from a cross-sectional study among married adolescent girls in India. *Journal of Adolescent Health*, *69*(6), S65–S73. https://doi.org/10.1016/j.jadohealth.2021.07.030

Ramaiya, A., Choiriyyah, I., Heise, L., Pulerwitz, J., Blum, R. W., Levtov, R., Lundgren, R., Richardson, L., & Moreau, C. (2021). Understanding the relationship between adverse childhood experiences, peer-violence perpetration, and gender norms among very young adolescents in Indonesia: A cross-sectional study. *Journal of Adolescent Health*, *69*(1), S56–S63. https://doi.org/10.1016/j.jadohealth.2021.01.025

Rasool, S. (2022). Adolescent exposure to domestic violence in a South African city: Implications for prevention and intervention. *Gender Issues*, *39*(1), 99–121. https://doi.org/10.1007/s12147-021-09279-2

Reed, L. A., Ward, L. M., Tolman, R. M., Lippman, J. R., & Seabrook, R. C. (2018). The association between stereotypical gender and dating beliefs and digital dating abuse perpetration in adolescent dating relationships. *Journal of Interpersonal Violence*, 1–25. https://doi.org/10.1177/0886260518801933

Republic of South Africa. (2020). *National Strategic Plan on Gender-Based Violence and Femicide*. https://www.justice.gov.za/vg/gbv/NSP-GBVF-FINAL-DOC-04-05.pdf

Ribas, C. R. (2021). Adolescent pregnancy, public policies, and targeted programs in Latin America and the Caribbean: A systematic review. *Revista Panamericana de Salud Publica/Pan American Journal of Public Health*, *45*, 1–9. https://doi.org/10.26633/RPSP.2021.144

Rice, S. M., Oliffe, J., Seidler, Z., Borschmann, R., Pirkis, J., Reavley, N., & Patton, G. (2021). Gender norms and the mental health of boys and young men. *The Lancet Public Health*, *6*(8), e541–e542. https://doi.org/10.1016/S2468-2667(21)00138-9

Rice, S. M., Purcell, R., & McGorry, P. D. (2018). Adolescent and young adult male mental health: Transforming system failures into proactive models of engagement. *Journal of Adolescent Health*, *62*(3), S9–S17. https://doi.org/10.1016/j.jadohealth.2017.07.024

Richter, L. M. (2022). *Birth to Thirty*. DSI-NRF Centre of Excellence in Human Development, University of the Witwatersrand & Reach Publisher.

Richter, L. M., Mathews, S., Kagura, J., & Nonterah, E. (2018). A longitudinal perspective on violence in the lives of South African children from the Birth to Twenty Plus cohort study in Johannesburg-Soweto. *South African Medical Journal*, *108*(3), 181–186. https://doi.org/10.7196/SAMJ.2018.v108i3.12661

Riggs, D. S., & O'Leary, K. D. (1996). Aggression between heterosexual dating partners: An examination of a causal model of courtship aggression. *Journal of Interpersonal Violence*, *11*(4), 519–540. https://doi.org/10.1177/088626096011004005

Righi, M. K., Orchowski, L. M., & Caroline, K. (2021). Integrated intimate partner violence and HIV interventions among adolescents in Sub-Saharan Africa: A systematic review. *Trauma Violence Abuse*, *21*(4), 643–659. https://doi.org/10.1177/1524838018784585

Roberts, K. J., Smith, C., Cluver, L., Toska, E., & Sherr, L. (2021). Understanding Mental Health in the Context of Adolescent Pregnancy and HIV in Sub-Saharan Africa: A Systematic Review Identifying a Critical Evidence Gap. *AIDS and Behavior*, *25*(7), 2094–2107. https://doi.org/10.1007/s10461-020-03138-z

Rooth, E. (2005). *An investigation of the status and practice of life orientation in south african schools in two provinces* [University of the Western Cape]. http://etd.uwc.ac.za/xmlui/handle/11394/1838

Ross, D. A. (2021). Adolescent health in sub-Saharan Africa: results from the ARISE Network. *Tropical Medicine and International Health*, *26*(4), 386–387. https://doi.org/10.1111/tmi.13378

Ross, F. J., & Parkes, J. (2021). Engaging with policy actors and the discursive politics of school-related gender-based violence in Ehiopia and Zambia. *Discourse: Studies in the Cultural Politics of Education*, *42*(4), 55571.

Russell, M., Cupp, P. K., Jewkes, R., Gevers, A., Mathews, C., LeFleur-Bellerose, C., & Small, J. (2014). Intimate partner violence among adolescents in Cape Town, South Africa. *Prevention Science*, *15*(3), 283–295. https://doi.org/10.1007/s11121-013-0405-7

Ryan, J. (2018). *The design of an intervention to reduce violence in the family: a family – centred Approach* [University of the Western Cape]. http://etd.uwc.ac.za/xmlui/handle/11394/6960

Ryle, R. (2011). How do we learn gender? *Questioning Gender*, 119–167. https://www.sagepub.com/sites/default/files/upm-binaries/39367_4.pdf

Sagalova, V., Garcia, J., Kapeu, A. S., Ntambi, J., Zagre, N. M., & Vollmer, S. (2021). Socio-economic predictors of adolescent marriage and maternity in West and Central Africa between 1986 and 2017. *Journal of Global Health*, *11*, 1–7. https://doi.org/10.7189/jogh.11.13002

Santhya, K. G., & Jejeebhoy, S. J. (2015). Sexual and reproductive health and rights of adolescent girls: Evidence from low- and middle-income countries. *Global Public Health*. https://doi.org/10.1080/17441692.2014.986169

Sarnquist, C., Sinclair, J., Omondi Mboya, B., Langat, N., Paiva, L., Halpern-Felsher, B., Golden, N. H., Maldonado, Y. A., & Baiocchi, M. T. (2017). Evidence that classroom-based behavioral interventions reduce pregnancy-related school dropout among Nairobi adolescents. *Health Education and Behavior*, *44*(2), 297–303. https://doi.org/10.1177/1090198116657777

Saville Young, L., Moodley, D., & Macleod, C. I. (2019). Feminine sexual desire and shame in the classroom: an educator's constructions of and investments in sexuality education. *Sex Education*, *19*(4), 486–500. https://doi.org/10.1080/14681811.2018.1511974

Scorgie, F., Baron, D., Stadler, J., Venables, E., Brahmbhatt, H., Mmari, K., & Delany-Moretlwe, S. (2017). From fear to resilience: Adolescents' experiences of violence in inner-city Johannesburg, South Africa. *BMC Public Health*, *17*(Suppl 3). https://doi.org/10.1186/s12889-017-4349-x

Self, A., Chipokosa, S., Misomali, A., Aung, T., Harvey, S. A., Chimchere, M., Chilembwe, J., Park, L., Chalimba, C., Monjeza, E., Kachale, F., Ndawala, J., & Marx, M. A. (2018). Youth accessing reproductive health services in Malawi: Drivers, barriers, and suggestions from the perspectives of youth and parents. *Reproductive Health*, *15*(1), 1–10. https://doi.org/10.1186/s12978-018-0549-9

Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2019). Are interventions focused on gender-norms effective in preventing domestic violence against women in low and lower-middle income countries? A systematic review and meta-analysis. In *Reproductive Health* (Vol. 16, Issue 1). Reproductive Health. https://doi.org/10.1186/s12978-019-0726-5

Sennott, C., & A. Mojola, S. (2017). 'Behaving well': the transition to respectable womanhood in rural South Africa. *Culture, Health and Sexuality*, *19*(7), 781–795. https://doi.org/10.1080/13691058.2016.1262062

Sequeira, M., Singh, S., Fernandes, L., Gaikwad, L., Gupta, D., Chibanda, D., & Nadkarni, A. (2022). Adolescent Health Series: The status of adolescent mental health research, practice and policy in sub-Saharan Africa: A narrative review. *Tropical Medicine and International Health*, *27*(9), 758–766. https://doi.org/10.1111/tmi.13802

Sewpaul, R., Crutzen, R., Dukhi, N., Sekgala, D., & Reddy, P. (2021). A mixed reception: perceptions of pregnant adolescents' experiences with health care workers in Cape Town, South Africa. *Reproductive Health*, *18*(1), 1–12. https://doi.org/10.1186/s12978-021-01211-x

Shamu, S., Gevers, A., Mahlangu, B. P., Shai, P. N. J., Chirwa, E. D., & Jewkes, R. K. (2016). Prevalence and risk factors for intimate partner violence among grade 8 learners in urban South Africa: Baseline analysis from the Skhokho supporting success cluster randomised controlled trial. *International Health*, *8*(1), 18–26. https://doi.org/10.1093/inthealth/ihv068

Shamu, S., Khupakonke, S., Farirai, T., Slabbert, J., Chidarikire, T., Guloba, G., & Nkhwashu, N. (2020). Knowledge, attitudes and practices of young adults towards HIV prevention: An analysis of baseline data from a community-based HIV prevention intervention study in two high HIV burden districts, South Africa. *BMC Public Health*, *20*(1), 1–10. https://doi.org/10.1186/s12889-020-09356-3

Shannon, G., Jansen, M., Williams, K., Cáceres, C., Motta, A., Odhiambo, A., Eleveld, A., & Mannell, J. (2019). Gender equality in science, medicine, and global health: where are we at and why does it matter? *The Lancet*, *393*(10171), 560–569. https://doi.org/10.1016/S0140-6736(18)33135-0

Shawa, R. (2018). Adolescent Health in Sustainable Development Goals (SDGs). In *UNESCO Education 2030*. https://www.grassrootsoccer.org/wp-content/uploads/2018/05/Adolescent-Health-in-SDGs_Remmy-Shawa_V2.pdf

Sheehan, P., Sweeny, K., Rasmussen, B., Wils, A., Friedman, H. S., Mahon, J., Patton, G. C., Sawyer, S. M., Howard, E., Symons, J., Stenberg, K., Chalasani, S., Maharaj, N., Reavley, N., Shi, H., Fridman, M., Welsh, A., Nsofor, E., & Laski, L. (2017). Building the foundations for sustainable development: A case for global investment in the capabilities of adolescents. *The Lancet*, *6736*(17). https://doi.org/10.1016/S0140-6736(17)30872-3

Shefer, T., & Macleod, C. (2015). Life orientation sexuality education in South Africa: Gendered norms, justice and transformation. *Perspectives in Education*, *33*(2), 1–10.

Shields, S. A. (2008). Gender: An intersectionality perspective. *Sex Roles*, *59*(5–6), 301–311. https://doi.org/10.1007/s11199-008-9501-8

Simbayi, L., Zuma, K., Zungu, N., Moyo, S., Marinda, E., Jooste, S., Mabaso, M., Ramlagan, S., North, A., van Zyl, J., Mohlabane, N., Dietrich, C., Naidoo, I., & SABSSM V Team. (2019). *South African national HIV prevalence, incidence, behaviour and communication survey, 2017*. http://curation.hsrc.ac.za/doi-10.14749-

304

1585345902%0Ahttp://www.hsrc.ac.za/uploads/pageContent/9237/FINAL Presentation for 17 July launch.pdf

Sitnick, S. L., & Shaw, D. S. (2019). Early childhood predictors of boys' antisocial and violence behavior in early adulthood. *Infant Mental Health Journal*, *40*(1), 67–83. https://doi.org/10.1002/imhj.21754.Early

Skeen, S., Laurenzi, C. A., Gordon, S. L., Du Toit, S., Tomlinson, M., Dua, T., Fleischmann, A., Kohl, K., Ross, D., Servili, C., Brand, A. S., Dowdall, N., Lund, C., Van Der Westhuizen, C., Carvajal-Aguirre, L., De Carvalho, C. E., & Melendez-Torres, G. J. (2019). Adolescent mental health program components and behavior risk reduction: A Meta-analysis. *Pediatrics*, *144*(2). https://doi.org/10.1542/peds.2018-3488

Smith, J. (2020). Improving adolescent access to contraception in sub-Saharan Africa: A review of the evidence. *African Journal of Reproductive Health*, *24*(1), 152–164. https://doi.org/10.29063/ajrh2020/v24i1.16

Smith, L., Jacob, L., López-Sánchez, G. F., Grabovac, I., Yang, L., Pizzol, D., Sigman, A., McDermott, D., & Koyanagi, A. (2020). A multicountry study of the violence-related risk factors for early sexual debut and risky sexual behavior in adolescents. *Journal of Interpersonal Violence*. https://doi.org/10.1177/0886260520927502

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in Structural Equation Models. *Sociological Methodology*, *13*(1982), 290. https://doi.org/10.2307/270723

Solbes-Canales, I., Valverde-Montesino, S., & Herranz-Hernández, P. (2020). Socialization of gender stereotypes related to attributes and professions among young Spanish school-aged Children. *Frontiers in Psychology*, *11*(April). https://doi.org/10.3389/fpsyg.2020.00609

Sommer, M., Likindikoki, S., & Kaaya, S. (2013). Boys' and young men's perspectives on violence in Northern Tanzania. *Culture, Health and Sexuality*, *15*(6), 695–709. https://doi.org/10.1080/13691058.2013.779031

Sommer, M., Likindikoki, S., & Kaaya, S. (2015). "Bend a fish when the fish is not yet dry": Adolescent boys' perceptions of sexual risk in Tanzania. *Archives of Sexual Behavior*, *44*(3), 583–595. https://doi.org/10.1007/s10508-014-0406-z

South Africa Basic Education Department. (2021). *EMIS- Education Management Information Systems*. https://www.education.gov.za/Programmes/EMIS.aspx

South Africa Ministry of Health, & Ministry of Basic Education. (2012). *Integrated School Health Policy*.

South African Government. (2007). *365 Day National Action Plan to End Gender Violence*. https://www.gov.za/sites/default/files/gcis_document/201409/365actionplan0.pdf

South African National Department of Health. (2017). *National Adolescent and Youth Health Policy*. 31. http://cdsco.nic.in/writereaddata/National-Health-Policy.pdf

South African National Department of Health. (2019). *National Integrated Sexual & Reproductive Health and Rights Policy. Edition 1*. https://data.miraquetemiro.org/sites/default/files/documentos/National Sexual and Reproductive Health Policy.pdf

South African National Department of Health, Stats SA, South African Medical Research Council, & ICF. (2018). *South Africa: Demographic and Health Survey 2016- Key findings*. https://dhsprogram.com/pubs/pdf/SR248/SR248.pdf

Southall, R. (2022). *Whites and democracy in South Africa*. African Sun Media.

305

Sprague, C. (2018). *Gender and HIV in South Africa: advancing women's health and capabilities* (E. Annandale & X. Lin, Eds.). Palgrave Macmillan London. https://doi.org/https://doi.org/10.1057/978-1-137-55997-5

Springer, K. W., Hankivsky, O., & Bates, L. M. (2012). Gender and health: Relational, intersectional, and biosocial approaches. *Social Science and Medicine*, *74*(11), 1661–1666. https://doi.org/10.1016/j.socscimed.2012.03.001

Sri, B. S. (2022). Rights-based knowledge creation in sexual and reproductive Health. An introductory Guide. *Sexual and Reproductive Health Matters*. http://www.srhm.org/rights-based-knowledge-creation_srhm2022/

Sserwanja, Q., Musaba, M. W., Mutisya, L. M., & Mukunya, D. (2022). Rural-urban correlates of modern contraceptives utilization among adolescents in Zambia: a national cross-sectional survey. *BMC Women's Health*, *22*(1), 1–10. https://doi.org/10.1186/s12905-022-01914-8

Stacki, S. L., & Baily, S. (2016). Educating adolescent girls around the globe: Challenges and opportunities. *Journal of Youth and Adolescence*, *45*(12), 2487–2490. https://doi.org/10.1007/s10964-016-0539-6

Stansfeld, S. A., Rothon, C., Das-Munshi, J., Mathews, C., Adams, A., Clark, C., & Lund, C. (2017). Exposure to violence and mental health of adolescents: South African Health and Well-being Study. *BJPsych Open*, *3*(5), 257–264. https://doi.org/10.1192/bjpo.bp.117.004861

Stargel, L. E., & Easterbrooks, M. A. (2020). Diversity of adverse childhood experiences among adolescent mothers and the intergenerational transmission of risk to children's behavior problems. *Social Science and Medicine*, *250*(February), 112828. https://doi.org/10.1016/j.socscimed.2020.112828

Starr, C. R., & Zurbriggen, E. L. (2017). Sandra Bem's gender schema theory after 34 Years: A review of its reach and impact. *Sex Roles*, *76*(9–10), 566–578. https://doi.org/10.1007/s11199-016-0591-4

Starrs, A. M., Ezeh, A. C., Barker, G., Basu, A., Bertrand, J. T., Blum, R., Coll-Seck, A. M., Grover, A., Laski, L., Roa, M., Sathar, Z. A., Say, L., Serour, G. I., Singh, S., Stenberg, K., Temmerman, M., Biddlecom, A., Popinchalk, A., Summers, C., & Ashford, L. S. (2018). Accelerate progress—sexual and reproductive health and rights for all: report of the Guttmacher–Lancet Commission. *The Lancet*, *391*(10140), 2642–2692. https://doi.org/10.1016/S0140-6736(18)30293-9

Stats SA. (2021). *Mid-Year population estimates 2021* (Issue July). https://www.statssa.gov.za/publications/P0302/P03022021.pdf

Stats South Africa. (2012). *Statistical Release: Census 2011* (Vol. 143, Issue 1). https://doi.org/10.1016/s0022-5223(11)01322-5

Stats South Africa. (2018). *Demographic profile of adolescents in South Africa*. www.statssa.gov.za

Stats South Africa. (2019). *Mid-year population estimates*.

Stats South Africa. (2021). *Quarter One Crime Statistics 2021/2022*. https://www.gov.za/speeches/minister-bheki-cele-quarter-one-crime-statistics-20212022-20-aug-2021-0000

Stats South Africa. (2022a). *Quarterly Labour Force Survey (QLFS) – Q4, 2021*. https://www.statssa.gov.za/publications/P0211/Media release QLFS Q4 2021.pdf

306

Stats South Africa. (2022b). *Total population of South Africa from 2002 to 2021*.
https://www.statista.com/statistics/111808/total-population-of-south-africa/

Stavropoulou, M. (2019). *Gender norms, health and wellbeing. December*.
https://www.alignplatform.org/sites/default/files/2019-12/align_guide_health-updated.pdf

Steptoe, A., Marteau, T., Fonagy, P., & Abel, K. (2019). ACEs: Evidence, gaps, evaluation and
future priorities. *Social Policy and Society*, *18*(3), 415–424.
https://doi.org/10.1017/S1474746419000149

Stern, E., Buikema, R., & Cooper, D. (2015). South African women's conceptualisations of and
responses to sexual coercion in relation to hegemonic masculinities. *Global Public Health:
An International Journal for Research, Policy and Practice*, *May*, 37–41.
https://doi.org/10.1080/17441692.2015.1032993

Stiglic, N., & Viner, R. M. (2019). Effects of screentime on the health and well-being of children
and adolescents: A systematic review of reviews. *BMJ Open*, *9*(1).
https://doi.org/10.1136/bmjopen-2018-023191

Strode, A., & Essack, Z. (2017). Facilitating access to adolescent sexual and reproductive health
services through legislative reform: Lessons from the South African experience. *South
African Medical Journal*, *107*(9), 741–744.
https://doi.org/10.7196/SAMJ.2017.v107i9.12525

Sui, X., Massar, K., Kessels, L. T. E., Reddy, P. S., Ruiter, R. A. C., & Sanders-Phillips, K.
(2021). Violence exposure in South African adolescents: Differential and cumulative effects
on psychological functioning. *Journal of Interpersonal Violence*, *36*(9–10), 4084–4110.
https://doi.org/10.1177/0886260518788363

Sui, X., Massar, K., Ruiter, R. A. C., & Reddy, P. S. (2020). Violence typologies and
sociodemographic correlates in South African adolescents: A three-wave cross-sectional
study. *BMC Public Health*, *20*(1), 1–12. https://doi.org/10.1186/s12889-020-8332-6

Sürücü, L., & Maslakçı, A. (2020). Validity and reliability in quantitative research. *Business &
Management Studies: An International Journal*, *8*(3), 2694–2726.
https://doi.org/10.15295/bmij.v8i3.1540

Svanemyr, J. (2020). Adolescent pregnancy and social norms in Zambia. *Culture, Health and
Sexuality*, *22*(6), 615–629. https://doi.org/10.1080/13691058.2019.1621379

Swart, L. A., Seedat, M., & Nel, J. (2018). The situational context of adolescent homicide
victimization in Johannesburg, South Africa. *Journal of Interpersonal Violence*, *33*(4), 637–
661. https://doi.org/10.1177/0886260515613342

Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research
instruments in Science Education. *Research in Science Education*, *48*(6), 1273–1296.
https://doi.org/10.1007/s11165-016-9602-2

Taquette, S. R., Leite, D., & Monteiro, M. (2019). Causes and consequences of adolescent dating
violence: a systematic review. *Journal of Injury and Violence Research*, *11*(2), 137–147.
https://doi.org/10.5249/jivr.v11i2.1061

Tarantino, N., Goodrum, N. M., Salama, C., LeCroix, R. H., Gaska, K., Cook, S. L., Skinner, D.,
& Armistead, L. P. (2018). South African adolescents' neighborhood perceptions predict
longitudinal change in youth and family functioning. *Journal of Early Adolescence*, *38*(8),
1142–1169. https://doi.org/10.1177/0272431617725196

Taukobong, H. F. G., Kincaid, M. M., Levy, J. K., Bloom, S. S., Platt, J. L., Henry, S. K., &
Darmstadt, G. L. (2016). Does addressing gender inequalities and empowering women and

307

girls improve health and development programme outcomes? *Health Policy and Planning*, *31*(10), 1492–1514. https://doi.org/10.1093/heapol/czw074

Teitelman, A. M., Bellamy, S., Jemmott III, J. B., Icard, L., O'leary, A., AI, S., Ngwane, Z., & Makiwane, M. (2017). Childhood sexual abuse and sociodemographic factors prospectively associated with intimate partner violence perpetration among South African heterosexual men. *Annals of Behavioral Medicine*, *51*(2), 170–178. https://doi.org/10.1007/s12160-016-9836-2

Tenenbaum, H. R., & Leaper, C. (2003). Parent-child conversations about science: The socialization of gender inequities? *Developmental Psychology*. https://doi.org/10.1037/0012-1649.39.1.34

Tenkorang, E. Y., Asamoah-Boaheng, M., & Owusu, A. Y. (2020). Intimate Partner Violence (IPV) against HIV-positive women in Sub-Saharan Africa: A mixed-method systematic review and meta-analysis. *Trauma, Violence, and Abuse*. https://doi.org/10.1177/1524838020906560

The Center for the Study of Violence and Reconciliation (CSVR). (2008). *A state of sexual tyranny. The prevalence, nature and causes of sexual violence in South Africa* (Issue 011).

The Duke University Developmental Epidemiology. (2022). *The Child and Adolescent Psychiatric Assessment (CAPA)*. https://devepi.duhs.duke.edu/measures/the-child-and-adolescent-psychiatric-assessment-capa/

The Lancet. (2019). ICPD at 25 years: time to expand the agenda. *The Lancet*, *394*(10210), 1685. https://doi.org/10.1016/S0140-6736(19)32717-5

The Lancet. (2020). Join the Lancet 2020 Campaign on child and adolescent health. *The Lancet*, *395*(10218), 89. https://doi.org/10.1016/S0140-6736(20)30002-7

The Western Cape Government. (2022). *Safe school programs*. https://www.westerncape.gov.za/service/safe-schools-programme

Thongmixay, S., Essink, D. R., De Greeuw, T., Vongxay, V., Sychareun, V., & Broerse, J. E. W. (2019). Perceived barriers in accessing sexual and reproductive health services for youth in Lao People's Democratic Republic. *PLoS ONE*, *14*(10), 1–16. https://doi.org/10.1371/journal.pone.0218296

Thurman, T. R., Nice, J., Visser, M., & Luckett, B. G. (2020). Pathways to sexual health communication between adolescent girls and their female caregivers participating in a structured HIV prevention intervention in South Africa. *Social Science and Medicine*, *260*(June), 113168. https://doi.org/10.1016/j.socscimed.2020.113168

Tolman, D. L., Striepe, M. I., Harmon, T., Tolman, D. L., Striepe, M. I., & Harmon, T. (2010). *Gender matters : Constructing a model of adolescent sexual health. 40*(July 2015), 4–12. https://doi.org/10.1080/00224490309552162

Tomlinson, M., Hunt, X., Daelmans, B., Rollins, N., Ross, D., & Oberklaid, F. (2021). Optimising child and adolescent health and development through an integrated ecological life course approach. *The BMJ*, *372*, 1–4. https://doi.org/10.1136/bmj.m4784

Toska, E., Hodes, R. J., Cluver, L., & Atujuna, M. (2019). Thriving in the second decade : bridging childhood and adulthood for South Africa' s adolescents. *South African Child Gauge*, *December*, 81–94. http://www.ci.uct.ac.za/sites/default/files/image_tool/images/367/Child_Gauge/South_African_Child_Gauge_2019/CG2019 - %284%29 Bridging childhood and adulthood for SA adolescents.pdf

Tran, N. K., Van Berkel, S. R., Van IJzendoorn, M. H., & Alink, L. R. A. (2017). The association between child maltreatment and emotional, cognitive, and physical health functioning in Vietnam. *BMC Public Health*, *17*(1), 1–13. https://doi.org/10.1186/s12889-017-4258-z

UN Secretary General. (2015). *The Global Strategy for Women's and Children's and Adolescents' Health (2016-2030): Survive, Thrive, Transform*. Every Woman Every Child (Executive Office, UN Secretary General). https://doi.org/10.1017/CBO9781107415324.004

UN Women. (1995). *The United Nations Fourth World Conference on Women (Beijin, China): platform for action*. https://www.un.org/womenwatch/daw/beijing/platform/health.htm

UNAIDS. (2020). *Country factsheets: South Africa*. https://www.unaids.org/en/regionscountries/countries/southafrica

UNAIDS. (2021). Young people and HIV. In *UNAIDS*. https://www.unaids.org/sites/default/files/media_asset/young-people-and-hiv_en.pdf

UNFPA. (2015). *Girlhood, not motherhood: preventing adolescent pregnancy*. www.unfpa.org

UNFPA. (2020a). Impact of the COVID-19 pandemic on family planning and ending gender-based violence, female genital mutilation and child marriage. *Interim Technical Note*, *April*, 7. https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19_impact_brief_for_UNFPA_24_April_2020_1.pdf

UNFPA. (2020b). *Socioeconomic consequences of adolescent pregnancy in six LAC Countries*.

UNFPA. (2021). My body is my own: claiming the right to autonomy and self-determination. In *State of world population 2021*.

UNFPA. (2022). *State of world population 2022. Seeing the unsee- the case for action in the neglected crisis of unintended pregnancy*. https://www.unfpa.org/sites/default/files/pub-pdf/EN_SWP22 report_0.pdf

UNFPA. (2023). *Sexual and Reproductive Health*. https://www.unfpa.org/sexual-reproductive-health

UNICEF. (2015). *Violence against children*. https://data.unicef.org/topic/child-protection/violence/

UNICEF. (2017). *A familiar face: violence in the lives of children and adolescents*. https://doi.org/10.1111/j.1365-2044.1982.tb01804.x

UNICEF. (2021a). *Early childbearing*. https://data.unicef.org/topic/child-health/adolescent-health/

UNICEF. (2021b). On my mind: promoting, protecting and caring for children's mental health. In *The State of the World's Children 2021*. https://www.unicef.org/media/114636/file/SOWC-2021-full-report-English.pdf

UNICEF. (2021c). *World AIDS Day Report: Stolen childhood, lost adolescence*.

UNICEF. (2022). *Multiple indicator cluster surveys (MICS)*. https://mics.unicef.org

Universal Declaration of Human Rights, (1948). https://www.un.org/en/about-us/universal-declaration-of-human-rights

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. https://sdgs.un.org/2030agenda

United Nations. (2019). Report of the Secretary-General on SDG Progress 2019: Special Edition. In *United Nations Publications*. https://sustainabledevelopment.un.org/content/documents/24978Report_of_the_SG_on_SDG_Progress_2019.pdf

United Nations Inter-agency Group for Child Mortality Estimation (UN IGME). (2021). *Levels & Trends in child mortality: Estimates developed by the UN inter-agency group for child mortality estimation*.

United Nations Office of the High Commissioner for Human Rights. (2014). *Gender stereotypes and stereotyping and women's rights* (Issue CH-1211).

United Nations Population Division. (2019a). *Population facts: Fertility among very young adolescents*. https://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2019-1.pdf

United Nations Population Division. (2019b). *World Population Prospects 2019*. United Nations. https://population.un.org/wpp/Download/Standard/Population/

UNODC. (2018). *Global Study on Homicide: gender-related killing of women and girls* (Vol. 20). https://doi.org/10.1023/B:JOQC.0000037731.28786.e3

Upadhyay, U. D., Gipson, J. D., Withers, M., Lewis, S., Ciaraldi, E. J., Fraser, A., Huchko, M. J., & Prata, N. (2014). Women's empowerment and fertility: A review of the literature. *Social Science and Medicine*, *115*, 111–120. https://doi.org/10.1016/j.socscimed.2014.06.014

Usher, K., Bhullar, N., Durkin, J., Gyamfi, N., & Jackson, D. (2020). Family violence and COVID-19: Increased vulnerability and reduced options for support. *International Journal of Mental Health Nursing*, *29*(4), 549–552. https://doi.org/10.1111/inm.12735

Vaiou, D. (2018). Intersectionality: old and new endeavours? *Gender, Place and Culture*, *25*(4), 578–584. https://doi.org/10.1080/0966369X.2018.1460330

Vaitla, B., Taylor, A., Horn, J. Van, & Cislaghi, B. (2017). *Social norms and girls' well-being: Linking Theory and Practice*. http://data2x.org/wp-content/uploads/2017/07/Social-Norms.pdf

Valdebenito, S., Murray, A., Hughes, C., Ba Ban, A., Fernando, A. D., Madrid, B. J., Ward, C., Osafo, J., Dunne, M., Sikander, S., Walker, S. P., Thang, V. Van, Tomlinson, M., Fearon, P., Shenderovich, Y., Marlow, M., Chathurika, D., Taut, D., & Eisner, M. (2020). Evidence for better lives study: A comparative birth-cohort study on child exposure to violence and other adversities in eight low-and middle-income countries-foundational research (study protocol. *BMJ Open*, *10*(10), 1–11. https://doi.org/10.1136/bmjopen-2019-034986

Valentova, M. (2016). How do traditional gender roles relate to social cohesion? Focus on differences between women and men. *Social Indicators Research*, *127*(1), 153–178. https://doi.org/10.1007/s11205-015-0961-2

Van Dyk, H., & White, C. J. (2019). Theory and practice of the quintile ranking of schools in South Africa: A financial management perspective. *South African Journal of Education*, *39*(September), 1–9. https://doi.org/10.15700/saje.v39ns1a1820

Van Eerdewijk, A., Wong, F., Vaast, C., Newton, J., Tyszler, M., & Pennington, A. (2017). *White paper: A conceptual model on women and girls' empowerment* (Issue March).

Van Griethuijsen, R. A. L. F., Van Eijck, M. W., Haste, H., den Brok, P. J., Skinner, N. C., Mansour, N., Gencer, A. S., & BouJaoude, S. (2015). Global patterns in students' views of science and interest in science. *Research in Science Education*, *45*(4), 581–603. https://doi.org/10.1007/s11165-014-9438-6

Vannucci, A., Simpson, E. G., Gagnon, S., & Ohannessian, C. M. C. (2020). Social media use and risky behaviors in adolescents: A meta-analysis. *Journal of Adolescence*, *79*(February), 258–274. https://doi.org/10.1016/j.adolescence.2020.01.014

Varga, C. A. (2003). How gender roles influence sexual and reproductive health among South African adolescents. *Studies in Family Planning*, *34*(3), 160–172. https://doi.org/10.1111/j.1728-4465.2003.00160.x

Vatcheva, K. P., & Lee, M. (2016). Multicollinearity in regression analyses conducted in epidemiologic studies. *Epidemiology: Open Access*, *06*(02), 1–20. https://doi.org/10.4172/2161-1165.1000227

Victora, C. G., Hartwig, F. P., Vidaletti, L. P., Martorell, R., Osmond, C., Richter, L. M., Stein, A. D., Barros, A. J. D., Adair, L. S., Barros, F. C., Bhargava, S. K., Horta, B. L., Kroker-Lobos, M. F., Lee, N. R., Menezes, A. M. B., Murray, J., Norris, S. A., Sachdev, H. S., Stein, A., … Black, R. E. (2022). Effects of early-life poverty on health and human capital in children and adolescents: analyses of national surveys and birth cohort studies in LMICs. *The Lancet*, *399*(10336), 1741–1752. https://doi.org/10.1016/S0140-6736(21)02716-1

Victoria-Jardon, A. M. (2016). Babies at random. *Advances in Social Sciences Research Journal*, *3*(13). https://doi.org/10.14738/assrj.313.2513

Vola, D. D., Vola, J. M., Brier, B., Hobbs, H., Garland, R., Nemet-nejat, K. R., Singman, J. L., Mclean, W., Johnson, C. D., Perez, L. G., Soumerai, E. N., Schulz, C. D., & Olsen, K. (2021). *Life in lockdown: Child and adolescent mental health and well-being in the time of COVID-19*. https://www.unicef-irc.org/publications/1227-life-in-lockdown.html

Vu, L., Pulerwitz, J., Burnett-Zieman, B., Banura, C., Okal, J., & Yam, E. (2017). Inequitable gender norms from early adolescence to young adulthood in Uganda: Tool validation and differences across age groups. *Journal of Adolescent Health*, *60*(2), S15–S21. https://doi.org/10.1016/j.jadohealth.2016.09.027

Vyas, A. N., Malhotra, G., Nagaraj, N. C., & Landry, M. (2020). Gender attitudes in adolescence: evaluating the Girl Rising gender-sensitization program in India. *International Journal of Adolescence and Youth*, *25*(1), 126–139. https://doi.org/10.1080/02673843.2019.1598450

Wado, Y. D., Bangha, M., Kabiru, C. W., & Feyissa, G. T. (2020). Nature of, and responses to key sexual and reproductive health challenges for adolescents in urban slums in sub-Saharan Africa: A scoping review. *Reproductive Health*, *17*(1), 1–14. https://doi.org/10.1186/s12978-020-00998-5

Wado, Y. D., Mutua, M. K., Mohiddin, A., Ijadunola, M. Y., Faye, C., Coll, C. V. N., Barros, A. J. D., & Kabiru, C. W. (2021). Intimate partner violence against adolescents and young women in sub-Saharan Africa: who is most vulnerable? *Reproductive Health*, *18*(S1), 1–13. https://doi.org/10.1186/s12978-021-01077-z

Wado, Y. D., Sully, E. A., & Mumah, J. N. (2019). Pregnancy and early motherhood among adolescents in five East African countries: A multi-level analysis of risk and protective factors. *BMC Pregnancy and Childbirth*. https://doi.org/10.1186/s12884-019-2204-z

Waid, J., & Uhrich, M. (2020). A scoping review of the theory and practice of positive youth development. *British Journal of Social Work*, *50*(1), 5–24. https://doi.org/10.1093/bjsw/bcy130

Wall-wieler, E., Roos, L. L., & Nickel, N. C. (2016). Teenage pregnancy: the impact of maternal adolescent childbearing and older sister's teenage pregnancy on a younger sister. *BMC Pregnancy and Childbirth*, 1–12. https://doi.org/10.1186/s12884-016-0911-2

Wang, D., Chukwu, A., Millogo, O., Assefa, N., James, C., Young, T., Lankoande, B., Workneh, F., Hemler, E. C., Korte, M. L., Mattei, J., Soura, A. B., Sie, A., Oduola, A., Berhane, Y., & Fawzi, W. W. (2021). The COVID-19 pandemic and adolescents' experience in sub-

311

Saharan Africa: A cross-country study using a telephone survey. *American Journal of Tropical Medicine and Hygiene*, *105*(2), 331–341. https://doi.org/10.4269/ajtmh.20-1620

Ward, C. L., Artz, L., Berg, J., Boonzaier, F., Crawford-Browne, S., Dawes, A., Foster, D., Matzopoulos, R., Nicol, A., Seekings, J., Van As, A. B., & Van Der Spuy, E. (2012). Violence, violence prevention, and safety: A research agenda for South Africa. *South African Medical Journal*, *102*(4), 215–218. https://doi.org/10.7196/SAMJ.5544

Ward, C. L., Artz, L., Leoschut, L., Kassanjee, R., & Burton, P. (2018). Sexual violence against children in South Africa: a nationally representative cross-sectional study of prevalence and correlates. *The Lancet Global Health*, *6*(4), e460–e468. https://doi.org/10.1016/S2214-109X(18)30060-3

Weber, A. M., Cislaghi, B., Meausoone, V., Abdalla, S., Mejía-Guevara, I., Loftus, P., Hallgren, E., Seff, I., Stark, L., Victora, C. G., Buffarini, R., Barros, A. J. D., Domingue, B. W., Bhushan, D., Gupta, R., Nagata, J. M., Shakya, H. B., Richter, L. M., Norris, S. A., … Rao Gupta, G. (2019). Gender norms and health: insights from global survey data. *The Lancet*, *393*(10189), 2455–2468. https://doi.org/10.1016/S0140-6736(19)30765-2

Western Cape Government. (2021). *Quarterly crime statistics: MEC Fritz says more must be done to reduce crime*. https://www.westerncape.gov.za/news/quarterly-crime-statistics-mec-fritz-says-more-must-be-done-reduce-crime

WHO. (2000). *Disability-adjusted life years (DALYs)*. https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158

WHO. (2002). Defining sexual health: Report of a technical consultation on sexual health. *WHO Publications*, *January*, 1–35. https://www.who.int/reproductivehealth/publications/sexual_health/defining_sexual_health.pdf

WHO. (2005). *The Commission on Social Determinants of Health - what, why and how?* https://www.who.int/social_determinants/thecommission/finalreport/about_csdh/en/

WHO. (2010). Meeting report: The sexual and reproductive health of young adolescents in developing countries: Reviewing the evidence, identifying research gaps, and moving the agenda. In *World Health Organization (WHO)*. https://doi.org/WHO/RHR/11.11

WHO. (2014). *Health for the World's Adolescents: A second chance in the second decade*.

WHO. (2017). Sexual health and its linkages to reproductive health: An pperational Approach. In *World Health Organization*.

WHO. (2018a). *Adverse Childhood Experience (ACE) International Questionnaire*. https://www.who.int/publications/m/item/adverse-childhood-experiences-international-questionnaire-(ace-iq)

WHO. (2018b). *WHO recommendations on adolescent sexual and reproductive health and rights*. https://apps.who.int/iris/bitstream/handle/10665/275374/9789241514606-eng.pdf?ua=1

WHO. (2019). *Adolescent mortality/ causes of deaths*. https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/adolescent-data/adolescent---mortality-causes-of-death

WHO. (2020). *Adolescent pregnancy*. https://www.who.int/news-room/fact-sheets/detail/adolescent-pregnancy

WHO. (2021a). *Abortion*. https://www.who.int/news-room/fact-sheets/detail/abortion

WHO. (2021b). *Adolescent and young adult health*. https://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions

WHO. (2021c). *Adolescent health*. https://www.who.int/health-topics/adolescent-health#tab=tab_1

WHO. (2021d). *Coming of age: adolescent health*. https://www.who.int/news-room/spotlight/coming-of-age-adolescent-health

WHO. (2021e). *Violence against women*. https://www.who.int/news-room/fact-sheets/detail/violence-against-women

WHO. (2022a). *Adolescent sexual and reproductive health: overview*. https://www.who.int/southeastasia/activities/adolescent-sexual-reproductive-health

WHO. (2022b). *Mental disorders*. https://www.who.int/news-room/fact-sheets/detail/mental-disorders

WHO, Johns Hopkins University, UNFPA, & University of Ouagadougou. (2016). *The Global Early Adolescent Study presentation*.

Wincentak, K., Connolly, J., & Card, N. (2017). Teen dating violence: A meta-analytic review of prevalence rates. *Psychology of Violence*, *7*(2), 224–241. https://doi.org/10.1037/a0040194

Witter, S., Govender, V., Ravindran, T. S., & Yates, R. (2017). Minding the gaps: health financing, universal health coverage and gender. *Health Policy and Planning*, *32*(July), v4–v12. https://doi.org/10.1093/heapol/czx063

Wong, Y. J., Ho, M. H. R., Wang, S. Y., & Miller, I. S. K. (2017). Meta-analyses of the relationship between conformity to masculine norms and mental health-related outcomes. *Journal of Counseling Psychology*, *64*(1), 80–93. https://doi.org/10.1037/cou0000176

Wood, L., & Rolleri, L. A. (2014). Designing an effective sexuality education curriculum for schools: lessons learned from the South(ern) African literature. *Sex Education*, *14*(5), 525–542. https://doi.org/10.1080/14681811.2014.918540

Woog, V., & Kågesten, A. (2017). The sexual and reproductive health needs of very young adolescents in developing countries: what does the evidence show? *Guttmarcher Institute*, *May*, 10–11. https://www.guttmacher.org/fact-sheet/srh-needs-very-young-adolescents-in-developing-countries

World Bank. (2014). *Gini index estimate- South Africa*. https://data.worldbank.org/indicator/SI.POV.GINI?locations=ZA

World Bank. (2016). *Female headed households (% of households with a female head) - South Africa*. https://data.worldbank.org/indicator/SP.HOU.FEMA.ZS?locations=ZA

World Bank. (2020). *Prevalence of HIV in total population, South Africa*. https://data.worldbank.org/indicator/SH.DYN.AIDS.ZS?locations=ZA

World Bank. (2022). *World Bank Country and Lending Groups: country classification*. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

World Population Review. (2021). *Gini coefficient by country*. https://worldpopulationreview.com/country-rankings/gini-coefficient-by-country

Yadav, A. K., Sahni, B., & Jena Kumar, P. (2021). Education, employment, economic status and empowerment: implications for maternal health care services utilization in India. *J Public Affairs*, *21*(e2259). https://doi.org/https://doi.org/10.1002/pa.2259 wileyonlinelibrary.com/journal/pa

Yah, C. S., Ndlovu, S., Kutywayo, A., Naidoo, N., Mahuma, T., & Mullick, S. (2020). The prevalence of pregnancy among adolescent girls and young women across the Southern African development community economic hub: A systematic review and meta-analysis. *Health Promotion Perspectives*, *10*(4), 325–337. https://doi.org/10.34172/hpp.2020.51

Yakubu, I., & Salisu, W. J. (2018). Determinants of adolescent pregnancy in sub-Saharan Africa: A systematic review. In *Reproductive Health*. https://doi.org/10.1186/s12978-018-0460-4

Yang, Z., Cui, Y., Yang, Y., Wang, Y., Zhang, H., Liang, Y., Zhang, Y., & Shang, L. (2021). The relationship between mental health problems and systemic family dynamics among high school and university students in Shaanxi Province, China. *International Journal of Public Health*, *66*(September), 1–8. https://doi.org/10.3389/ijph.2021.1603988

Yoon, Y., Eisenstadt, M., Lereya, S. T., & Deighton, J. (2022). Gender difference in the change of adolescents' mental health and subjective wellbeing trajectories. *European Child and Adolescent Psychiatry*, *0123456789*. https://doi.org/10.1007/s00787-022-01961-4

Yount, K. M., Cheong, Y. F., Khan, Z., Bergenfeld, I., Kaslow, N., & Clark, C. J. (2022). Global measurement of intimate partner violence to monitor Sustainable Development Goal 5. *BMC Public Health*, *22*(1), 1–14. https://doi.org/10.1186/s12889-022-12822-9

Yu, C., Kågesten, A., De Meyer, S., Moreau, C., Van Reeuwijk, M., & Lou, C. (2021). Pornography use and perceived gender norms among young adolescents in urban poor environments: A cross-site study. *Journal of Adolescent Health*, *69*(1), S31–S38. https://doi.org/10.1016/j.jadohealth.2021.03.008

Yu, Z., Cui, Y., Wei, T., Ma, Y., & Luo, C. (2021). High-dimensional mediation analysis with confounders in survival models. *Frontiers in Genetics*, *12*(June), 1–10. https://doi.org/10.3389/fgene.2021.688871

Yunengsih, W., & Setiawan, A. (2021). Contribution of pornographic exposure and addiction to risky sexual behavior in adolescents. *Journal of Public Health Research*, *10*, 6–11. https://doi.org/10.4081/jphr.2021.2333

Yusuf, R. A., Dongarwar, D., Yusuf, Z. I., & Salihu, H. M. (2019). Association between intimate partner violence, knowledge and use of contraception in Africa: Comparative analysis across five African regions. *International Journal of Maternal and Child Health and AIDS (IJMA)*, *9*(1), 42–52. https://doi.org/10.21106/ijma.323

Zheng, X., Fang, X., Fry, D. A., Ganz, G., Casey, T., Hsiao, C., & Ward, C. L. (2018). Association of child maltreatment with South African adults' wages: evidence from the Cape Area Panel Study. *Health Economics Review*, *8*(1). https://doi.org/10.1186/s13561-018-0206-6

Zimmerman, L. A., Koenig, L. R., Pulerwitz, J., Kayembe, P., Maddeleno, M., & Moreau, C. (2021). The intersection of power and gender: Examining the relationship of empowerment and gender-unequal norms among young adolescents in Kinshasa, DRC. *Journal of Adolescent Health*, *69*(1), S64–S71. https://doi.org/10.1016/j.jadohealth.2021.03.031

Zimmerman, L. A., Li, M., Moreau, C., Wilopo, S., & Blum, R. (2019). Measuring agency as a dimension of empowerment among young adolescents globally; findings from the Global Early Adolescent Study. *SSM - Population Health*, *8*(June), 100454. https://doi.org/10.1016/j.ssmph.2019.100454

Ziraba, A., Orindi, B., Muuo, S., Floyd, S., Birdthistle, I. J., Mumah, J., Osindo, J., Njoroge, P., & Kabiru, C. W. (2018). Understanding HIV risks among adolescent girls and young women in informal settlements of Nairobi, Kenya: Lessons for DREAMS. *PLoS ONE*, *13*(5), 1–20. https://doi.org/10.1371/journal.pone.0197479

Zulaika, G., Bulbarelli, M., Nyothach, E., Van Eijk, A., Mason, L., Fwaya, E., Obor, D., Kwaro, D., Wang, D., Mehta, S. D., & Phillips-Howard, P. A. (2022). Impact of COVID-19 lockdowns on adolescent pregnancy and school dropout among secondary schoolgirls in Kenya. *BMJ Global Health*, *7*(1), 1–10. https://doi.org/10.1136/bmjgh-2021-007666

Zuma, N. (2018). *Experiences and practices of black women teachers: a case study of a rural secondary school in Kwazulu-Natal, South Africa* (Issue January) [Durban University of Technology]. https://openscholar.dut.ac.za/handle/10321/3277

UNIVERSITY *of the*

WESTERN CAPE

APPENDICES

Appendix 1 (Chapter 3)

Table 3. 3: Key socio-economic and demographic characteristics of the study sites (2011 population census data)

Study areas	Population (average household size)	% of population between 0-24 years old	% of ethnicity	% of households with monthly income of R3,200 or less	Unemployment rate of the labor force among the population aged 15-64 years.	Access to piped water and power in household	% of adults (above 20 years old) who completed secondary education (grade 12) or higher
Strand	116,221 (average household size: 3.25)	44.1% (25.9% between 0-15 years old)	Black African (54%); Coloured (26.5%); White (16.7%)	58.0%	36.0%	Water: 90%; Electricity: 95%	42.1%
Mfuleni	64,269 (average household size: 3.10)	50.3% (30.5% between 0-15 years old)	Black African (96.3%); Coloured (2.7%); White (0.2%)	77.0%	39.5%	Water: 78% Electricity: 84%	32.0%
Kuilsriver	69,515 (average household size: 3.65)	40.3% (23.7% between 0-15 years old)	Black African (19%); Coloured (58%); White (20%)	27.1%	12.6%	Water: 99% Electricity: 99%	61.4%

Source: City of Cape Town, 2013; City of Cape Town & Statistics South Africa, 2013b, 2013a; Statistics South Africa, 2012

Table 3. 4: List of selected 11 schools from which a sample of students were recruited

School sites	Study site	Number of learners recruited	% of the total sample	Cumulative %
Secondary School A	Mfuleni	90	15.82	15.82
Secondary School B	Strand	95	16.70	32.51
Secondary School C	Strand	3	0.53	33.04
Secondary School D	Mfuleni	106	18.63	51.67
Secondary School E	Strand	6	1.05	52.72
Secondary School G	Strand	104	18.28	71.00
Secondary School I	Kuilsriver	1	0.18	71.18
Secondary School J	Strand	37	6.50	77.68
Primary School M	Kuilsriver	9	1.58	79.26
Primary School P	Strand	66	11.60	90.86
Primary School Q	Strand	52	9.14	100.00
Total samples/ data collected	**NA**	**569**	**100.00**	

Note: The schools were assigned a letter of the alphabet to preserve their confidentiality.

Table 3. 5: Number of samples by sex and age (N = 569), GEAS Cape Town site

Age	Boy n (%)	Girl n (%)	Total n (%)
11 years, n (%)	0 (0.00)	1 (0.30)	1 (0.18)
12 years, n (%)	18 (7.76)	19 (5.64)	37 (6.50)
13 years, n (%)	63 (27.16)	117 (34.72)	180 (31.63)
14 years, n (%)	151 (65.09)	200 (59.35)	351 (61.69)
Total, n (%)	232 (100.00)	337 (100.00)	569 (100.00)

Table 3. 6: Main covariates assessed in this thesis (results presented in chapters 4-8)

Socio-ecological level and themes	Covariates selected
INDIVIDUAL LEVEL	
Socio-economic, demographic characteristics	- Age (continuous or binary: 11-13 or 14 years) - Sex (binary, boys or girls) - Race (black Africans, Coloured /white/others) - Survey language (isiXhosa, English, or Afrikaans) - Migration status (adolescents born in Cape Town or not) - Religiousness (frequency of attending church: never or 1-3 times/ month or weekly) - Family wealth index (in tertiles) - Mother's education level (never/up to primary, secondary, university or above)
Substance use and body comfort score	- Substance use (alcohol or any drug; or cigarette use) - Body comfort score (in tertiles)
Empowerment score (continuous variables, mean score)	- freedom of movement score - voice score

Socio-ecological level and themes	Covariates selected
	- decision-making score - decision-influence score
Sexual history and romantic relationships	- Ever having been in a romantic relationship (binary) - Onset of sexual intercourse, oral sex, and anal sex (binary) - Power imbalance score (continuous, mean score) - Relationship intimacy score (continuous, mean score) - Importance of having a boyfriend or a girlfriend
FAMILY/ HOUSEHOLD LEVEL	- Household composition (living with or without parents) - Sex of siblings (mixed or only brothers/sisters) - Caregiver connectedness (feel close or not) - Any older female siblings got pregnant before 18? (yes/no) - Parents' expectations regarding schooling (don't know or up to secondary school, university, post-graduate) - Parents' expectations regarding marriage (binary: after primary or secondary school or when I decide I want to marry or do not expect me to marry) - Parents' acceptance on having a boyfriend or a girlfriend (yes/no)
PEERS	- Sex composition of the friends (mixed or only females/males) - Average time spent with friends / week (binary: never or 1-2 times/week v.s. 3-4 times/week or nearly every day) - Importance given by close friends (peers) on 1) studying hard, 2) having a boyfriend or girlfriend, 3) having a sexual intercourse, and 4) avoiding pregnancy (binary, yes or no) - Perceived peer behaviors on having sex, having boyfriend or girlfriend, smoking, drinking alcohol, and using drug (binary- most or close friend have xxx?: yes- 1, no-0) -Perceptions towards a-typical peers in a binary categorical variable: "0" if they do not accept such peer or accept but ignore her or him; and "1" if they accept unconditionally and include her or him in their group.
SCHOOL CONTEXTS	- EAs' educational aspiration (expect to complete to which level of education?) - Having an adult who cares you in schools (caring environment) - Sex compositions of teachers (males/ females/mixed) - Having a functional school infrastructure (toilets with doors, or running water) - Threats or unsafe environment in schools
COMMUNITY/ NEIGHBOURS	- EAs' perception on unsafe environment in communities or schools during the past 12 months (binary, yes- 1, no-0) - Neighborhood social cohesion asked by four items (binary: yes to 0-2 items, or 3-4 items): 1) "people in my community look out for, and help their neighbors", 2) "people in my community can be trusted", 3) "people in my community know who I am", and 4) "people in my community care about me" .
ICT/ MEDIA	- Number of hours per day - utilization of social media, online chatting, playing computer games or any other media (never or less than weekly, weekly, daily) - Number of hours per day – watching TV and movies. (Never or less than weekly, weekly, daily) - Frequency of texting and social media use to communicate with friends (never, less than weekly or weekly, daily) - Frequency of using phone or computer to communicate with friends (never, less than weekly or weekly, daily).

Socio-ecological level and themes	Covariates selected
	- Ever experienced exposure to pornography (binary: never v.s. sometimes or often)
CONTRACEPTIVE USE, NEGOCIATION& ACCESS	- Access or knowledge on where to get contraceptives in communities (yes/no) - Perceptions of peers' knowledge of where to get contraceptives (yes/ no) - Communication about family planning with an adult (never/ever) - Negotiation capacity to avoid pregnancy with the partner (can negotiate with the current partner on contraceptive use – yes/no) - Utilization of contraceptive methods- at first sex or with the current partner (yes/no) - Desire or plan to use contraceptive methods in future relationships (binary, yes/no)

Table 3. 7: Gender norm scores which were developed by the JHU for a broader GEAS

Gender stereotypical trait (GST)

Boys should be raised tough so they can overcome any difficulty in life.

Girls should avoid raising their voice to be ladylike.

Boys should always defend themselves even if it means fighting.

Girls are expected to be humble.

Girls need their parents' protection more than boys.

Boys who behave like girls are considered weak.

It's important for boys to show they are tough even if they are nervous inside

Gender stereotypical roles (GSR)

A woman's role is taking care of her home and family.

A man should have the final word about decisions in the home.

A woman should obey her husband in all matters.

Men should be the ones who bring money home for the family, not women.

Sexual double standards (SDS)

Girls are the victims of rumours if they have boyfriends

Boys tell girls they love them when they don't

Adolescent girls should avoid boys because they trick them into having sex

Boys have girlfriends to show off to their friends

Adolescent boys lose interest in a girl after they have sex with her

Adolescent boys fool girls into having sex

Adolescent romantic expectations (ARE)

It's normal for a boy your age to want a girlfriend.

It's normal for a girl to want a boyfriend at your age.

A girl should be able to have a boyfriend if she wants to.

A boy should be able to have a girlfriend if he wants to.

Note: for all the gender norm scores, a higher score indicates less equal gender norms

Table 3. 8: Gender norm scores- newly developed for this study

Gender equitable roles and features (GERF)
The expectations of the community regarding taking care of siblings should be the same for boys and girls
Physical appearance is as important for boys as for girls.
It's normal that girls play soccer
Boys who are attracted to other boys should be treated the same as everyone else.
Girls who are attracted to other girls should not be teased
Parents should treat their daughter the same whether she loves a boy or a girl
Gender views on ASRH (GASRH)
It is OK for an adolescent girls to have sex as long as she avoids getting pregnant.
In general, a girl should only have sex with someone she loves
It is OK for an adolescent boy to have sex as long as he avoids getting a girl pregnant.
In general, a boy should only have sex with someone he loves.
Gender stereotypical views (GSV)
A real man should have as many female partners as he can.
Boys who don't like sports are not real boys
Girls should be interested in make-up.
It is OK to tease a girl who acts like a boy.
It is OK to tease a boy who act like a girl

Note: For GERF score, a higher score means more equal gender views, while for GSV, a higher score indicates less equal gender views (the same as the GEAS's gender norm scores). A higher GASRH shows a more openness to sexual intercourse as far as they avoid pregnancy and/or love the partner.

Table 3. 9: Empowerment score in different dimensions

Agencies/ variables
1.   Freedom of movement score
Go to after-school activities (like sports clubs)
Go to a party with BOYS and GIRLS
Meet with friends after school
Go to community center/movies/youth center
Visit a friend of the opposite sex (e.g. visit a girl if you are a boy or visit a boy if you are a girl)
2. Voice score
How often are the following statements true for you?
My parents or guardians ask for my opinion on things
My parents or guardians listen when I share my opinion
My friends ask my advice when they have a problem
If I see something wrong in school or the community, I feel I can tell someone and they will listen
I can speak up in class when I have a comment or question
I can speak up when I see someone else being hurt
I can ask adults for help when I need it

320

3. Decision-making score
How often are you able to make the following decisions on your own, without an adult?
What clothes to wear when you are not in school/working
What to do in your free time
What to eat when you are not at home
Who you can have as friends
4. Decision-influence score
How much do you think you will influence the decision?
When to leave school
When to marry
Whom to marry

Table 3. 10: SRH knowledge scores – pregnancy avoidance and HIV prevention

Knowledge on pregnancy avoidance (total score: 6) correct- score 1, incorrect- score 0
1) A girl can get pregnancy the first time of sexual intercourse
2) A girl can get pregnant after kissing or hugging
3) A girl can swallow a pill every day to protect against pregnancy
4) Using a condom can protect against pregnancy
5) A girl can have a shot or injection to protect against pregnancy
6) A girl can use herbs to prevent a pregnancy
Knowledge on HIV prevention (total score: 4): correct- score 1, incorrect- score 0
1) a boy/girl can get HIV the first time of sexual intercourse
2) using a condom can protect against HIV
3) you can get HIV through kissing
4) a girl or boy can swallow a pill before sex that will protect against HIV

Table 3. 11: Adverse Childhood Experiences (ACEs) asked in this study

GEAS's ACEs domain	**Questions asked in the Cape Town site**	**CDC-Kaiser study's ACE domain**
Maltreatment ACEs		
Fear of being emotionally abused	1. Have you ever been scared or felt really bad because grown-ups called you names, said mean things to you, or said they did not want you?	**Emotional abuse**
Fear of being physically abused	2. Have you ever been scared that your parents or other adults were going to hurt you badly (so that you were injured or killed)?	**Physical abuse**
Emotional neglect	3. Have you ever felt like you are not loved or cared about?	**Emotional neglect**
	4. Have you ever felt like you have no one that protects you?	
Physical neglect	5. Has there ever been a time of your life when you were totally on your own and had to take care of yourself for more than a short time?	**Physical neglect**

321

Household ACEs			
Parental substance abuse	6.	Have your parents/guardians ever drunk too much alcohol or used drugs so they came home and were really abusive to you or your family?	Household substance abuse
Mother treated violently	7.	Have you ever seen your mom being hit, beaten or threatened?	Mother treated violently
Parent emotional distress	8.	Have you ever seen your mother or father so sad that they couldn't take care of you?	Mental illness in household
Parental incarceration	9.	Have any of your parents ever been in prison/jail?	Criminal household member
Household instability*	10.	Has your family ever been forced to leave your home/ house?	Not applicable.
Household food insecurity*	11.	Has there ever been a time when your family did not have enough food?	Not applicable.

*An expanded ACE categories that were not in the original CDC kaiser questionnaire (CDC, 2021) for ACEs but were included in the GEAS questionnaire (including the Cape Town site), based on the literature review and a pilot/ validation across multi-country sites.

Table 3. 12: Depression score and its variables

Depression symptoms asked in the GEAS questionnaire (range: 1-6)
In general, I see myself as a happy person*
I blame myself when things go wrong
I worry for no good reason
I am so unhappy I can't sleep at night
I feel sad
I am so unhappy that I think of harming myself

Each item was measured on a five-point Likert scale: 1) disagree a lot, 2) disagree a little, 3) neither agree nor disagree, 4) agree a little, or 5) agree a lot. Mean score was calculated: the sum of each score/ 6. *This item was inversely measured (disagree a lot being 5 instead of 1).

Table 3. 13: The household wealth index: List of variables

Which of the following do you have in your home that is in working order? (Yes/No; select all that apply)
Landline telephone
Cell phone
Primus stove
Electric hot plate
Electric stove with oven
Gas stove
Fridge or freezer
Electric kettle
Television
Video recorder/DVD player
Radio/stereo
Sewing machine
Block maker
Car or bakkie
Motorcycle or scooter
Bicycle

Kombi/lorry/tractor
Bed
Tables and chairs
Lounge suite
Kitchen sink
Car battery for electricity
Wheelbarrow
Hoe, spade or garden fork
Cattle
Other livestock
Computer with internet
Satellite
Other variables included in the household wealth index:
The house is owned – 0-: No, 1: Yes.
Number of rooms in the household: 0: <=3 rooms, 1: 3+ rooms

Note: using the *egen* and *rowmiss* syntax in Stata, the wealth index was created and categorized into tertile groups (three categories).

Table 3. 14: Power imbalance score

Variables that constitute the Power imbalance score (range: 1-5)
There are times when my partner cannot or could not be trusted
I sometimes do/did things because my partner is/was doing them
My partner often influences/influenced what I do/did
I sometimes do/did things because I don't/didn't want to lose my partner's respect
My partner sometimes wants/wanted to control what I do/did

Table 3. 15: Intimacy in relationship score

Variables that constitute the Intimacy in relationship score (range: 1-6)
My partner makes/made me feel good about myself in a way my friends can't/couldn't
I feel /felt comfortable talking with my partner when I have/had a problem
My partner cares/cared about me
I would/ would have rather be with my partner than anyone else
My partner always seemed/ seems to be on my mind
My partner and I are/were practically inseparable

Table 3. 16: Body comfort score

I am satisfied with my body (positive)

I like the way I look (positive)

I worry about the way that my body looks (negative- inversely scored)

I often wish my body was different (negative- inversely scored)

I am worried that my body is not developing normally (negative- inversely scored)

Indicated body comfort score: those who gave positive responses on all above items)

Note: For positive statements, responses of agreement (totally agree or somewhat agree) were coded as 1 and disagreements (neither agree nor disagree, somewhat disagree, or totally disagree) were coded as 0. For the negative statements, the measures were used inversely. These variables follow the exact way in which the GEAS questionnaire was formulated (tested in the Cape Town site). The highest body comfort score was given to those who gave positive responses on all above items.

Appendix 2 (Chapter 4)

Table 4. 11: Main variables analyzed in this chapter (key characteristics of the EAs)

Socio-ecological level and themes	Selected covariates or variables
INDIVIDUAL LEVEL	
Socio-economic, demographic characteristics	- Age (continuous or binary: 11-13 or 14 years) - Sex (binary, boys or girls) - Race (black Africans, Coloured /white/others) - Survey language (isiXhosa, English, or Afrikaans) - Household wealth index in tertile - Religiousness (frequency of attending church: never or 1-3 times/ month or weekly) - Family wealth index (in tertiles)* - Mother's education level (never/up to primary, secondary, university or above)
Sexual history and romantic relationships	- Ever having been in a romantic relationship (binary) - Onset of sexual intercourse, oral sex, and anal sex (binary) - Power imbalance score (continuous, mean score)* - Relationship intimacy score (continuous, mean score)*
FAMILY	- Household composition (living with or without parents) - Sex of siblings (mixed or only brothers/sisters) - Caregiver connectedness (feel close or not) - Parents' awareness on three domains: children's friends' name, school performance, and their whereabouts when they go out. - Any older female siblings got pregnant before 18? (yes/no) - Parents' expectations regarding schooling (don't know or up to secondary school, university, post-graduate) - Parents' expectations regarding marriage (binary: after primary or secondary school or when I decide I want to marry or do not expect me to marry) - Parents' acceptance on having a boyfriend or a girlfriend (yes/no)
PEERS	- Sex composition of the friends (mixed or only females/males) - Average time spent with friends / week (binary: never or 1-2 times/week vs 3-4 times/week or nearly every day) - Importance given by close friends (peers) on 1) studying hard, 2) having a boyfriend or girlfriend, 3) having a sexual intercourse, and 4) avoiding pregnancy (binary, yes or no) - Perceived peer behaviors on smoking, drinking alcohol, and using drug (binary- "most or close friend have xxx": yes- 1, no-0)
SCHOOL CONTEXTS	- EAs' educational aspiration (expect to complete to which level of education?) - Having an adult who cares you in schools (caring environment) - Sex compositions of teachers (males/ females/mixed) - Having a functional school infrastructure (toilets with doors, or running water) - threats or unsafe environment in schools (felt threatened within the past 12 months in schools)
COMMUNITY/ NEIGHBOURS	- EAs' perception on unsafe environment in communities or schools during the past 12 months (binary, yes- 1, no-0) - Neighborhood social cohesion asked by four items (binary: yes to 0-2 items, or 3-4 items)*

Socio-ecological level and themes	Selected covariates or variables
ICT/ MEDIA	- Utilization of social media, online chatting, playing computer games or any other media (number of hours per day: never or less than weekly, weekly, daily) - Duration of watching TV and/or movies (number of hours per day: never or less than weekly, weekly, daily) - Frequency of texting and social media use to communicate with friends (never, less than weekly or weekly, daily) - Frequency of using phone or computer to communicate with friends (never, less than weekly or weekly, daily). - Ever experienced exposure to pornography (binary: never vs sometimes or often)

* Grey-highlighted variables are explained in Appendix 1.

UNIVERSITY *of the*
WESTERN CAPE

Appendix 3 (Chapter 5)

Table 5. 10: Missing observations (incomplete cases) for each of the gender norm scores

Gender stereotypical traits (GST)			Adolescent romantic expectations (ARE)			Sexual double standards (SDS)			Gender stereotypical roles (GSR)		
Number of missing variables	Frequency	%	Number of missing variables	Frequency	%	Number of missing variables	Frequency	%	Number of missing variables	Frequency	%
0	**529**	**92.97**	**0**	**534**	**93.85**	**0**	**513**	**90.16**	**0**	**518**	**91.04**
1	11	1.93	1	22	3.87	1	30	5.27	1	24	4.22
2	7	1.23	2	8	1.41	2	10	1.76	2	9	1.58
3	9	1.58	3	3	0.53	3	6	1.05	3	6	1.05
4	3	0.53	4	2	0.35	4	5	0.88	4	12	2.11
5	4	0.70	**Total**	**569**	**100.00**	6	5	0.88	**Total**	**569**	**100.00**
6	2	0.35				**Total**	**569**	**100.00**			
7	4	0.70									
Total	**569**	**100.00**									

Gender equitable roles and features (GERF)			Gender views on ASRH (GASRH)			Gender stereotypical views (GSV)		
Number of missing variables	Frequency	%	Number of missing variables	Frequency	%	Number of missing variables	Frequency	%
0	**472**	**82.95**	**0**	**502**	**88.22**	**0**	**487**	**85.59**
1	38	6.68	1	27	4.75	1	41	7.21
2	17	2.99	2	18	3.16	2	17	2.99
3	12	2.11	3	9	1.58	3	13	2.28
4	8	1.41	4	13	2.28	4	5	0.88
5	4	0.70	**Total**	**569**	**100.00**	5	6	1.05
6	18	3.16				**Total**	**569**	**100.00**
Total	**569**	**100.00**						

Figure 5. 4: Gender norm scores: sample distributions (complete and incomplete cases included), Cape Town

Gendered view on ASRH (GASRH) score with missing obs.

Gendered Stereotypical Views (GSV) score with missng obs.

Gender Equitable Roles and Features (GERF) score with with missing obs.
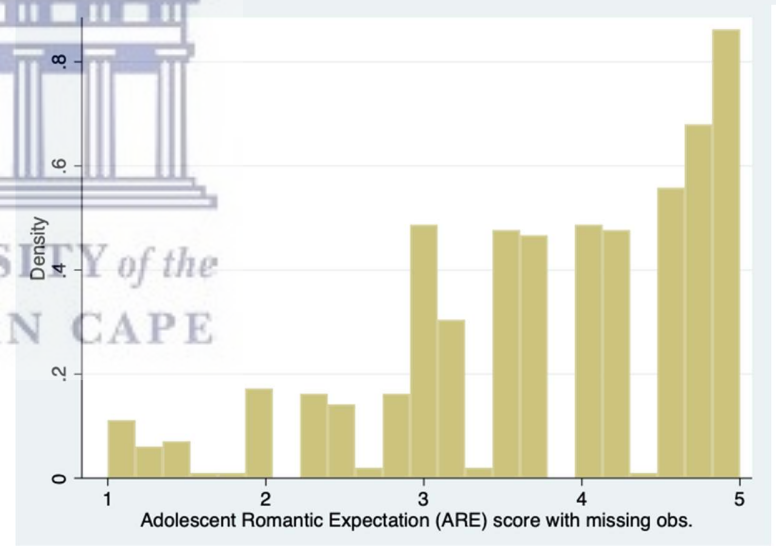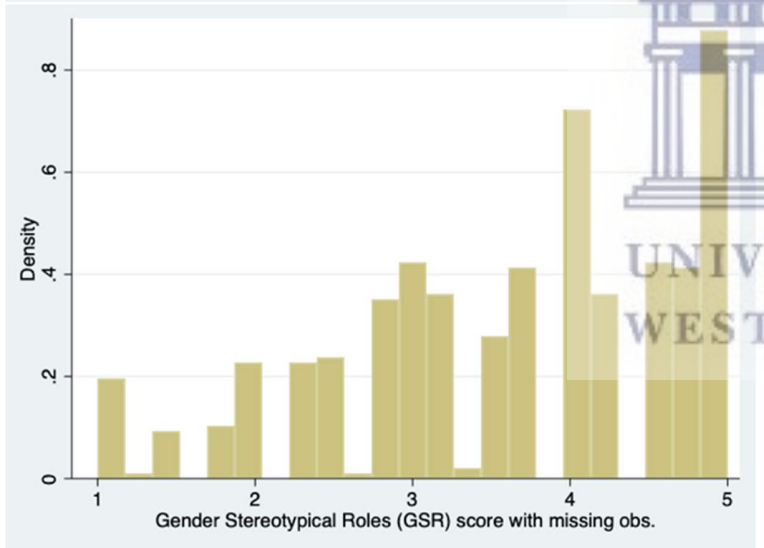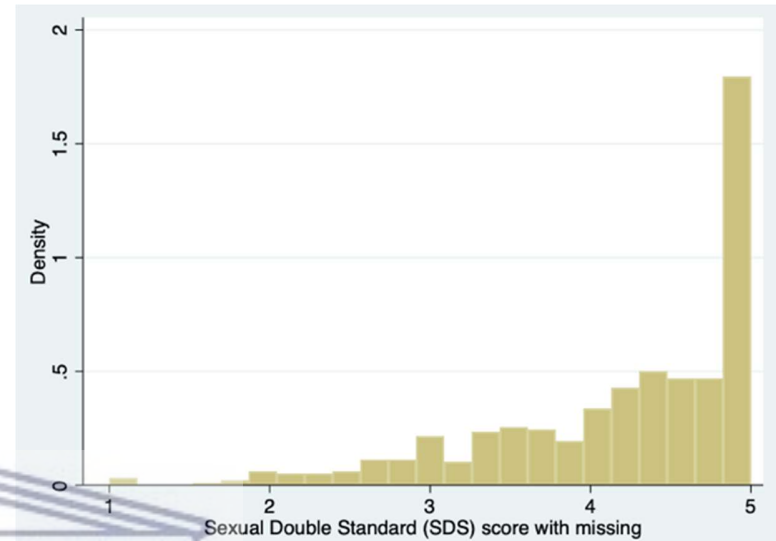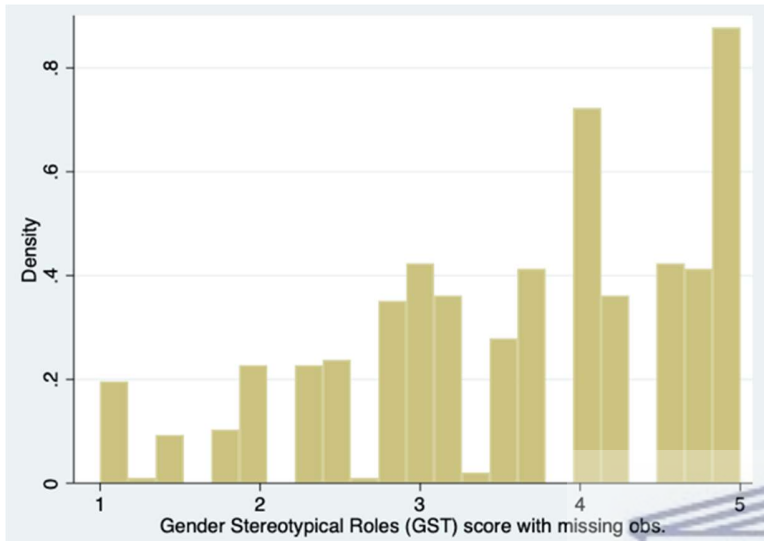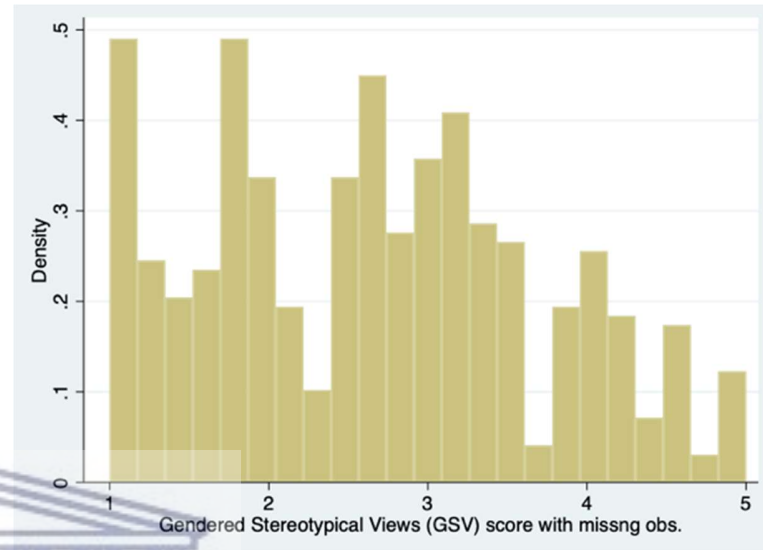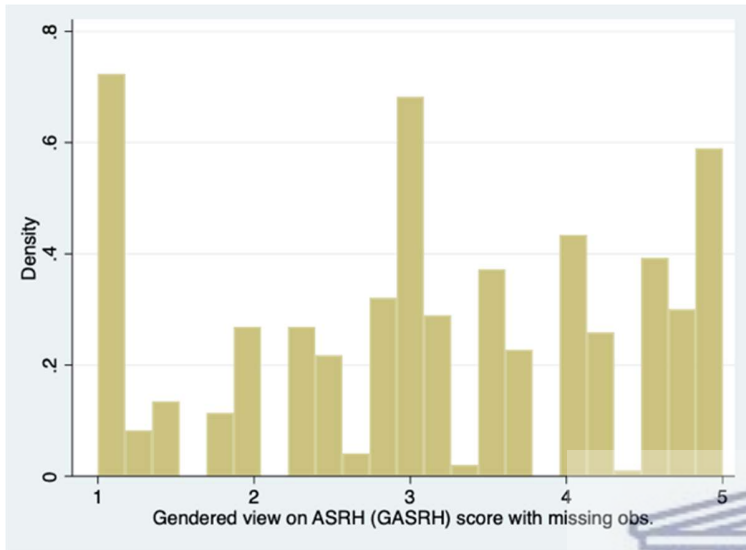
Table 5. 11: Gender norm scores- the sample with complete cases and incomplete cases

Gender norm composite scores	N	Mean score	SD	P-value
Gender Stereotypical Traits (GST)				
Sample with complete cases	529	3.99 [3.92, 4.06]	.82	
Sample with complete/ incomplete cases	565	3.95 [3.88, 4.02]	.86	0.424
Gender Stereotypical Roles (GSR)				
Sample with complete cases	518	3.66 [3.56, 3.75]	1.05	
Sample with complete/ incomplete cases	557	3.62 [3.53, 3.71]	1.09	0.557
Adolescent Romantic Expectations (ARE)				
Sample with complete cases	534	3.83 [3.74, 3.91]	1.00	
Sample with complete/ incomplete cases	567	3.81 [3.72, 3.89]	1.00	0.739
Sexual Double Standards (SDS)				
Sample with complete cases	513	4.20 [4.14, 4.27]	.79	
Sample with complete/ incomplete cases	564	4.16 [4.10, 4.23]	.81	0.419
Gender norms on ASRH (GASRH)				
Sample with complete cases	502	3.20 [3.09, 3.31]	1.26	
Sample with complete/ incomplete cases	556	3.16 [3.05, 3.26]	1.27	0.547
Gender stereotypical views (GSV)				
Sample with complete cases	487	2.65 [2.55, 2.74]	1.07	
Sample with complete/ incomplete cases	563	2.66 [2.57, 2.75]	1.06	0.893
Gender equitable views and features (GERF)				
Sample with complete cases	472	3.92 [3.84, 4.00]	.91	
Sample with complete/ incomplete cases	551	3.86 [3.78, 3.94]	.94	0.279

*p<0.05, **p<0.01, ***p<0.001; 95% CI: 95% confidence interval.

Table 5. 12: Correlation between gender norm composite indices

With complete cases (N = 391)

	GST	GSR	SDS	ARE	GSV	GASRH	GERF	Homo-sexuality
GST	1.000							
GSR	**0.583**	1.000						
SDS	0.205	0.114	1.000					
ARE	0.243	0.189	0.179	1.000				
GSV	**0.396**	**0.505**	-0.028	0.205	1.000			
GASRH	0.292	0.248	-0.018	**0.330**	**0.380**	1.000		
GERF	0.086	0.026	0.286	0.155	-0.043	0.210	1.000	
Homo-sexuality	0.120	0.034	0.207	0.136	0.017	0.189	**0.477**	1.000

With the sample that includes incomplete cases (N = 534)

	GST	GSR	SDS	ARE	GSV	GASRH	GERF	Homo-sexuality
GST	1.000							
GSR	**0.418**	1.000						
SDS	0.159	0.172	1.000					
ARE	0.185	0.187	0.199	1.000				
GSV	0.299	**0.462**	-0.028	0.189	1.000			
GASRH	0.255	0.266	0.007	**0.312**	**0.408**	1.000		
GERF	0.119	0.098	0.297	0.166	-0.036	0.197	1.000	
Homo-sexuality	0.141	0.106	0.265	0.144	0.025	0.185	**0.501**	1.000

GST: gender stereotypical trait; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

Table 5. 13: Validation of the empowerment scores (complete case analysis) by PCA/EFA

Agencies/ variables	Voice	Decision-making	Decision-influence	Freedom of movement
1. Freedom of movement (N = 555)				
Can you tell me how often you are allowed to do the following alone (without an adult present)?				
Go to after-school activities (like sports clubs)				x
Go to a party with BOYS and GIRLS				x
Meet with friends after school				x
Go to community center/movies/youth center				x
Visit a friend of the opposite sex (e.g. visit a girl if you are a boy or visit a boy if you are a girl)				x
2. Voice (N = 554)				
How often are the following statements true for you?				
My parents or guardians ask for my opinion on things	x			
My parents or guardians listen when I share my opinion	x			
My friends ask my advice when they have a problem	x			
If I see something wrong in school or the community, I feel I can tell someone and they will listen	x			
I can speak up in class when I have a comment or question	x			
I can speak up when I see someone else being hurt	x			
I can ask adults for help when I need it	x			
3. Decision-making (N = 546)				
How often are you able to make the following decisions on your own, without an adult?				
What clothes to wear when you are not in school/working		x		
What to do in your free time		x		
What to eat when you are not at home		x		
Who you can have as friends		x		

330

Agencies/ variables	Voice	Decision-making	Decision-influence	Freedom of movement
4. Decision-influence (N = 509)				
How much do you think you will influence the decision:				
When to leave school			x	
When to marry			x	
Whom to marry			x	
Cronbach's alpha (with complete cases)	**0.832**	**0.773**	**0.725**	**0.660**
Cronbach's alpha (with incomplete cases)	**0.886**	**0.850**	**0.801**	**0.737**

X: variables that were loaded at 0.30 or above in the PCA. *When one variable "I can speak up in class when I have a comment or question" is excluded from the Voice score, the alpha was 0.808 with complete cases and 0.873 with the sample including incomplete cases. **For the Freedom of movement, when one of the variables: "Go to after-school activities (like sports clubs)" was excluded from the score, the Alpha was 0.647 with complete case analysis and 0.707 with the sample including incomplete cases.

Table 5. 14: Variables that constitute GEAS gender norm scores by sex, Cape Town

1. Gender stereotypical traits (GST): N (%) of totally or partially agree	Total (%)	Boys (%)	Girls (%)	P-value
Boys should be raised tough so they can overcome any difficulty in life.	386 (70.18)	171 (75.00)	215 (66.77)	**0.038 ***
Girls should avoid raising their voice to be ladylike.	372 (68.01)	156 (69.33)	216 (67.08)	0.578
Boys should always defend themselves even if it means fighting.	401 (73.18)	183 (80.62)	218 (67.91)	**0.001****
Girls are expected to be humble.	432 (77.84)	177 (77.29)	255 (78.22)	0.795
Girls need their parents' protection more than boys.	460 (82.73)	182 (79.13)	278 (85.28)	0.059
Boys who behave like girls are considered weak.	354 (63.90)	151 (65.94)	203 (62.46)	0.401
It's important for boys to show they are tough even if they are nervous inside	394 (71.77)	176 (77.19)	218 (67.91)	**0.017***
2. Gender stereotypical roles (GSR): N (%) of totally or partially agree	total (%)	Boys (%)	Girls (%)	P-value
A woman's role is taking care of her home and family.	402 (74.31)	169 (74.78)	233 (73.97)	0.831
A man should have the final word about decisions in the home.	304 (56.09)	149 (64.50)	155 (49.84)	**0.001****
A woman should obey her husband in all matters.	317 (58.38)	141 (61.57)	176 (56.05)	0.197
Men should be the ones who bring money home for the family, not women.	320 (59.04)	148 (65.78)	172 (54.26)	**0.007****
3. Sexual double standards (SDS): N (%) of totally or partially agree	Total (%)	Boys (%)	Girls (%)	P-value
Girls are the victims of rumors if they have boyfriends	395 (69.42)	166 (71.55)	229 (67.95)	0.360
Boys tell girls they love them when they don't	438 (76.98)	170 (73.28)	268 (79.53)	0.082
Adolescent girls should avoid boys because they trick them into having sex	421 (73.99)	156 (67.24)	265 (78.64)	**0.002****
Boys have girlfriends to show off to their friends	435 (76.45)	166 (71.55)	269 (79.82)	**0.022****

331

Adolescent boys lose interest in a girl after they have sex with her	434 (76.27)	156 (67.24)	278 (82.49)	**<0.001****
Adolescent boys fool girls into having sex	446 (78.38)	160 (68.97)	286 (84.87)	**<0.001****
4. Adolescents' romantic expectation (ARE): N (%) of totally or partially agree	**Total (%)**	**Boys (%)**	**Girls (%)**	**P-value**
It's normal for a boy your age to want a girlfriend	441 (79.89)	183 (80.97)	258 (79.14)	0.597
It's normal for a girl to want a boyfriend at your age	398 (71.58)	174 (75.98)	224 (68.50)	0.054
A girl should be able to have a boyfriend if she wants to	332 (60.04)	153 (68.00)	179 (54.57)	**0.002*****
A boy should be able to have a girlfriend if he wants to	355 (63.39)	155 (67.39)	200 (60.61)	0.101

*p<0.05, **p<0.01, ***p<0.001; 95% CI: 95% confidence interval.

Table 5. 15: Variables of the newly constructed gender norm scores by sex, Cape Town

1. Gender equitable roles and features (GERF): N (%) of totally or partially agree	**Total (%)**	**Boys (%)**	**Girls (%)**	**P-value**
The expectations of the community regarding taking care of siblings should be the same for boys and girls	328 (57.64)	135 (58.19)	193 (57.27)	0.827
Physical appearance is as important for boys as for girls.	311 (54.66)	127 (54.74)	184 (54.60)	0.973
It's normal that girls play soccer	405 (71.18)	160 (68.97)	245 (72.70)	0.334
Boys who are attracted to other boys should be treated the same as everyone else.	334 (58.70)	211 (62.61)	123 (53.02)	**0.022***
Girls who are attracted to other girls should not be teased	331 (58.17)	125 (53.88)	206 (61.13)	0.085
Parents should treat their daughter the same whether she loves a boy or a girl	401 (70.47)	173 (74.57)	228 (67.66)	0.076
2. Gender views on ASRH (GASRH): N (%) of totally or partially agree	**Total (%)**	**Boys (%)**	**Girls (%)**	**P-value**
It is OK for an adolescent girls to have sex as long as she avoids getting pregnant.	291 (35.33)	111 (47.84)	90 (26.71)	**<0.001*****
In general, a girl should only have sex with someone she loves	301 (52.90)	148 (63.79)	153 (45.40)	**<0.001*****
It is OK for an adolescent boy to have sex as long as he avoids getting a girl pregnant.	244 (42.88)	116 (50.00)	128 (37.98)	**0.004****
In general, a boy should only have sex with someone he loves.	300 (52.72)	140 (60.34)	160 (47.48)	**0.003****
3. Gender stereotypical views (GSV): N (%) of totally or partially agree	**Total (%)**	**Boys (%)**	**Girls (%)**	**P-value**
A real man should have as many female partners as he can.	184 (32.34)	100 (43.10)	84 (24.93)	**<0.001*****
Boys who don't like sports are not real boys	186 (32.69)	87 (37.50)	99 (29.38)	**0.042***
Girls should be interested in make-up.	260 (45.69)	129 (55.60)	131 (38.87)	**<0.001*****
It is OK to tease a girl who acts like a boy.	117 (20.56)	61 (26.29)	56 (16.62)	**0.005****
It is OK to tease a boy who act like a girl	146 (25.66)	79 (34.05)	67 (19.88)	**<0.001*****

332

Table 5. 16: Gender norm scores among EAs: analysis by age categories, Cape Town.

Gender norm scores (N)	Age category	Mean score	95% CI	P-value
GST (N = 565)	11-13 years	3.96	[3.85, 4.08]	0.794
	14 years	3.94	[3.85, 4.03]	
GSR (N = 557)	11-13 years	3.65	[3.50, 3.79]	0.597
	14 years	3.60	[3.48, 3.71]	
ARE (N = 567)	11-13 years	3.76	[3.62, 3.89]	0.330
	14 years	3.84	[3.74, 3.94]	
SDS (N = 564)	11-13 years	4.15	[4.05, 4.26]	0.816
	14 years	4.17	[4.09, 4.26]	
GASRH (N = 556)	11-13 years	3.14	[2.98, 3.31]	0.831
	14 years	3.16	[3.03, 3.30]	
GERF (N = 551)[+]	11-13 years	3.75	[3.62, 3.88]	**0.036***
	14 years	3.92	[3.83, 4.02]	
GSV (N = 563)	11-13 years	2.80	[2.67, 2.93]	**0.013***
	14 years	2.57	[2.46, 2.69]	

+For GERF, higher score means more equitable gender views, while for others, higher score is more unequitable views. *p<0.05, **p<0.01, ***p<0.001; 95% CI: 95% confidence interval. GST: gender stereotypical trait; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

Table 5. 17: Empowerment scores- the sample with complete cases and incomplete cases

Empowerment scores	N	Mean [95% CI]	SD	P-value
Freedom of movement				
Samples with complete cases	555	2.32 [2.24, 2.39]	0.87	**<0.001***
Samples with incomplete cases	569	2.50 [2.43, 2.56]	0.73	
Voice				
Samples with complete cases	554	2.77 [2.69, 2.85]	0.04	**<0.001***
Samples with incomplete cases	569	3.02 [2.97, 3.08]	0.03	
Decision-making				
Samples with complete cases	546	2.78 [2.70, 2.87]	0.05	**<0.001***
Samples with incomplete cases	569	3.03 [2.97, 3.10]	0.03	
Decision-influence				
Samples with complete cases	509	2.15 [2.05, 2.27]	0.05	**<0.001***
Samples with incomplete cases	569	2.66 [2.57, 2.75]	0.05	

*p<0.05, **p<0.01, ***p<0.001; 95% CI: 95% confidence interval.

Table 5. 18: Empowerment score in different domains by age categories (N= 569)

Empowerment score	N of observations	Mean score [95% CI]	SD	P-value
Freedom of movement (N= 555)				
11-13 years old	212	2.40 [2.30, 2.50]	0.77	
14 years old	343	2.56 [2.49, 2.64]	0.71	**0.010 **
Voice (N= 554)				
11-13 years old	210	2.96 [2.86, 3.07]	0.77	
14 years old	344	3.06 [2.99, 3.14]	0.68	0.097
Decision-making (N= 546)				
11-13 years old	208	2.97 [2.86, 3.09]	0.85	
14 years old	338	3.07 [3.00, 3.16]	0.76	0.136
Decision-influence (N= 509)				
11-13 years old	188	2.62 [2.48, 2.77]	1.00	
14 years old	321	2.68 [2.57, 2.80]	1.05	0.547

Table 5. 19: Pearson's correlation coefficients between the gender norm and empowerment scores (complete cases only, N = 377)

	Freedom of movement	Voice	Decision-making	Decision-influence
Freedom of movement	1.000			
Voice	0.266	1.000		
Decision-making	*0.342*	**0.562**	1.000	
Decision-influence	0.163	0.183	0.280	1.000
GST	0.196	0.132	0.142	0.012
GSR	0.176	0.097	0.080	-0.051
SDS	-0.095	0.125	0.114	0.028
ARE	0.201	0.098	0.072	0.039
GERF	0.264	**0.446**	**0.427**	0.193
GASRH	0.295	0.125	0.226	0.138
GSV	0.198	-0.071	-0.005	0.010

Note: If correlation coefficient is above 0.30 (*in italics*), the correlation was considered mild, and if the coefficient is >= 0.40 (**bolded)**, the correlation was considered strong. GST: gender stereotypical trait; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

334

Table 5. 20: Pearson's correlation coefficients between empowerment scores (complete and incomplete cases included) and gender norm scores (complete/incomplete cases) (N = 529)

	Freedom of movement	Voice	Decision-making	Decision-influence
Freedom of movement	1.000			
Voice	0.295	1.000		
Decision-making	*0.309*	**0.526**	1.000	
Decision-influence	0.193	0.172	0.286	1.000
GST	0.237	0.153	0.111	0.017
GSR	0.203	0.149	0.107	-0.019
SDS	-0.034	0.146	0.160	0.080
ARE	0.224	0.010	0.070	0.099
GERF	0.261	**0.460**	**0.461**	0.226
GASRH	0.255	0.120	0.231	0.130
GSV	0.187	-0.070	-0.016	0.018

Note: If correlation coefficient is above 0.30 (*in italics*), the correlation was considered mild, and if the coefficient is > = 0.40 (**bolded**), the correlation was considered strong. GST: gender stereotypical trait; GSR: gender stereotypical roles; SDS: sexual double standards; ARE: adolescent romantic expectations. GASRH: gender views on adolescents' SRH; GERF: gender equitable roles and features; GSV: gender stereotypical views.

Table 5. 21: Final multivariate linear regression model for the GSV score: incomplete vs complete cases

Variables	GSV with complete and incomplete cases (N = 422)	GSV with complete cases only (N = 388)
INDIVIDUAL FACTORS		
Sex: girls (Ref: boys)	**-0.23* [-0.42, -0.04]**	**-0.24* [-0.44, -0.04]**
Age (continuous, 11-14 years old)	0.00 [-0.15, 0.16]	0.01 [-0.15, 0.17]
Survey language (Ref: isiXhosa)		
English	**-0.23* [-0.43, -0.04]**	**-0.27* [-0.47,-0.08]**
Afrikaans	**0.60*** [0.34, 0.87]**	**0.61*** [0.33,0.88]**
Household wealth index (Ref: lower 33 percentile)		
Median tertile	-0.14 [-0.34, 0.06]	-0.12 [-0.33, 0.09]
Upper 33 percentile	0.03 [-0.17, 0.24]	0.03 [-0.18, 0.24]
Mother's education (Ref: never to some secondary)		
Secondary completed	-0.04 [-0.23, 0.14]	-0.07 [-0.27, 0.12]
College, university or above	-0.04 [-0.26, 0.19]	-0.03 [-0.26, 0.20]
Power imbalance score (Ref: lower 33 percentile)		
Median tertile	-0.14 [-0.35, 0.07]	-0.11 [-0.33, 0.11]
Upper 33 percentile	**0.30* [0.07, 0.53]**	**0.29 [0.05, 0.53]***
Body Comfort Score (Ref: lower 33 percentile)		
Median tertile	-0.10 [-0.33, 0.13]	-0.04 [-0.28, 0.19]
Upper 33 percentile	**-0.47*** [-0.67, -0.27]**	**-0.51 [-0.71, -0.30]***
Importance of avoiding a pregnancy (Ref: No)	-0.08 [-0.27, 0.10]	-0.08 [-0.27, 0.11]
FAMILY FACTORS		

335

Variables	GSV with complete and incomplete cases (N = 422)	GSV with complete cases only (N = 388)
Household composition		
Living with no or one of the parents	-0.09 [-0.25, 0.08]	-0.12 [-0.29, 0.05]
Parents' expectations on marriage (Ref: After primary or secondary or high school) When I decide I want to marry, or they don't expect me to marry	-0.12 [-0.31, 0.07]	-0.16 [-0.36, 0.04]
PEER FACTORS		
Most or many close friends have had sex	**0.40*** [0.20, 0.59]**	**0.39 [0.20, 0.59]*****
FACTORS AT SCHOOL or EDUCATION		
Gender of teachers in school (Ref: Only female or male teachers)		
Have both male and female teachers in school	-0.04 [-0.21, 0.13]	-0.08 [-0.25, 0.09]
COMMUNITY/ NEIGHBORHOOD FACTORS		
Positive perceptions towards neighbors' social cohesion (Ref: yes to 0-2 or 3-4 items)		
Responded "yes" to 3-4 out of 4 items	**0.17* [0.00, 0.34]**	**0.22 [0.05, 0.40]***
MEDIA/ ICT FACTORS		
Exposure to pornography: sometimes or often (Ref: never)	**0.26** [0.08, 0.45]**	**0.22 [0.03, 0.41]***
Use of social media or texting to communicate with friends (Ref: never or less than weekly, or weekly): weekly or daily	-0.06 [-0.24, 0.11]	-0.11 [-0.29, 0.06]
SUMMARY STATISTICS		
Constant	**2.74* [0.65, 4.82]**	**2.80*[0.61, 4.99]**
R2	0.397	0.420
Adjusted R2	0.367	0.389
AIC	1078.40	982.40

GSV: Gender stereotypical views; 95% confidence interval in brackets; $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

Table 5. 22: Final multivariate linear regression model for ARE: incomplete vs complete cases

Variables	ARE with complete and incomplete cases (N = 416)	ARE with complete cases only (N = 412)
INDIVIDUAL FACTORS		
Sex: girls (Ref: boys)	0.00 [-0.19, 0.19]	-0.01 [-0.20, 0.18]
Age (continuous, 11-14 years old)	0.06 [-0.09, 0.21]	0.06 [-0.09, 0.21]
Survey language (Ref: isiXhosa)		
English	**-0.20* [-0.39, -0.01]**	**-0.21* [-0.40, -0.01]**
Afrikaans	0.22 [-0.05, 0.48]	0.21 [-0.06, 0.48]
Religiousness (Ref: never attended church, once a month, or 2-3 times/month)		
Once a week or more	-0.03 [-0.19, 0.14]	-0.03 [-0.20, 0.14]
Household wealth index (Ref: lower 33 percentile)		
Median tertile	0.17 [-0.03, 0.37]	0.17 [-0.04, 0.38]
Upper 33 percentile	0.02 [-0.18, 0.23]	0.03 [-0.18, 0.23]
Mother's education (Ref: never to some secondary)		
Secondary completed	-0.13 [-0.32, 0.05]	-0.12 [-0.31, 0.07]
College, university or above	-0.17 [-0.39, 0.05]	-0.16 [-0.39, 0.06]
Importance of having a boy/girlfriend (Ref: No)	**0.26**[0.07, 0.44]**	**0.28** [0.09, 0.46]**
FAMILY FACTORS		
Closeness with parents or main caregiver	-0.05 [-0.22, 0.13]	-0.05 [-0.23, 0.13]

336

Variables	ARE with complete and incomplete cases (N = 416)	ARE with complete cases only (N = 412)
Parents' endorsement of having a boy/girlfriend (Ref: No)	**0.40*** [0.22, 0.59]**	**0.40*** [0.21, 0.58]**
Parents' expectations on marriage (Ref: After primary or secondary or high school) When I decide I want to marry or they don't expect me to marry	0.04 [-0.15, 0.23]	0.04 [-0.15, 0.23]
PEER FACTORS		
Average time spent with friends (Ref: none or 1-4 times a week)		
Nearly everyday	0.15 [-0.03, 0.33]	0.15 [-0.03, 0.33]
Most or many close friends have a boyfriend or girlfriend	**0.36***[0.18, 0.55]**	**0.36*** [0.18, 0.55]**
Most or many close friends drink alcohol	**0.28** 0.09, 0.47]**	**0.27** [0.08, 0.46]**
FACTORS AT SCHOOL or EDUCATION		
Gender of teachers in school (Ref: only one sex- females or males)		
Have both male and female teachers in school	0.11 [-0.06, 0.27]	0.10 [-0.07, 0.26]
School safety (Ref: never or rarely feel unsafe or threatened last year)		
Sometimes or often felt unsafe last year	**-0.22* [-0.38, -0.05]**	**-0.21* [-0.39, -0.04]**
MEDIA/ ICT FACTORS		
Exposure to pornography: sometimes or often (Ref: never)	0.13 [-0.05, 0.32]	0.14 [-0.04, 0.33]
Access to mobile phone at home, in school, or own (Ref: No access)	**0.27** [0.07, 0.47]**	**0.26*[0.05, 0.46]**
SUMMARY STATISTICS		
Constant	**2.31* [0.24, 4.38]**	**2.31*[0.21, 4.42]**
R^2	0.283	0.276
Adjusted R^2	0.247	0.241
AIC	1048.11	1032.32

ARE: Adolescent romantic expectations; 95% confidence interval in brackets; $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$
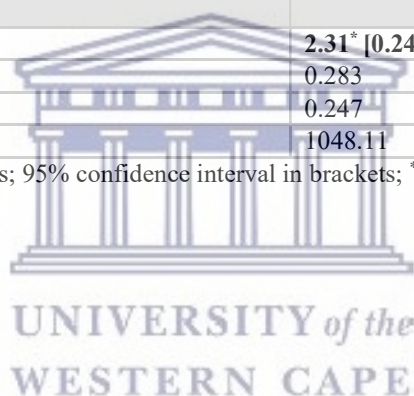
Appendix 4 (Chapter 6)

Table 6. 12: Covariates or independent variables used in the Chapter 6

Socio-ecological level and themes	Covariates (independent variables) selected
INDIVIDUAL LEVEL	
Socio-economic, demographic characteristics	- Age (continuous or binary: 11-13 or 14 years) - Sex (binary, boys or girls) - Race (black Africans, Coloured /white/others) - Survey language (isiXhosa, English, or Afrikaans) - Family wealth index (in tertiles) - Mother's education level (never/up to primary, secondary, university or above) - Household wealth index
Empowerment score (continuous variables, mean score)	-freedom of movement -voice - decision-influence
Sexual history and romantic relationships (including perceptions)	- Ever having been in a romantic relationship (binary: yes/no) - Onset of sexual intercourse (binary: yes/no) - Onset of sexual touch (binary: yes/no) - Power imbalances mean score (continuous, or binary: < or > = median) - Importance of having a boyfriend or girlfriend (binary yes- totally or somewhat agree, no- totally or somewhat disagree)
Depression symptoms	**-Depression score (continuous, or binary: < or > = median)***

PEERS	- All or most of close friends think that it is important to:
	    - have a boyfriend or girlfriend
	    - have sex
	    - avoid pregnancy
	    - study hard
	(Binary: no- neither agree nor disagree, somewhat disagree, or totally disagree; yes- totally or somewhat agree)

FAMILY	- Household composition (living with both parents vs living without or one of the parents) - Parents' divorce (yes/no) - Parent's awareness on three domains: children's friends' name, school performance, and whereabouts (0: no; 1: yes to all three items) - Parents' expectations regarding marriage (binary: after primary or secondary school or when I decide I want to marry or do not expect me to marry) - Parents' endorsement of having a boyfriend or a girlfriend (yes/no)
COMMUNITY/ NEIGHBOURS	- EAs' perception on unsafe environment in communities or schools during the past 12 months (binary, yes- 1, no-0) - Neighborhood social cohesion asked by four items (binary: yes to 0-2 items, or 3-4 items)
ICT/ MEDIA	- Pornography use (binary: never v.s. sometimes or often)
CONTRACEPTIVE USE, NEGOCIATION, OR ACCESS	- EAs' individual knowledge on where to get condom in their communities (yes/no) - Knowledge on where to get contraceptives in communities (yes/no) - Perceptions of peers' (boys and girls) knowledge of where to get contraceptives (yes/ no) - Communication about family planning with an adult (never/ever)

338

Socio-ecological level and themes	Covariates (independent variables) selected
	- Communication about sexual relationships with an adult (never/ever)
	- Negotiation capacity to avoid pregnancy with the partner (can negotiate with the current partner on contraceptive use – yes/no)
	- Utilization of contraceptive methods- at first sex or with the current partner (yes/no)
	- Desire or plan to use contraceptive methods in future relationships (binary, yes/no)

Note: Grey- highlighted variables were assessed in relation to the knowledge on pregnancy avoidance, but they did not show significant associations, thus, excluded from the final regression models. *Depression score is explained in detail in Chapter 8. In this chapter, variables that constituted this score were presented.

Figure 6. 1: Scatter plot of the mean knowledge score for pregnancy avoidance and HIV prevention, by sex. N =569
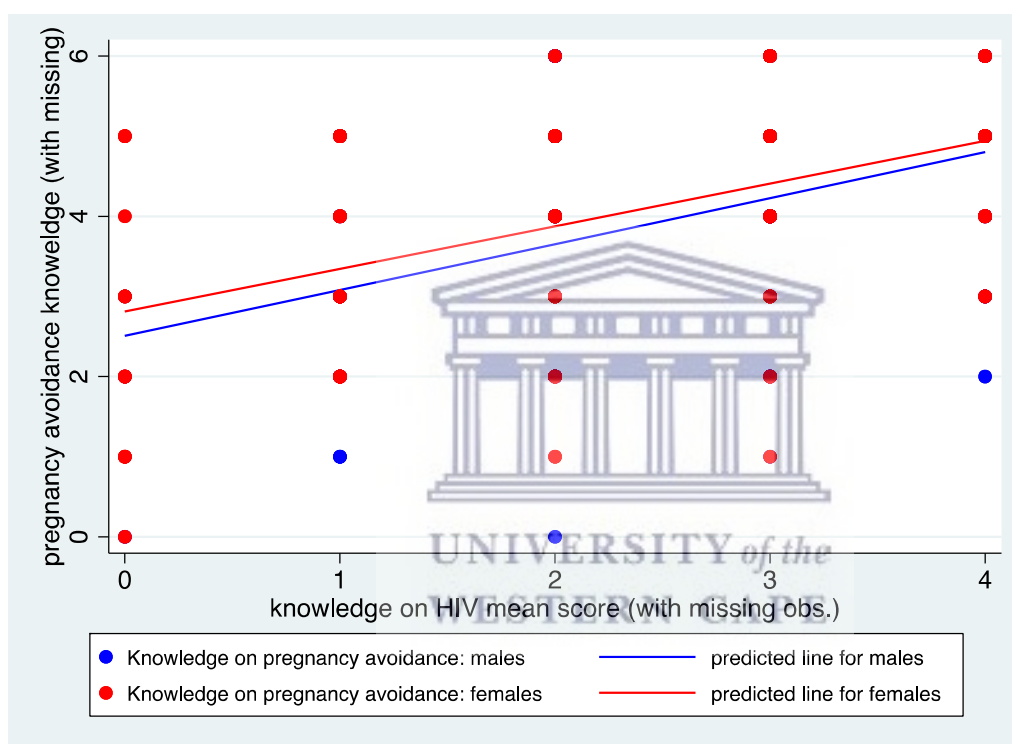
Table 6. 13: Pregnancy avoidance knowledge score (complete cases only) and gender norm scores (incomplete/complete cases vs complete cases only)

Gender norm scores (mean score)	Coefficients [95% CI] With complete and incomplete cases (N = 533)	Coefficients [95% CI] with complete cases only (N = 408)
GST	0.04 [-0.10, 0.18]	0.01 [-0.15, 0.17]
ARE	0.08 [-0.02, 0.18]	0.05 [-0.06, 0.16]
SDS	**0.15* [0.03, 0.27]**	0.10 [-0.05, 0.24]
GSR	-0.05 [-0.15, 0.06]	-0.04 [-0.17, 0.08]
GASRH	**0.09* [0.00, 0.17]**	0.09 [-0.00, 0.18]
GERF	**0.18*** [0.08, 0.29]**	**0.20** [0.07, 0.33]**

339

Gender norm scores (mean score)	Coefficients [95% CI] With complete and incomplete cases (N = 533)	Coefficients [95% CI] with complete cases only (N = 408)
Constant	2.30*** [1.64, 2.97]	2.70*** [1.89, 3.51]
R2	0.08	0.06
Adjusted R2	0.06	0.05

Values presented in the table are coefficients [95% confidence interval in brackets]. For the pregnancy avoidance knowledge, only complete cases were included. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 6. 14: HIV prevention knowledge score and gender norm scores (incomplete/complete cases vs complete cases only)

Gender norm scores (mean score/continuous)	With complete and incomplete cases (N = 530)	with complete cases only (N = 403)
GST	0.04 [-0.08, 0.16]	0.02 [-0.11, 0.15]
ARE	0.11* [0.03, 0.19]	0.13** [0.04, 0.23]
SDS	0.18*** [0.08, 0.29]	0.16** [0.04, 0.28]
GSR	-0.00 [-0.09, 0.09]	0.02 [-0.08, 0.12]
GASRH	0.05 [-0.02, 0.12]	0.02 [-0.06, 0.10]
GERF	0.00 [-0.09, 0.09]	-0.01 [-0.12, 0.09]
Constant	1.14*** [0.58, 1.71]	1.41*** [0.75, 2.06]
R2	0.06	0.06
Adjusted R2	0.05	0.04

Values presented in the table are coefficients [95% confidence interval in brackets]. For the HIV prevention knowledge, only complete cases were included. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Appendix 5 (Chapter 7)

Table 7. 10: Main covariates (independent or predicting variables) used in Chapter 7

Socio-ecological level and themes	Selected covariates or variables
INDIVIDUAL LEVEL	
Socio-economic, demographic characteristics	- Age (continuous or binary: 11-13 or 14 years) - Sex (binary, boys or girls) - Family/household wealth index (in tertiles) - Mother's education level (never/up to primary, secondary, university or above)
Romantic relationships, overall body comfort, empowerment, ACEs, and substance use	- Power imbalance score (continuous, mean score) - Body comfort score (continuous, mean score) - Ever use of drugs (any types) - Empowerment score: voice (mean score, continuous) - Adverse childhood events (ACEs) in continuous (mean score), or categorical variable (0-2 items, 3-4 items, or 5+)
FAMILY/ HOUSEHOLD	-Household composition (categorical variable: 0-living with both parents, 1- only with mother, 2-only with father or other, such as grandparents) - Caregiver connectedness (feel close or not) - Parents' awareness on three domains (EAs' school performance, close friends' names, and whereabouts)
PEERS	- Importance given by close friends (peers) on having a boyfriend or girlfriend (all or most of the close friends consider xx important: Yes/ No) - EAs' perception towards social inclusion of gender a-typical peers (1: Yes/ accept unconditionally: 0: No or Yes, but I would not want to do anything with her or him)[54]
SCHOOL	- EAs' educational aspiration (expect to complete to which level of education?): 0-up to high school, 1- college or technical school, 2-university or post-graduate. - Sex compositions of teachers (0-only males or females vs 1-mixed) - Threats or unsafe environment in schools (felt threatened within the past 12 months in schools: Yes-1, No-0) -Witnessing peer-fights or bullying during the past six months (0- No, 1- Yes)
COMMUNITY/ NEIGHBOURS	- EAs' having threatened or felt unsafe in communities or schools during the past 12 months (binary, Yes- 1, No-0) - Neighborhood's social cohesion asked by four items (binary: yes to 0-2 items-0, or 3-4 items-1)*
ICT/ MEDIA	- Frequency of texting and social media use to communicate with friends (never, less than weekly or weekly, daily) - Frequency of using phone or computer to communicate with friends (never, less than weekly or weekly, daily). - Ever experienced exposure to pornography (binary: never or rarely vs sometimes or often)

---

[54] This question was asked in a vignette style. The scenario for girls was: "Ever since he was a younger child, James has preferred playing with girls. He is now 13 and one day after school he sees his female classmates standing in a circle chatting in the middle of the playground. James wants to join them. He approaches them asking to join in. If you were with a group of female friends and a boy like James asked to join, would you let him join?" For boys, the scenario asked a reverse situation (a girl being a-typiacl peer)

Table 7. 11: Number of missing observations for adverse childhood events (ACEs), Cape Town (N = 569)

Number of missing ACE items	Frequency	% of the total sample
0	355	62.4%
1	89	15.6%
2	51	9.0%
3	21	3.7%
4	15	2.6%
5	12	2.1%
6	6	1.1%
7	7	1.2%
8	4	0.7%
9	3	0.5%
10	3	0.5%
11	3	0.5%
Total	569	100%

Table 7. 12: Pearson's correlation coefficients between violence-related variables

Variables	Peer violence perpetration	Peer violence victimization	IPV perpetration	IPV victimization	History of ACEs	Threatened/ felt unsafe in schools	Witnessed peer violence	Threatened/ felt unsafe in communities
Peer violence perpetration (past six months)	1.00							
Peer violence victimization (past six months)	0.27	1.00						
IPV perpetration (past six months)	0.18	0.07	1.00					
IPV victimization (past six months)	0.10	0.08	*0.35*	1.00				
History of ACEs	*0.31*	0.27	0.12	0.16	1.00			
Have threatened or felt unsafe in schools (past 12 months)	0.14	0.15	0.03	0.01	0.25	1.00		

Variables	Peer violence perpetration	Peer violence victimization	IPV perpetration	IPV victimization	History of ACEs	Threatened/felt unsafe in schools	Witnessed peer violence	Threatened/felt unsafe in communities
Witnessing peer fights or bullying (past six months)	0.29	*0.33*	0.19	0.12	0.16	0.06	1.00	
Have threatened or felt unsafe in communities/ schools (past 12 months)	0.13	0.21	0.05	0.19	0.28	**0.76**	0.09	1.00

Note: a coefficient of above 0.30 (but < 0.40) was considered mild correlation but still included in the regression analysis. A coefficient of 0.40 or above was considered strong correlation and one of the two variables was excluded from the analysis.

Table 7. 13: Pearson's correlation coefficients between different types of ACEs, Cape Town (N = 355)

Adverse childhood events	Anxiety or depression in family members	Emotional abuse	Emotional neglect	Substance abuse in family members	Fear of physical abuse	Household instability	Parental incarceration	Physical neglect	Witness of domestic violence
Anxiety or depression in family members	1.00								
Emotional abuse	0.17	1.00							
Emotional neglect	0.23	0.30	1.00						
Substance abuse in family members	0.24	0.09	0.15	1.00					
Fear of physical abuse	0.22	0.29	0.28	0.24	1.00				
Household instability	0.27	0.17	0.21	0.21	0.16	1.00			
Parental incarceration	0.28	0.054	0.10	0.32	0.12	0.22	1.00		
Physical neglect	0.32	0.26	0.36	0.22	0.25	0.20	0.13	1.00	
Witness of domestic violence	0.34	0.16	0.20	0.37	0.29	0.29	0.28	0.25	1.00

Table 7. 14: Linear regression associations between ACEs and gender norm scores, adjusted for sex and age (N = 569)

Gender norm scores	Coefficient GST score (N = 562)	Coefficient GASRH score (N = 555)	Coefficient GSV score (N = 561)
ACEs mean score (continuous)	**0.05***[0.02, 0.08]**	**0.10*** [0.06, 0.14]**	**0.10*** [0.07, 0.13]**
Age (Continuous variable)	0.02 [-0.09, 0.13]	-0.02 [-0.18, 0.14]	**-0.20** [-0.33, -0.07]**
Sex: girls (Ref: boys)	**-0.16* [-0.31, -0.02]**	**-0.49*** [-0.70, -0.29]**	**-0.49*** [-0.65, -0.32]**
Constant	3.59*** [2.07, 5.10]	3.25** [1.04, 5.47]	5.20*** [3.41, 7.00]
R^2	0.04	0.09	0.13
Adjusted R^2	0.03	0.09	0.13

Measures of effect are coefficients from multivariate linear regressions. 95% confidence interval in brackets. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 7. 15: X^2 test for history of ACEs and exposures to peer violence (victimization and perpetration) during the six months (N = 569)

	% of EAs who reported peer violence perpetration in the past six months (N = 157)	p-value	% of EAs who reported peer violence victimization in the past six months (N = 336)	p-value
History of ACE				
0-2 ACEs	12.10%	**<0.001*****	17.86%	**<0.001*****
3-4 ACEs	22.29%		33.04%	
5 or more ACEs	<u>**65.61%**</u>		<u>**49.11%**</u>	
TOTAL	100%		100%	

p-value is from X^2 test. *P<0.05, **p<0.01, **p<0.001.

Table 7. 16: Binary logistic regression results: Pornography and violence-related variables (peer violence, IPV, and ACEs), adjusted for sex and age

Variables	Adjusted OR [95% CI]	P-value
Peer violence perpetration (N = 535)	**2.53 [1.68, 3.82]**	**< 0.001*****
Peer violence victimization (N = 535)	1.23 [0.84, 1.81]	0.285
IPV perpetration (N = 356)	0.97 [0.58, 1.61]	0.897
IPV victimization (N = 356)	1.21 [0.76, 1.92]	0.426
History of ACEs:		
0-2 ACEs	Ref	Ref
3-4 ACEs	1.08 [0.65, 1.81]	0.766
5 or more ACEs	**2.42 [1.52, 3.86]**	**< 0.001 *****

Pornography use (binary categorical variable) was the outcome. Binary logistic regression models were adjusted for the sex and age. *P<0.05, **p<0.01, **p<0.001

Table 7. 17: Binary logistic regression results between pornography use and gender norm scores (adjusted for sex and age)

Gender norm scores (continuous)	Number of observations	Adjusted OR [95% CI]	P-value
Gender stereotypical traits (GST)	531	1.17 [0.93,1.46]	0.189
Sexual double standards (SDS)	533	0.81 [0.64,1.02]	0.076
Adolescent romantic expectations (ARE)	**534**	**1.36 [1.11,1.66]**	**0.003****
Gender stereotypical roles (GSR)	524	1.13 [0.95,1.35]	0.172
Gender views on ASRH (GASRH)	**524**	**1.32[1.13,1.54]**	**0.001****
Gender stereotypical views (GSV)	**530**	**1.60 [1.33,1.93]**	**< 0.001*****
Gender equitable roles and features (GERF)	521	0.87 [0.71,1.06]	0.167

The odds ratios presented in this table are from multivariate logistic regressions, adjusted for age (continuous variable) and sex. 95% confidence interval in brackets. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 7. 18: Multivariate logistic regression results: IPV exposure and other violence-related variables adjusted for sex and age, Cape Town

Violence-related variables	IPV perpetration (N = 371) aOR [95% CI]	IPV victimization (N = 371) aOR [95% CI]
Reported adverse childhood events (ACEs)		
0-2 ACEs	Ref	Ref
3-4 ACEs	1.19 [0.55,2.54]	1.45 [0.72,2.94]
5 or more ACEs	1.35 [0.65,2.80]	1.71 [0.88,3.32]
IPV victimization with current partner: Never	Ref	Ref
Ever	**6.56***** [3.74,11.53]**	NA
IPV perpetration with current partner: Never	Ref	Ref
Ever	NA	**6.96 [3.87, 12.53]** ***
Peer violence perpetration: Never	Ref	Ref
Ever	1.54 [0.87,2.73]	1.50 [0.87,2.61]
Peer violence victimization: Never	Ref.	Ref
Ever	1.04 [0.58,1.87]	0.89 [0.51,1.53]
Witnessing peer violence (physical fights or bullying) in the past six months (Ref: No)	**2.62*** [1.14,6.04]	1.07 [0.54,2.10]
Felt threatened or scared in communities or schools in the past 12 years (Ref: No)	0.85 [0.49,1.47]	1.38 [0.83,2.29]
Age (continuous)	1.00	0.85
Sex: Girls (Ref: boys)	**3.98***** [2.25,7.04]	**0.31***** [0.18,0.52]

Adjusted odds ratio (aOR); 95% confidence interval in brackets. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Appendix 6 (Chapter 8)

Table 8. 4: Gender norm scores that were used in Chapter 8

Gender stereotypical traits (GST) score (total 7 variables)
Boys should be raised tough so they can overcome any difficulty in life.
Girls should avoid raising their voice to be ladylike.
Boys should always defend themselves even if it means fighting.
Girls are expected to be humble.
Girls need their parents' protection more than boys.
Boys who behave like girls are considered weak.
It's important for boys to show they are tough even if they are nervous inside
Adolescent romantic expectations (ARE) score (total 4)
It's normal for a boy your age to want a girlfriend
It's normal for a girl to want a boyfriend at your age
A girl should be able to have a boyfriend if she wants to
A boy should be able to have a girlfriend if he wants to
Gender stereotypical roles (GSR) score (total 4)
A woman's role is taking care of her home and family.
A man should have the final word about decisions in the home.
A woman should obey her husband in all matters.
Men should be the ones who bring money home for the family, not women.
Gender views on ASRH (GASRH) score (total: 4)
It is OK for an adolescent girls to have sex as long as she avoids getting pregnant.
In general, a girl should only have sex with someone she loves
It is OK for an adolescent boy to have sex as long as he avoids getting a girl pregnant.
In general, a boy should only have sex with someone he loves.
Gender stereotypical views (GSV) score (total 4)
A real man should have as many female partners as he can.
Boys who don't like sports are not real boys
Girls should be interested in make-up.
It is OK to tease a girl who acts like a boy.

Table 8. 5: Main covariates used in Chapter 8

Socio-ecological level and themes	Covariates selected
INDIVIDUAL LEVEL	
Socio-economic, demographic characteristics	- Age (continuous) - Sex (binary, boys, or girls)

346

Socio-ecological level and themes	Covariates selected
Substance use and body comfort score	- Substance use (ever utilized of any types of drug) - Body comfort score (continuous, mean score)
Sexual history and romantic relationships	- Relationship power imbalance score (continuous, mean score)
Violence-related variables	- Peer violence (verbal or physical) victimization or perpetration during the six months prior to the survey (Yes/No) - Intimate partner violence (IPV) victimization or perpetration with the current partner, during the six months prior to the survey (Yes/ No) - Exposure to adverse childhood events (ACEs) (three categories: 0-2 ACEs, 3-4 ACEs, 5 or more ACEs) - Having had an incident of feeling threatened or scared in communities during the past 12 months (Yes/No) - Having had an incident of feeling threatened or scared in school or during commuting during the past 12 months (Yes/No)
FAMILY	- Parents' expectations regarding schooling (in three categories: don't know or up to secondary school, university, or post-graduate) - Parents' awareness on their children in three areas: EAs' school performance, friends' names, whereabouts when they go out (yes to all three items/no)
PEERS	- Number of female friends - Number of male friends
ICT/ MEDIA	- Ever experienced exposure to pornography (binary: never v.s. sometimes or often)

Table 8. 6: Number of reported depression symptoms by sex (N = 519)

N. of reported depression symptoms	Total- N (%)	Boys- N (%)	Girls- N (%)
0	27 (5.20)	10 (4.69)	17 (5.56)
1	28 (5.39)	10 (4.69)	18 (5.88)
2	214 (41.23)	89 (41.78)	125 (40.85)
3	97 (18.69)	43 (20.19)	54 (17.65)
4	79 (15.22)	36 (16.90)	43 (14.05)
5	74 (14.26)	25 (11.74)	49 (16.01)
Total	**519 (100)**	**213 (100)**	**306 (100)**

347

Table 8. 7: Association between depression and gender norm scores: unadjusted linear regression coefficients

Gender norms (sample sizes)	Complete and incomplete cases	Complete cases only
GST (N = 520, 502)	**0.15** [0.06, 0.24]**	**0.13** [0.04, 0.21]**
ARE (N = 518, 500)	**0.07* [0.00, 0.15]**	**0.07* [0.00,0.14]**
SDS (N = 517, 480)	0.04 [-0.04, 0.13]	0.06 [-0.04,0.15]
GSR (N = 515, 488)	**0.08*[0.01,0.14]**	**0.09** [0.024, 0.16]**
GASRH (N = 514, 475)	**0.15*** [0.10, 0.20]**	**0.15*** [0.09, 0.21]**
GSV (N = 518, 465)	**0.27***[0.21,0.34]**	**0.28*** [0.21, 0.34]**
GERF (N = 511, 446)	-0.01 [-0.09, 0.07]	-0.01 [-0.09, 0.08]

*p<0.05, **p<0.01, ***p<0.001. Values are crude coefficients and [95% CI: 95% confidence interval]. GST: gender stereotypical trait; ARE: adolescent romantic expectations; GSR: gender stereotypical roles; SDS: sexual double standards; GASRH: gender views on adolescent sexual and reproductive health; GSV: gender stereotypical views; GERF: gender equitable roles and features. Note: for GST, ARE, GSR, SDS, and GSV, a higher score indicates less equitable gender norms, while for the GERF score, a higher score indicates more equitable views on gender roles and features.

Table 8. 8: Binary logistic regression: associations between depression symptoms (binary) and violence (N-351)

Violence-related variables	Unadjusted coefficients [95% CI]
Peer violence perpetration (N = 519) (Ref: No)	0.04 [-0.16,0.24]
Peer violence victimization (N = 519) (Ref: No)	**0.37***[0.22, 0.52]**
Feel threatened in communities or schools (N = 519)	0.11 [-0.03, 0.25]
Felt unscared or threatened in schools or while commuting in the past year (N = 511) (Ref: No)	**0.23**[0.086, 0.37]**
History of reported ACEs (N = 519)	
0-2 ACEs	Ref
3-4 ACEs	**0.33***[0.16, 0.50]**
5 or more ACEs	**0.81*** [0.65, 0.97]**
IPV perpetration (N = 355)	**0.27**[0.08, 0.45]**
IPV victimization (N = 355)	**0.24**[0.06, 0.41]**

*p < 0.05; **p < 0.01; ***p < 0.001. Values are coefficients from binary multivariate regression between the depression score and violence-related variables. Peer violence experience was measured during the past six months prior to the survey and IPV experiences were asked within the current romantic relationship.

Table 8. 9: Multivariate linear associations between the depression and gender norm scores for EAs in current romantic relationship

Variables	Adjusted coefficient Model 1: adjusted to covariates (N = 299)	Adjusted coefficient Model 2: adjusted to covariates and gender norms (N = 299)
Gender norm scores		
GSV mean score	NA	**0.16***[0.07, 0.24]**
Violence and ACEs		
Peer violence perpetration, in past six months (Ref: No)	-0.00 [-0.20, 0.20]	-0.01 [-0.21, 0.18]
Peer violence victimization, in past six months (Ref: No)	0.14 [-0.04, 0.33]	0.13 [-0.05,0.31]
Felt scared or threatened at school or while commuting in the past year (Ref: never or rarely)	0.10 [-0.07,0.28]	0.07 [-0.10,0.25]
History of ACEs: 0-2 ACEs	Ref	Ref
3-4 ACEs	0.19 [-0.04, 0.43]	0.18 [-0.04, 0.41]
5 or more ACEs	**0.61***[0.38, 0.83]**	**0.56*** [0.33, 0.78]**
IPV victimization with the current partner (Ref: No)	0.09 [-0.10, 0.28]	0.07 [-0.12, 0.26]
IPV perpetration with the current partner (Ref: No)	0.13 [-0.08, 0.33]	0.12 [-0.08, 0.32]
Individual characteristics		
Gender: Boys	Ref	Ref
Girls	**0.27* [0.06, 0.47]**	**0.31** [0.11, 0.52]**
Age: continuous variable	-0.02 [-0.17, 0.12]	-0.01 [-0.15, 0.13]
Have ever used any drug (Ref: never)	0.01 [-0.21, 0.23]	0.02 [-0.20, 0.23]
Exposure to pornography	0.13 [-0.05, 0.31]	0.09 [-0.09, 0.27]
Peer factors		
Number of female friends: 0-1	Ref	Ref
2-3	-0.03 [-0.24, 0.18]	0.00 [-0.20, 0.21]
4 or more	-0.18 [-0.42, 0.05]	-0.18 [-0.41, 0.05]
Number of male friends: 0	Ref	**Ref**
1-3	**0.29* [0.06,0.52]**	**0.30* [0.07,0.52]**
4 or more	**0.32* [0.04,0.61]**	**0.30* [0.02,0.58]**
Parents' expectations regarding school	Ref	Ref
University	**-0.42*** [-0.66,-0.19]**	**-0.31** [-0.55,-0.08]**
Postgraduate	**-0.55*** [-0.78,-0.31]**	**-0.41*** [-0.66,-0.17]**
Parents' awareness in three areas	0.15 [-0.04,0.34]	0.13 [-0.06,0.32]
Constant	2.51* [0.53,4.48]	1.82 [-0.15,3.79]
Crude R2	0.2665	0.1992
Adjusted R2	0.2193	0.2515
AIC	**666.50**	**654.85**

Ref: Reference categories. Values shown in the table are coefficients [95% CI], *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. Values are coefficients (reference coefficient is 0.00). GST: gender stereotypical traits; GASRH: gender views on adolescent sexual and reproductive health; GSV: gender stereotypical views. Interaction term between age and sex was not statistically significant at p-value < 0.05 for both models.

349

Figure 8. 4: Body comfort score, N = 530 (number of positive responses, maximum: 5)
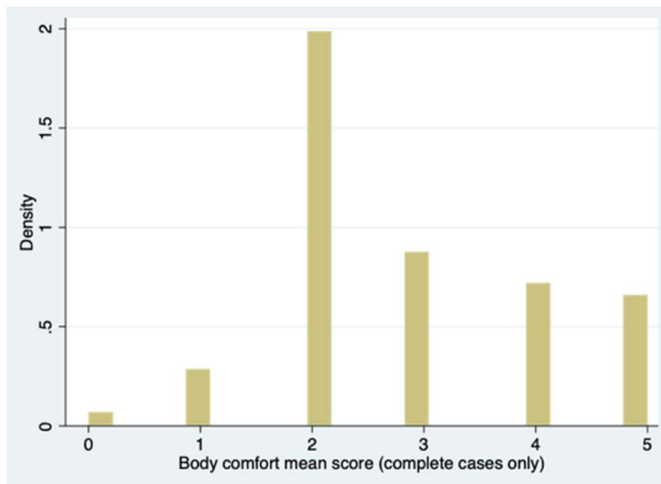
Figure 8. 5: Mean depression score, with complete cases only (N = 565)
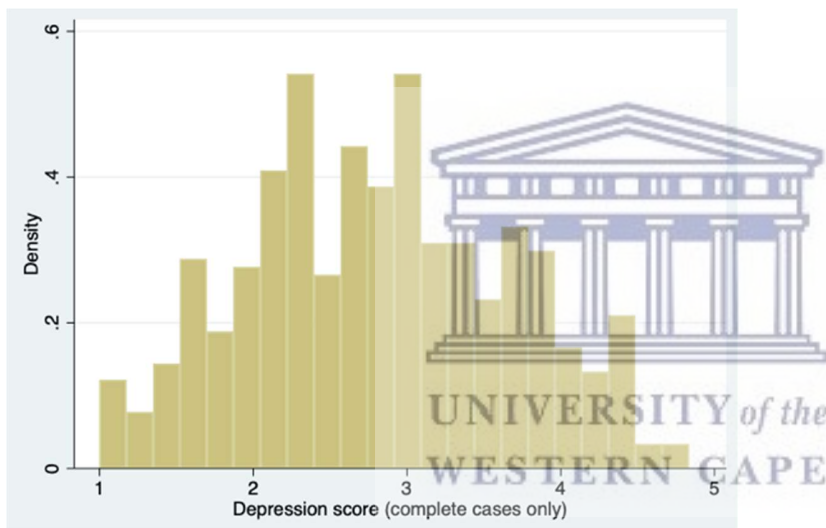
Figure 8. 6: Bivariate (left) and multivariate (right) linear regression predictions: depression and gender norm scores (GSV, GASRH, and GSR)
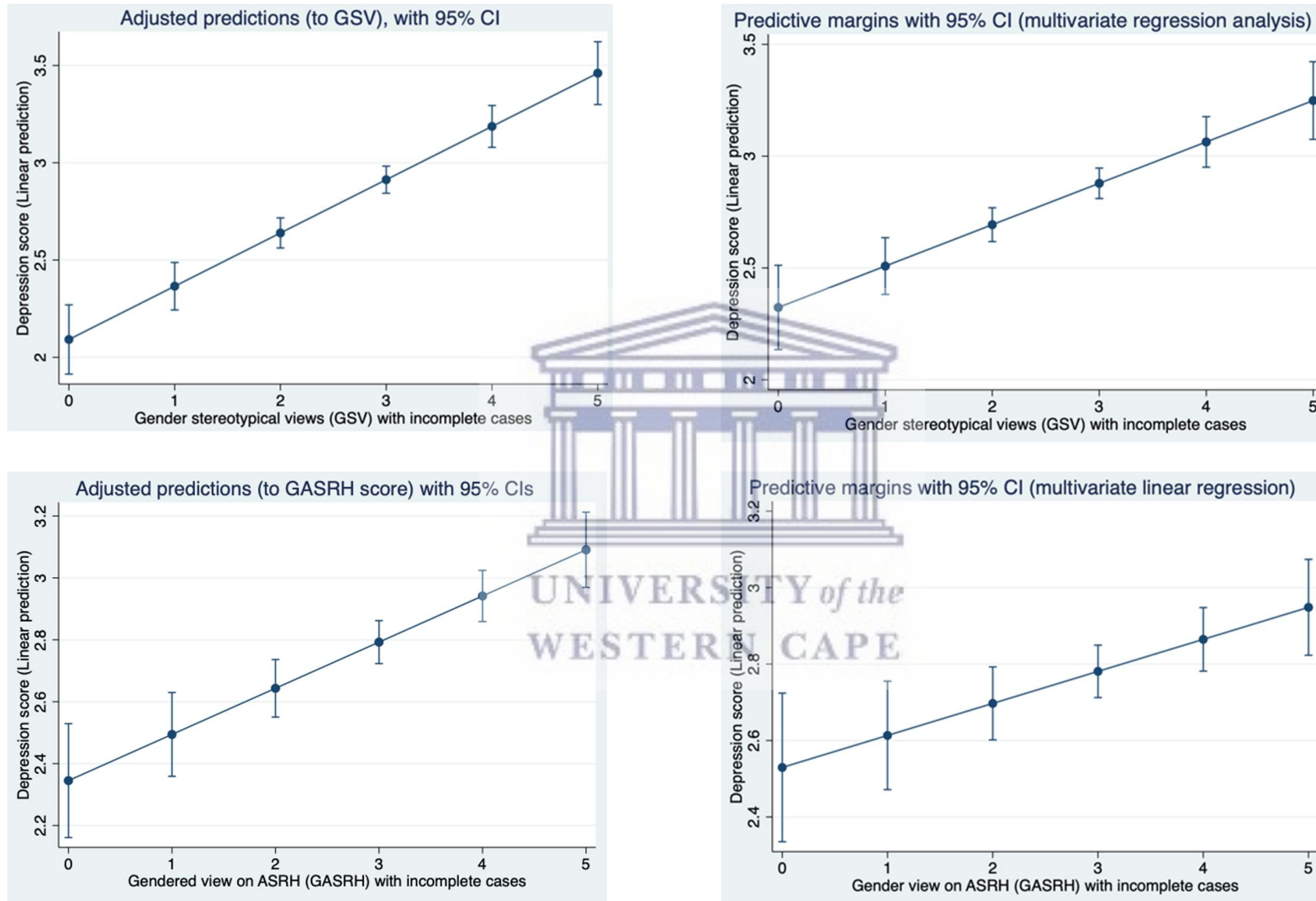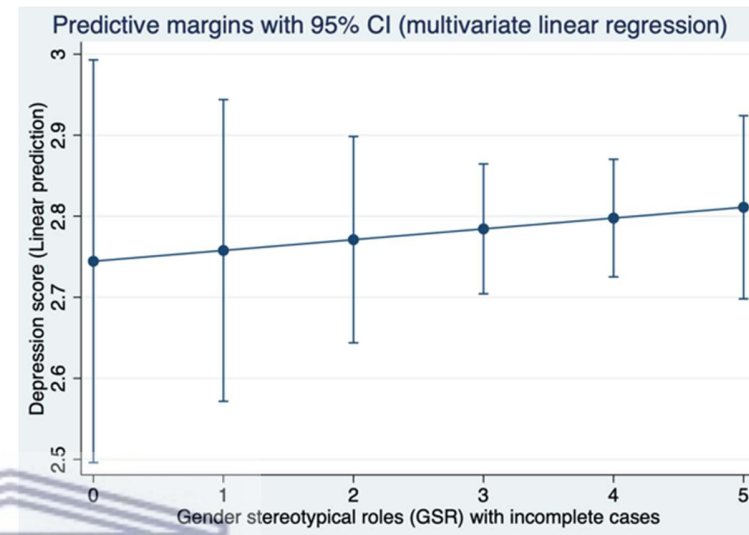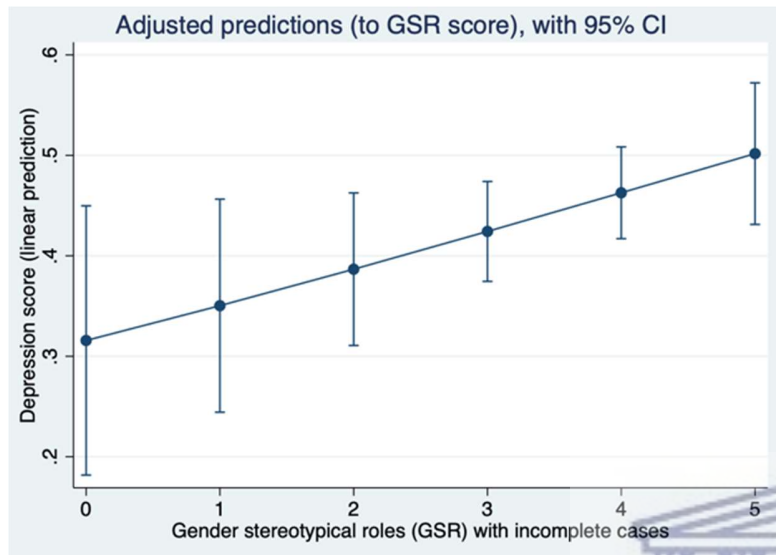
Note: Figures on the left side are fitted line and 95% CI of the depression score (predictions adjusted to the gender norm scores). On the right side are fitted line and 95% CI of the depression score and gender norm scores, when the regression model was adjusted for the following covariates: age, sex, history of ACEs, parents' expectations on children's school completion, and the number of male friends.
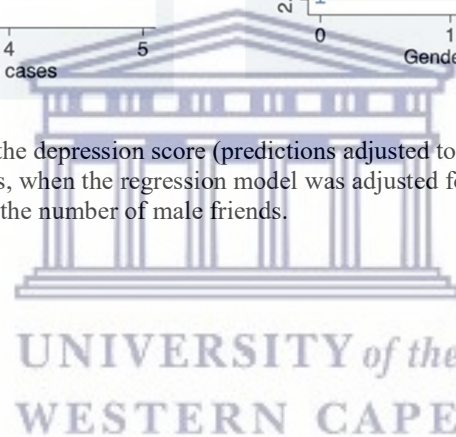
Appendix 7 (Ethics approvals, consent forms, informational sheets, and questionnaires)

a. Ethics approvals

OFFICE OF THE DIRECTOR: RESEARCH
RESEARCH AND INNOVATION DIVISION

Private Bag X17, Bellville 7535
South Africa
T: +27 21 959 4111/2948
F: +27 21 959 3170
E: research-ethics@uwc.ac.za
www.uwc.ac.za

UNIVERSITY of the WESTERN CAPE

09 May 2019

Ms R Kinoshita
School of Public Health
Faculty of Community and Health Science

Ethics Reference Number: BM17/10/7

Project Title: Assessing the influence of gender socialization of early adolescents' behaviour and perceptions towards sexual and reproductive health and gender-based violence in low socio-economic, urban neighbourhoods, Cape Town: A mixed method study.

Approval Period: 06 May 2019 – 06 May 2020

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report in good time for annual renewal.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

BMREC REGISTRATION NUMBER -130416-050

ROM HOPE TO ACTION THROUGH KNOWLEDGE.

353

27 May 2020

Ms R Kinoshita and Prof D Cooper
School of Public Health
Faculty of Community and Health Sciences

Ethics Reference Number: BM17/10/7

Project Title: Assessing the influence of gender socialization of early adolescents' behaviour and perceptions towards sexual and reproductive health and gender-based violence in low socio-economic, urban neighbourhoods, Cape Town: A mixed method study.

Approval Period: 15 May 2020 – 15 May 2023

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report annually by 30 November for the duration of the project.

Permission to conduct the study must be submitted to BMREC for record-keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

NHREC Registration Number: BMREC-130416-050

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

354

19 December 2022

Ms R Kinoshita and Prof D Cooper
School of Public Health
Faculty of Community and Health Sciences

Ethics Reference Number: BM17/10/7

Project Title: Assessing the influence of gender socialization of early adolescents' behaviour and perceptions towards sexual and reproductive health and gender-based violence in low socio-economic, urban neighbourhoods, Cape Town: A quantitative study.

Approval Period: 15 May 2020 – 15 May 2023

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report annually by 30 November for the duration of the project.

Permission to conduct the study must be submitted to BMREC for record-keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

NHREC Registration Number: BMREC-130416-050

Note: above letter retrospectively updated the existing ethics approval (valid through 15 May 2023) with a modification to the thesis's title (from a mixed method study to a quantitative study), as agreed with the supervisors.

b.   Consent forms and informational sheets

CONSENT FORM (learner)

Title of Research Project: "Improving adolescent sexual and reproductive health: the influence of early adolescent gender socialization on later sexual and reproductive health. A SA-Flemish study*".*

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name…………………….
Participant's signature……………………………
Date………………………

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION
Research Office
New Arts Building,
C-Block, Top Floor, Room 28
University of the Western Cape
Private Bag X17
Bellville 7535

CONSENT FORM (Parent or caregiver)

Title of Research Project: "Improving adolescent sexual and reproductive health: the influence of early adolescent gender socialization on later sexual and reproductive health. A SA-Flemish study***".***

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my child's participation will involve and I agree to she/he participating through my and their own choice and free will. I understand that her/his and my identity will not be disclosed to anyone. I understand that I may withdraw my child from the study at any time without giving a reason and without fear of negative consequences or loss of benefits at school and my child can decide the same.

Parent/caregiver of child's name………………………..
Parent/caregiver of child's name …………………………….
Date………………………

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION
Research Office
New Arts Building,
C-Block, Top Floor, Room 28
University of the Western Cape
Private Bag X17
Bellville 7535

357

INFORMATION SHEET: learners

Study Title: Improving adolescent sexual and reproductive health: the influence of early adolescent gender socialization on later sexual and reproductive health. A South African-Belgian study. (Short name: The EASH study)

Introduction
Hello! My name is [enter name]. I work with the University of the Western Cape, and we are conducting this study to understand how young people think about being a girl and a boy and what they think about sexual and reproductive (about the way your body works for example, in terms of one day having children) health. We will share the results with other researchers, but we will not share individual information with them that can be traced back to you. Before you decide whether or not to give consent to participate, you can talk to anyone you feel comfortable with about the research.

If you do not understand something I talk about, please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask me or another researcher.

What you should know about this study
You are being asked to join a research study. This information sheet explains the research study and your part in the study.

Please read it carefully and take as much time as you need. If you would prefer this form to be read to you and would like it in Afrikaans or isiXhosa, we can do this.
You can choose not to take part at all. If you decide to take part, you may withdraw at any time – you do not have to wait till the end if you do not want to. If you choose not to participate in this study or if you stop taking part at any time, this will not affect your schooling or how people treat you at school in any way. If you participate and decide there are some questions you would prefer not to answer, you have a right to skip these questions. We will <u>not</u> be taking any samples or tests from your body in this study.

Purpose of research project
Our research study is aimed at better understanding what girls and boys your age think about being a girl and boy and if this has any link with how they think about and do in sexual and reproductive health.

Why you are being asked to participate
You are being invited to take part in this research because we feel that your experience as a young adolescent is important for future possibilities and potential challenges.

Process and privacy
If you say yes, you would like to take part, we will ask you to complete a questionnaire on an Ipad. There will also be a voice that you can hear through earphones when you are on the tablet.

358

This will tell you more about the questions. You can choose the questionnaire and voice recording in English, Afrikaans or isiXhosa. It will take about three-quarters of an hour to complete. Because of the school rules, we will need to interview you after school hours. We can do this on the school property. We will be interviewing others in the same way at the same time on other tablets, but – no one else will know how you have answered the questions. Someone from the research team will be in the room to answer any questions you may have and to collect the tablet after you have finished.

You will have a study identity number rather than your name being used, so that your individual answers are kept secret. The information will be wiped off the tablet; once we are certain that we have got all the information. We will not let anyone outside our research team see the answers. We will keep your information private by not linking your consent form with your answers. We will store your information and data in a safe place and no one else will be able to see individual results.

Risks/discomforts If you feel uncomfortable you don't need to participate. If you participate and feel uncomfortable answering any questions, you do not have to answer them, and do not have to explain why. You may stop at any time even if you did not complete all the questions. Because you are under the age of 18 years by law, besides your consent, we also need to make contact with your parent or person who looks after you and ask their permission for you to participate. If they don't agree, we won't be able to interview you. If they agree, this is just giving their permission to interview you. They will not be able to see what you have answered.

Benefits
You will not experience a direct benefit from answering these questions. However, we will use the answers to help us understand issues on being a girl and boy and sexual reproductive health that young people are facing so that we can give the results and make recommendations to people who are working with sexual reproductive health. We will also make all efforts to report back on the overall results to participants in the study.

Payment
You will not be paid to take part in the research. But as you need to stay after school, we will provide you with refreshments and a small token of appreciation because of the time you have spent with us.

Who do I contact if I have questions or problems?
If you have any questions about this study, I can answer them now or, you may contact the person leading this research project, the Principal Investigator, Professor Diane Cooper (tell: 021-9599382; email: dcooper@uwc.ac.za).

Address: University of Western Cape, Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2809; Fax: 27 21-959 2872

Should you have any questions about your rights as a research participant or if you wish to report any problems you have experienced related to the study as a participant, please contact:

Prof. Utah Lehmann
School of Public Health
Head of Department
University of the Western Cape
Private Bag X17, Bellville 7535
Telephone: 021-959 2633
Email: ulehmann@uwc.ac.za; soph-comm@uwc.ac.za

Prof. Mario Smith
Research Dean, Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X1, Bellville 7535
Email: chs-deansoffice@uwc.ac.za

Prof Althea Rhode
Dean of the Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X1, Bellville 7535
Email: chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Biomedical Ethics Research Ethics Committee: BM17/8/17

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION
Research Office
New Arts Building,
C-Block, Top Floor, Room 28
University of the Western Cape
Private Bag X17, Bellville 7535

INFORMATION SHEET: parents/caregivers of children

Study Title: Improving adolescent sexual and reproductive health: the influence of early adolescent gender socialization on later sexual and reproductive health. A South African-Belgian study. (Short name: The EASH study)

Introduction
Hello! My name is [enter name]. I work with the University of the Western Cape, and we are conducting this study to understand how young people think about being a girl and a boy and what they think about sexual and reproductive health (about the way the body works for example, in terms of one day having children). We will share the results with other researchers and the broader results with you and the children, but we will not share individual information with them or you about your child said that could be traced back to she/him or you. Before you decide whether or not to give consent for them to participate, you can talk to anyone you feel comfortable with about the research.

If you do not understand something, please send questions back to the school so that we can explain. If you have questions later, you can send a question to me through the School.

What you should know about this study
Your child is being asked to participate in this research. This information sheet explains the research study and your child's part in the study.
Please read it carefully and take as much time as you need. If you would prefer this form to be read to you and would like it in Afrikaans or isiXhosa, we arrange or this.
You can choose for your child not to take part at all. If you decide she/he can take part, you can ask for them to be withdrawn from the study at any time and so can they do so – you or they do not have to wait till the end if you do not want to. If you choose for them not to participate in this study or if you stop them or they stop taking part at any time, this will not affect your child's schooling or how people treat she/he or you at school in any way. If they participate and decide there are some questions they would prefer not to answer, they have a right to skip these questions. We will <u>not</u> be taking any samples or tests from your child's body in this study.

Purpose of research project
Our research study is aimed at better understanding what girls and boys your age think about being a girl and boy and if this has any link with how they think about and do in sexual and reproductive health.

Why you are being asked to allow your child to participate
You are being asked to allow your child to participate in this research because we feel that the experiences of young adolescents are important for future possibilities and potential challenges.

361

Process and privacy
If you say yes, you agree to your child taking part t, we will ask you to for your consent and your child's consent and ask her/him to complete a questionnaire on an Ipad after classes. The questionnaire will take about three-quarters of an hour to complete. Because of the school rules, we will need to interview your child after school hours. We can do this on the school property. We will be interviewing others in the same way at the same time on other tablets, but – no one else will know how your child has answered the questions. Someone from the research team will be in the room to answer any questions your child may have and to collect the tablet after she/he has finished.

Your child will have a study identity number rather than their names being used, so that their individual answers are kept secret. The information will be wiped off the tablet; once we are certain that we have got all the information. We will not let anyone outside our research team see the answers. We will keep their information private by not linking their or your consent forms with their answers. We will store their and your information and data in a safe place and no one else will be able to see individual results.

Risks/discomforts If you feel uncomfortable your child doesn't need to participate. If she/he participates and feels uncomfortable answering any questions, she/he does not have to answer them, and does not have to explain why. She/he may stop at any time even if she/he did not complete all the questions. Because your child is under the age of 18 years by law, besides their consent, we also need to ask your permission for them to participate. If they don't agree, we won't be able to interview them. If they agree, this is just giving their permission to interview them. No one will not be able to see what he or she has answered.

Benefits
You and your child will not experience a direct benefit from answering these questions. However, we will use the answers to help us understand issues on being a girl and boy and sexual reproductive health that young people are facing so that we can give the results and make recommendations to people who are working with sexual reproductive

health. We will also make all efforts to report back on the overall results to participants and others like you, in the study.

Payment
Your child will not be paid to take part in the research. But as she/he needs to stay after school, we will provide them with refreshments and a small token of appreciation because of the time they have spent with us.

Who do I contact if I have questions or problems?
If you have any questions about this study, you can send your questions to me or you may contact the person leading this research project, the Principal Investigator, Professor Diane Cooper (tel: 021-9599382; email: dcooper@uwc.ac.za).

https://etd.uwc.ac.za/

Address: University of Western Cape, Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2809; Fax: 27 21-959 2872

Should you have any questions about your children's rights as a research participant or if you wish to report any problems your child or you have experienced related to the study as a participant, please contact:

Prof. Uta Lehmann
School of Public Health
Head of Department
University of the Western Cape
Private Bag X17, Bellville 7535
Telephone: 021-959 2633
Email: ulehmann@uwc.ac.za; soph-comm@uwc.ac.za

Prof. Mario Smith
Research Dean, Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X1, Bellville 7535
Email: chs-deansoffice@uwc.ac.za

Prof Anthea Rhode
Dean of the Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X1, Bellville 7535
Email: chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Biomedical Ethics Research Ethics Committee: BM17/8/17

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION
Research Office
New Arts Building,
C-Block, Top Floor, Room 28
University of the Western Cape
Private Bag X17, Bellville 7535

c. Questionnaires

GEAS-Cape Town site : Final questionnaires.

Field	Question	Answer
logo	Welcome to the Global Early Adolescent Study This is the survey for Cape Town (V2019-07-30)	
survey_language *(required)*	I1. Please select the language in which this survey will be conducted :	12 English (Kenya) 13 English (Nigeria) 14 English (Scotland) 15 English (South Africa) 71 Afrikaans (South Africa) 72 Xhosa (South Africa) 16 English (USA) 2 Dutch (Belgium) 31 French (Burkina Faso) 32 French (DRC) 33 Lingala (DRC) 41 Spanish (Bolivia) 42 Spanish (Ecuador) 43 English 5 Simplified Chinese (China) 6 Egyptian Arabic (Egypt) 7 Hindi (India) 8 Swahili (Kenya) 9 Chichewa (Malawi) 10 Yoruba (Nigeria) 51 Vietnamese (Vietnam) 61 Swahili (Tanzania) 62 English (Tanzania)
surveytype *(required)*	I2. Is this survey being conducted by interview, self-administered, ACASI?	1 Interview (CAPI) 2 Interview with audio self-interview for section XC (CAPI+ACASI)

364

Field	Question	Answer	
		3	Self-administered without audio (CASI)
		4	Fully audio self-administered (ACASI)
Interviewer *(required)*	I3. Please select data collector.	1	Ntobeko Nywagi
		2	Michelle Odendaal
		3	Nomfundo Cishe
		1501	Secondary School A - 1501
		1502	Secondary School B - 1502
		1503	Secondary School C - 1503
		1504	Secondary School D - 1504
		1505	Secondary School E - 1505
		1506	Secondary School F - 1506
		1507	Secondary School G - 1507
		1508	Secondary School H - 1508
school_id *(required)*	I7a. Enter school ID number	1509	Secondary School I - 1509
		1510	Secondary School J- 1510
		1511	Primary School K - 1511
		1512	Primary School L - 1512
		1513	Primary School M - 1513
		1514	Primary School N - 1514
		1515	Primary School O - 1515
		1516	Primary School P - 1516

Field	Question	Answer
		1517 Primary School Q - 1517
		1518 Primary School R - 1518
		1519 Primary School S - 1519
		1 Strand / Helderberg
neighborhood *(required)*	I7b. Enter neighborhood	2 Mfuleni
		3 Kuilsriver
bar_id	Please scan in the barcode for this participant.	
id1 *(required)*	I8. Enter individual ID number	
id2 *(required)*	I8. In order to verify the ID number, please enter individual ID number again.	
id_note *(required)*	The two ID numbers must be the same. Please swipe back and re-enter the ID numbers.	

consent

Field	Question	Answer
reserved_name_for_field_list_labels_24		1 Yes 0 No
consent_p *(required)*	I5. Did parent consent?	1 Yes 0 No
consent_i *(required)*	I6. Did individual consent?	1 Yes 0 No

consented

Field	Question	Answer
intro	This survey is being asked of both boys and girls, some your age, some younger, some older, and in many different countries and cultures. Some of the items will apply to you, while others may not.	
IA1age *(required)*	IA1. How old are you? _____Years old	
IA2gender *(required)*	IA2. Are you a ....?	0 Boy 1 Girl
IA2a *(required)*	IA2a. Some boys also feel a bit like a girl, and there are also girls that feel a bit like a boy. To what extent do you think of yourself as a real boy?	5 100% a real boy 4 Mostly a real boy 3 50% a real boy 2 Somewhat a real boy 1 0% a real boy 999 Don't know 996 Prefer not to answer

366

Field	Question	Answer
IA2b *(required)*	IA2b. Some girls also feel a bit like a boy, and there are also boys that feel a bit like a girl. To what extent do you think of yourself as a real girl?	5 100% a real girl 4 Mostly a real girl 3 50% a real girl 2 Somewhat a real girl 1 0% a real girl 999 Don't know 996 Prefer not to answer
IA3b_read *(required)*	IA3b. Can you read the following sentence? "I like the sound of music"	1 Yes 0 No 996 Prefer not to answer
IA4 *(required)*	IA4. Including you, how many people typically sleep in the same room as you?	0 I sleep alone 1 1 other person 2 2 or 3 other people 3 4 or more people 996 Prefer not to answer
IA4a *(required)*	IA4a. Who sleeps in the bedroom with you? (Select all that apply.)	1 Mother 3 Step-mother 2 Father 4 Step-father 5 Brother 6 Sister 7 Grandmother 8 Grandfather 9 Aunt 10 Uncle 11 Other adult family member 12 Other adult non-family member 997 Other 996 Prefer not to answer
IA5race_ca *(required)*	IA5. What do you consider your race to be? (Select all that apply)	31 Black African 32 Coloured 33 White 997 Other 996 Prefer not to answer
refuseIA5ca_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer"	

367

Field	Question	Answer
	was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
IA5raceother *(required)*	IA5other. What is your other race?	
IA6religion_ca *(required)*	IA6. What is your religion?	30 Christian 31 Islam 32 Hinduism 997 Other 0 I do not have a religion 996 Prefer not to answer
IA6other *(required)*	What is your other religion?	
IA7 *(required)*	IA7. How important is religion to you?	4 Very important 3 Somewhat important 2 Not very important 1 Not important at all 999 Don't know 996 Prefer not to answer
IA8 *(required)*	IA8. In the past month, how often did you attend religious services (example: at a church, temple, or mosque)?	3 Once a week or more 2 Two or three times a month 1 Once this past month 0 Never 996 Prefer not to answer
consented > SA_group		
SA1 *(required)*	SA1. Were you born in Cape Town?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
SA2 *(required)*	SA2. How old were you when you began living in Cape Town? _____Years old	
SA3 *(required)*	SA3. Before you moved to Cape Town where did you live?	1 Another city in South Africa 2 A rural area of South Africa

368

Field	Question	Answer
		3 Another country
		999 Don't know
		996 Prefer not to answer
		1 1 year or less
		2 2 years
		3 3 years
		4 4 years
		5 5 years
		6 6 years
		7 7 years
SA4 *(required)*	SA4. How long have you been living in your current community?	8 8 years
		9 9 years
		10 10 years
		11 11 years
		12 12 years
		13 13 years
		14 14 years
		999 Don't know
		996 Prefer not to answer
		0 No
		1 Yes, urban area of Cape Town
SA5 *(required)*	SA5. As far as you know, was your father born in Cape Town?	2 Yes, rural area of Cape Town
		999 Don't know
		996 Prefer not to answer
		1 Another city in South Africa
		2 A rural area of South Africa
SA6 *(required)*	SA6. Was your father born in… ?	3 A city in another country
		4 A rural area in another country
		999 Don't know
		996 Prefer not to answer
		20 20-29 years
SA7 *(required)*	SA7. How old is your father in years?	30 30-39 years
		40 40-49 years

369

Field	Question	Answer	
		50	50 or older
		999	Don't know
		996	Prefer not to answer
		0	Have never been to school
		1	Left before completing primary school
		2	Completed primary school
▊ SA8 *(required)*	SA8. What is the highest level of education your father has completed?	3	Completed some secondary school, but left before finishing
		4	Completed secondary school
		5	Completed trade or vocational school
		6	Completed all or some university
		999	Don't know
		996	Prefer not to answer
		1	Working for pay or has retired
		2	Not currently working for pay, but seeking a job
▊ SA9 *(required)*	SA9. What is your father's current working situation?	3	Not currently working for pay and not seeking a job
		999	Don't know
		996	Prefer not to answer
		0	No
		1	Yes, urban area of Cape Town
▊ SA10 *(required)*	SA10. As far as you know, was your mother born in Cape Town?	2	Yes, rural area of Cape Town
		999	Don't know
		996	Prefer not to answer

Field	Question	Answer	
▮ SA11 *(required)*	SA11. Was your mother born in… ?	1	Another city in South Africa
		2	A rural area of South Africa
		3	A city in another country
		4	A rural area in another country
		999	Don't know
		996	Prefer not to answer
▮ SA12 *(required)*	SA12. How old is your mother in years?	20	20-29 years
		30	30-39 years
		40	40-49 years
		50	50 or older
		999	Don't know
		996	Prefer not to answer
▮ SA13 *(required)*	SA13. What is the highest level of education your mother has completed?	0	Have never been to school
		1	Left before completing primary school
		2	Completed primary school
		3	Completed some secondary school, but left before finishing
		4	Completed secondary school
		5	Completed trade or vocational school
		6	Completed all or some university
		999	Don't know
		996	Prefer not to answer
▮ SA14 *(required)*	SA14. What is your mother's current working situation ?	1	Working for pay or has retired
		2	Not currently working for pay, but seeking a job

371

Field	Question	Answer	
SA15 *(required)*	SA15. What is your parent's current relationship situation?	3	Not currently working for pay and not seeking a job
		999	Don't know
		996	Prefer not to answer
		1	Currently married or living together as if married
		2	Divorced or separately
		3	Widowed
		999	Don't know
		996	Prefer not to answer
SA16 *(required)*	SA16. What are the languages that people usually speak in your home? Select all that apply.	72	Xhosa
		71	Afrikaans
		15	English
		997	Other
		996	Prefer not to answer

consented > SA_group > SA2021_group

Field	Question	Answer	
SA20 *(required)*	SA20. Is your home rented or owned by yourselves?	1	Rented
		2	Owned
		3	Living here with someone else who owns the home
		997	Other
		996	Prefer not to answer
SA21 *(required)*	SA21. How many rooms are there in the home you live in, now ?	1	1
		2	2
		3	3
		4	4
		5	5
		6	6
		7	7
		8	8
		9	9
		10	10
		11	11 or more
		996	Prefer not to answer

Field	Question	Answer
SA22a *(required)*	SA22. Which of the following do you have in your home that is in working order? (Select all that apply .)	1 Landline telephone 2 Cell phone 3 Primus stove 4 Electric hot plate 5 Electric stove with oven 6 Gas stove 7 Fridge or freezer 8 Electric kettle 9 Television 10 Video recorder/DVD player 11 Radio/stereo 12 Sewing machine 13 Block maker 14 Car or bakkie 15 Motorcycle or scooter 16 Bicycle 17 Kombi/lorry/tractor 18 Bed 19 Tables and chairs 20 Lounge suite 21 Kitchen sink 22 Car battery for electricity 23 Wheelbarrow 24 Hoe, spade or garden fork 25 Cattle 26 Other livestock 27 Computer with internet 28 Satellite
IIA1 *(required)*	IIA1. Who is the person who most looks after you/takes care of you? This is sometimes called your primary or primary caregiver (Choose 1)	1 Mother 3 Step-mother 2 Father 4 Step-father 5 Brother 6 Sister
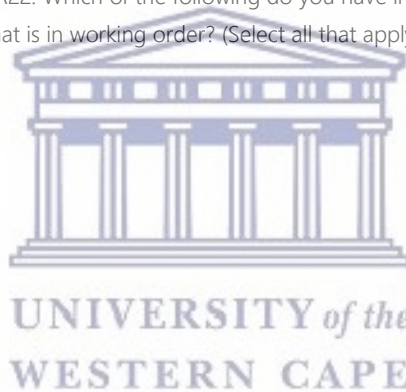
Field	Question	Answer	
		7	Grandmother
		8	Grandfather
		9	Aunt
		10	Uncle
		11	Other adult family member
		12	Other adult non-family member
		997	Other
		0	There is no one who looks after me
		996	Prefer not to answer
IIA1other *(required)*	Specify the other person who takes care of you.		
		0	Male
		1	Female
IIA1b *(required)*	Is your primary caregiver...	2	I have no main caregiver

consented > IIB2_group			
IIB2	IIB2. How comfortable do you feel talking with your primary caregiver/s about:		
		4	Very comfortable
		3	Somewhat comfortable
IIB2a *(required)*	IIB2a.Things that worry you	2	Not very comfortable
		1	Not at all comfortable
		996	Prefer not to answer
		4	Very comfortable
		3	Somewhat comfortable
IIB2b *(required)*	IIB2b. Changes with your body	2	Not very comfortable
		1	Not at all comfortable
		996	Prefer not to answer
		4	Very comfortable
IIB2c *(required)*	IIB2c. Problems with your boyfriend or girlfriend	3	Somewhat comfortable

374

Field	Question	Answer
		2 Not very comfortable
		1 Not at all comfortable
		998 Not applicable (No boyfriend or girlfriend)
		996 Prefer not to answer
		4 A lot
		3 Somewhat
IIB4 *(required)*	IIB4. Do you feel close to your primary caregiver? (By close, we mean that you can talk to that person and tell them about personal and important things)	2 Not much
		1 Not at all
		999 Don't know
		996 Prefer not to answer

consented > IIC1_group

Field	Question	Answer
IIC1	IIC1. To what extent are these things true about your primary caregiver?	
		4 Very true
		3 Somewhat true
IIC1a *(required)*	a. Knows who my friends are by name	2 Not very true
		1 Not true at all
		999 Don't know
		996 Prefer not to answer
		4 Very true
		3 Somewhat true
IIC1b *(required)*	b. Knows my grades/how I am doing in school	2 Not very true
		1 Not true at all
		999 Don't know
		996 Prefer not to answer
		4 Very true
		3 Somewhat true
IIC1c *(required)*	c. Usually knows where I am	2 Not very true
		1 Not true at all
		999 Don't know
		996 Prefer not to answer
IIC2 *(required)*	IIC2. How much school do you think your caregiver wants you to complete?	1 Complete secondary school
		2 Complete trade or technical school

375

Field	Question	Answer	
		3	Complete high school
		4	Complete college
		5	Complete university
		6	Postgraduate or above
		999	Don't know
		996	Prefer not to answer
		4	Very true
		3	Somewhat true
IIC3 *(required)*	IIC3. My primary caregiver/s would be accepting of me having a boyfriend/girlfriend at this time in my life. Is this statement:	2	Not very true
		1	Not true at all
		999	Don't know
		996	Prefer not to answer
		1	After primary school
		2	After secondary school
		3	After I graduate high school
IIC4 *(required)*	IIC4. When do you think your primary caregiver expects you to marry?	4	When I decide that I want to marry
		5	They don't expect me to marry
		999	Don't know
		996	Prefer not to answer
		0	0
		1	1
		2	2
	IID2bro. How many BROTHERS do you have? This	3	3
IID2bro *(required)*	includes step-brothers as well as those who do not live	4	4
	with you.	5	5
		6	6 or more
		999	Don't know
		996	Prefer not to answer
IID2bro_note *(required)*	In the previous question you said that your brother was your primary caregiver, but in this one you say you have no (0) brothers. Both cannot be true, please go back and correct this.		

Field	Question	Answer
IID2sis *(required)*	IID2sis. How many SISTERS do you have? This includes step-sisters as well as those who do not live with you.	0 0 1 1 2 2 3 3 4 4 5 5 6 6 or more 999 Don't know 996 Prefer not to answer
IID2sis_note *(required)*	In the previous question you said that your sister was your primary caregiver, but in this one you say you have no (0) sisters. Both cannot be true, please go back and correct this.	
IID2sis_preg *(required)*	IID2sis_preg. Have any of your older sisters gotten pregnant prior to becoming 19 years old?	1 Yes 0 No 998 I have no older sister 999 Don't know 996 Prefer not to answer
IID3 *(required)*	IID3. Have any members of your immediate family died, like a parent, or a brother or sister?	1 Yes 0 No 996 Prefer not to answer
IID3a *(required)*	IID3a. Who died? (Select all that apply)	1 Mother 2 Father 3 Brother or sister 997 Other family member 996 Prefer not to answer
IID3a_note_mom *(required)*	In question IIA1 you said that your mother was your primary caregiver, but in the last question you said your mother has died. She cannot be your primary caregiver if she is no longer living, please go back and correct one of these answers	
IID3a_note_dad *(required)*	In question IIA1 you said that your father was your primary caregiver, but in the last question you said your father has died. He cannot be your primary caregiver if he is no longer living, please go back and correct one of these answers	
refuseIID3a_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer"	

377

Field	Question	Answer	
	was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_IID3a_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
ca_IID3b *(required)*	Does your mother live in your household with you?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
ca_IID3c *(required)*	If your mother doesn't live with you in your household can you tell us where she is?	1	Mother lives elsewhere, but I have contact/visits with her about every week
		2	Mother lives elsewhere, but I only have contact/visits with her every now and then
		3	Mother lives elsewhere, but I don't have contact/visits with her
		999	I don't know where my mother is
		996	Prefer not to answer
ca_IID3d *(required)*	Does your father live in your household with you?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
ca_IID3e *(required)*	If your father doesn't live with you in your household can you tell us where he is?	1	Father lives elsewhere, but I have contact/visits with him about every week
		2	Father lives elsewhere, but I only have contact/visits

378

Field	Question	Answer	
			with him every now and then
		3	Father lives elsewhere, but I don't have contact/visits with him
		999	I don't know where my Father is
		996	Prefer not to answer
IIA4 *(required)*	IIA4. When you think of the house where you usually live, how many people in general live in one house with you? (This does not include animals)		

consented > IIA5_group

Field	Question	Answer	
IIA5_note	IIA5. Who are living with you?		
IIA5a *(required)*	a. Mother/stepmother	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer
IIA5b *(required)*	b. Father/stepfather	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer
IIA5c *(required)*	c. Older sister	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer
IIA5d *(required)*	d. Younger sister	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer
IIA5e *(required)*	e. Older brother	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer
IIA5f *(required)*	f. Younger brother	1	Yes
		0	No
		998	Not applicable
		996	Prefer not to answer

UNIVERSITY of the WESTERN CAPE

379

Field	Question	Answer
▮▮ IIA5g *(required)*	g. Grandmother/grandfather	1 Yes 0 No 998 Not applicable 996 Prefer not to answer
▮▮ IIA5h *(required)*	h. Uncle/Aunt	1 Yes 0 No 998 Not applicable 996 Prefer not to answer
▮▮ IIA5i *(required)*	i. Cousin	1 Yes 0 No 998 Not applicable 996 Prefer not to answer
▮▮ IIA5j *(required)*	j. Other people from the community	1 Yes 0 No 998 Not applicable 996 Prefer not to answer
▮ IIA6 *(required)*	IIA6. Are your parents married or living together?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ IIA6a *(required)*	IIA6a. Are your parents divorced or separated?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ IID4 *(required)*	IID4. Who do you usually talk to if you have worries or concerns? (Select all that apply)	1 Mother/main female caregiver 2 Father/main male caregiver 3 Brother 4 Sister 5 Friends or peers 6 Grandparent 7 Other family member 8 Teacher 9 Someone at a health center or youth

380

Field	Question	Answer	
			center like a doctor or nurse
		997	Other
		0	I do not speak to anyone when I have questions or worries
		999	Can't remember
		996	Prefer not to answer
▮ IID4_other *(required)*	IID4. Who is the other person you usually talk to if you have worries or concerns?		
▮ III_note	Now I will ask you a few questions about your friends, NOT counting the people in your family.		

consented > IIIA_group

Field	Question	Answer	
▮ IIIA_note	IIIA. How many close friends (BOYS and/or GIRLS) do you have? (By close friends, I mean those with whom you can talk about feelings and share secrets.)		
▮ IIIA1a *(required)*	Male friends	0	0
		1	1
		2	2
		3	3
		4	4
		5	5
		6	6 or more
		999	Don't know
		996	Prefer not to answer
▮ IIIA1b *(required)*	Female friends	0	0
		1	1
		2	2
		3	3
		4	4
		5	5
		6	6 or more
		999	Don't know
		996	Prefer not to answer
▮ IIIB1 *(required)*	IIIB1. During a normal week, how often do you spend time hanging out (socializing) with your closest friends outside of school?	4	Very often (nearly every day)
		3	Often (3-4 times a week)

381

Field	Question	Answer
		2 Not very often (1 or 2 times a week)
		1 Never (no times per week)
		996 Prefer not to answer

consented > IIIC1_group

Field	Question	Answer
▮ IIIC1_note	IIIC1. How many of your close friends think that it is important to...	
▮ IIIC1b *(required)*	Study hard	4 All 3 Most 2 Few 1 None of them 999 Don't know 996 Prefer not to answer
▮ IIIC1f *(required)*	Have a boyfriend or girlfriend	4 All 3 Most 2 Few 1 None of them 999 Don't know 996 Prefer not to answer
▮ IIIC1g *(required)*	Have sexual intercourse (By this we mean when a boy or man puts his penis in a girl's or woman's vagina.)	4 All 3 Most 2 Few 1 None of them 999 Don't know 996 Prefer not to answer
▮ IIIC1h *(required)*	Avoid pregnancy	4 All 3 Most 2 Few 1 None of them 999 Don't know 996 Prefer not to answer

consented > IIIC2_group

Field	Question	Answer
▮ IIIC2_note	IIIC2. In general, how many of your friends do you think ...	
▮ IIIC2a *(required)*	Smoke cigarettes (tobacco)	4 All 3 Most 2 Few

Field	Question	Answer	
IIIC2b *(required)*	Drink alcohol (store bought or home brewed)	1	None of them
		999	Don't know
		996	Prefer not to answer
		4	All
		3	Most
		2	Few
		1	None of them
		999	Don't know
		996	Prefer not to answer

consented > Currently in school only

Field	Question	Answer	
IVA1a_ca *(required)*	IVA1a. What grade or class are you in?	30	Grade 7
		31	Grade 8
		32	Grade 9
		999	Don't know
		996	Prefer not to answer
		30	Grade 8
		31	Grade 9
		32	Grade 10
		33	Grade 11
		34	Until the end of high school
		35	College/Technical diploma
IVA2_ca *(required)*	IVA2. How much school do you think you will complete?	36	University Degree
		37	Other post-matric qualification
		997	Other
		114	None of the above (I'd like to leave school earlier)
		999	Don't know
		996	Prefer not to answer
		5	A lot better
		4	Better
IVA3 *(required)*	IVA3. Compared with ALL other students in your class, how well do you think you are doing with your marks?	3	About the same
		2	Worse
		1	A lot worse
		999	Don't know

383
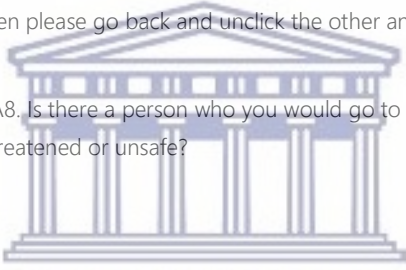
Field	Question	Answer
▊ IVA5 *(required)*	IVA5. Do you feel that there is an adult (a teacher or someone else) in school who really cares about you ?	996 Prefer not to answer 3 Yes, most the time 2 Yes, some of the time 1 No, they don't really care 999 Don't know 996 Prefer not to answer
▊ IVA7 *(required)*	IVA7. During the past month, how many days did you miss school for any reason except when school was closed or for holidays?	0 None 1 1-2 days 2 3-5 days 3 More than 5 days 999 Don't know 996 Prefer not to answer
▊ IVA8m *(required)*	IVA8. What were the main reasons you missed school last month? (Check all that apply)	1 Sick 2 Lack of school fees 4 Help out at home 5 Babysit younger brothers/sisters 6 Work to earn money 7 Hang out with friends 8 Studying for exam 997 Other 999 Don't know 996 Prefer not to answer
▊ refuseIVA8m_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
▊ DK_IVA8m_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
▊ IVA8f *(required)*	IVA8. What were the main reasons you missed school last month? (Check all that apply)	1 Sick 2 Lack of school fees 3 Having my period 4 Help out at home

384

Field	Question	Answer
		5 Babysit younger brothers/sisters
		6 Work to earn money
		7 Hang out with friends
		8 Studying for exam
		997 Other
		999 Don't know
		996 Prefer not to answer
▌ refuseIVA8f_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
▌ DK_IVA8f_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	

consented > Currently in school only

Field	Question	Answer
▌ IVB3 *(required)*	IVB3. Which best describes the teachers in your school?	1 Mostly women (very few or no men)
		2 Mostly men (very few or no women)
		3 Both men and women
		996 Prefer not to answer

consented > Currently in school only > IVB4_group

Field	Question	Answer
▌ IVB4_note	IVB4. All schools are different. Which of the following are available for students to use at your school?	
▌ IVB4a *(required)*	Toilets/latrines with doors	1 Yes
		0 No
		999 Don't know
		996 Prefer not to answer
▌ IVB4b *(required)*	Running water	1 Yes
		0 No
		999 Don't know
		996 Prefer not to answer

consented > VA1_group

Field	Question	Answer
▮ VA1_note	VA1.The following questions are about adults in your community. That is, people who live in the same area, but are not your family or relatives. Tell me how much you think that each of the following is true.	
▮ VA1a *(required)*	People in my community look out for and help their neighbors.	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
▮ VA1b *(required)*	People in my community can be trusted	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
▮ VA1c *(required)*	People in my community know who I am	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
▮ VA1d *(required)*	People in my community care about me	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
▮ VA4insch *(required)*	VA4. Sometimes children feel unsafe or threatened when they are on the way to school or in school. For example, afraid of being attacked, bullied or being hurt. Has this happened to you in the last year?	4 Often 3 Sometimes 2 Rarely 1 Never 999 Don't know 996 Prefer not to answer
▮ VA4no_insch *(required)*	VA4. Sometimes children feel unsafe or threatened when they are in their community. For example, afraid of being attacked, bullied or being hurt. Has this happened to you in the last year?	4 Often 3 Sometimes 2 Rarely 1 Never

Field	Question	Answer
█ VA5 *(required)*	VA5. Can you tell me where you felt unsafe or threatened? (Select all that apply)	999 Don't know 996 Prefer not to answer 4 In my community 3 On the way to or from school 2 In my classroom 1 Elsewhere at school 997 Other 996 Prefer not to answer
█ refuseVA5_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
█ DK_VA5_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
█ VA5other *(required)*	Please specify the other place you feel unsafe or threatened.	
█ VA6 *(required)*	VA6. Who or what made you feel unsafe or threatened in your community? (Check all that apply)	31 Gangsters 32 Drug dealers 33 Boys my age 34 Girls my age 35 Other adults 997 Other things (for example: dogs, other animals, car accidents) 996 Prefer not to answer
█ refuseVA6_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
█ DK_VA6_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
█ VA6other *(required)*	Which adults do you feel threatened by?	

387

Field	Question	Answer	
█ VA7 *(required)*	VA7. Who or what made you feel unsafe or threatened in school? (Check all that apply)	1	Teachers
		3	Other adults
		2	Classmates or other students
		997	Other things (example: dogs, other animals, car accidents)
		996	Prefer not to answer
█ refuseVA7_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
█ DK_VA7_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
█ VA8 *(required)*	VA8. Is there a person who you would go to if you felt threatened or unsafe?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
█ VA9 *(required)*	VA9. Do you still feel unsafe or threatened now?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
█ vignette_note	We are now going to present a few made-up stories about typical adolescents in your community. We will then ask you to answer what you think the people in the stories might do or what you think you would do if it was happening to you.		

consented > vignette_f

consented > vignette_f > vignetteF1

Field	Question	Answer
█ V1F1_note	V1F1. Fatima is in your grade. She is attracted to Ashraf who is in the same grade, but she doesn't know him and has never spoken with him. Many of her friends say they have boyfriends but she has never had one before. She wants to get Ashraf's attention, but is not sure how.	

Field	Question	Answer
▮▮ V1F1a *(required)*	What do you think she would do to get his attention? Pick the best option among the following:	1 Ask a friend to tell Ashraf that she likes him
		2 Pass Ashraf a note
		3 Go up and talk to Ashraf directly
		4 Nothing, just wait, hoping she will meet Ashraf
		996 Prefer not to answer
▮▮ V1F1b *(required)*	What about you? What option would you choose in that situation? Pick the best option among the following:	1 Ask a friend to tell Ashraf that you like him
		2 Pass Ashraf a note
		3 Go up and talk to Ashraf directly
		4 Nothing, just wait, hoping you will meet Ashraf
		996 Prefer not to answer
▮▮ V1F1c *(required)*	If the situation was reversed and Ashraf was attracted to Fatima but he didn't know her, What do you think he would do to get her attention? Pick the best option among the following:	1 Ask a friend to tell Fatima that he likes her
		2 Pass Fatima a note
		3 Go up and talk to Fatima directly
		4 Nothing, just wait hoping he will meet Fatima
		996 Prefer not to answer
▮▮ V1F2_note	V1F2. It is Friday, and Fatima and Ashraf are both at a party with their friends. Fatima (who is attracted to Ashraf) sees that Ashraf is standing in a corner across the room.	
▮▮ V1F2a *(required)*	What would it take for Fatima to talk to him? Pick the best option among the following:	1 Her friends challenged or encouraged her to go up to Ashraf
		2 Ashraf was alone

389

Field	Question	Answer	
		3	Ashraf came up to her or noticed her in another way
		4	She knew from a friend that Ashraf liked her
		5	She would not talk to Ashraf under any circumstance
		996	Prefer not to answer
		1	Go up and speak with Ashraf directly
		2	Do nothing and hope Ashraf will notice her
V1F2b *(required)*	As it turns out, one of Ashraf's friends tells Fatima that Ashraf likes her. Knowing this, what do you think she would do? Pick the best option among the following:	3	Give Ashraf "a look"
		4	Walk by and bump into Ashraf "accidentally"
		5	Ignore Ashraf
		996	Prefer not to answer
		1	His friends challenged or encouraged him to go up to Fatima
		2	Fatima was alone
V1F2c *(required)*	Now think about a situation at the party where the roles are reversed. Ashraf is attracted to Fatima and sees her in the corner of the room. He doesn't know what she thinks of him. What would it take for Ashraf to talk to Fatima? Pick the best option among the following:	3	Fatima came up to him or noticed him in another way
		4	He knew from a friend that Fatima liked him
		5	He would not talk to Fatima under any circumstance
		996	Prefer not to answer
V1F2d *(required)*	As it turns out, one of Fatima's friends tells Ashraf that Fatima likes him. Knowing this, what do you think he would do? Pick the best option among the following:	1	Go up and speak with Fatima directly

UNIVERSITY *of the* WESTERN CAPE

Field	Question	Answer	
		2	Do nothing and hope Fatima will notice him
		3	Give Fatima "a look"
		4	Walk by and bump into Fatima "accidentally"
		5	Ignore Fatima
		996	Prefer not to answer

Field	Question	Answer	
V2F1_note	V2F1. Ever since she was a younger child, Maria always prefered playing with boys. She is now 13 and one day after school she sees her male classmates standing in a circle chatting in the middle of the playground. Maria wants to join them. She approaches them asking to join in.		
V2F1a *(required)*	What do you think the boys would do when Maria asks to join in? Pick the best option among the following:	1	They welcome her to join, just like anyone else
		2	They say that she can't join since the conversation is for boys only
		3	They refuse and call her names for wanting to act like a boy
		5	They allow her to join because she is good at the games they play
		6	They allow her to join, but tease her
		996	I Prefer not to answer
V2F2_note	V2F2. The boys refuse to allow Maria to join their conversation		
V2F2a *(required)*	Why do you think they refuse to let her join them? Pick the best option among the following:	1	Because they feel uncomfortable

391

Field	Question		Answer
			discussing boy stuff with a girl
		2	Because they think girls should hang out with girls and boys with boys
		3	Because they think that Maria is unusual
		4	Because they don't want to be friends with a girl who acts like a boy
		996	I Prefer not to answer
V2F3_note	V2F3. Conversation turns to sports and the boys start preparing for a soccer game. Again, Maria asks to join. Again, she is told no.		
		1	They think she should be able to participate
		2	They think it is unfair, but girls are never allowed to play with boys
V2F3a *(required)*	What do most of Maria's female classmates think about her not being allowed to join the boys' soccer game? Pick the best option among the following:	3	They think Maria is unusual and just makes trouble for herself
		4	They think she acts too much like a boy
		996	I Prefer not to answer
V2F4a_note	V2F4a. Imagine that the situation was reversed and it was a boy, James, who preferred to play with girls who saw his female classmates standing in a circle talking and wanted to join them. James approaches them, asking to join in.		

Field	Question	Answer	
▦ V2F4a *(required)*	What do you think the girls would do when James asks to join in? Pick the best option among the following:	1	They welcome him to join, just like anyone else
		2	They say that he can't join since the conversation is for girls only
		3	They refuse and call him names for wanting to act like a girl
		5	They allow him to join because he is good at the games they play
		6	They allow him to join, but tease him
		996	I Prefer not to answer
▦ V2F4b_note	V2F4b. The girls refuse to allow James to join their conversation.		
▦ V2F4b *(required)*	Why do you think they refuse to let James join them? Pick the best option among the following:	1	Because they feel uncomfortable discussing girl stuff with a boy
		2	Because they think girls should hang out with girls and boys with boys
		3	Because they think that James is unusual
		4	Because they don't want to be friends with a boy who acts like a girl
		996	I Prefer not to answer

393

Field	Question	Answer	
![] V2F4c *(required)*	If you were with a group of female friends and a boy like James asked to join, would you let him join? Pick the best option among the following:	1	Yes, I would have let him join like anyone else
		2	Yes, I would have let him join, but I would not want to have anything to do with him
		3	No, because a guy like that would have made trouble for the group
		4	No, because a guy like that is unusual and acts like a girl and I would rather not have him around
		5	No, because he would have been bullied if he had joined and it would not have been fun for the rest of us
		6	No, because I would not want to confront my girlfriends who are opposed
		996	I Prefer not to answer

consented > vignette_f > vignetteF3

Field	Question	Answer	
![] V3F1_note	V3F1. Sharon is 14 years old. She has been worried for a long time that all the other girls in her group were becoming curvier and starting to develop breasts. Until recently, Sharon had seen none of those changes herself. The other day she got her first period and she has started noticing hair where she didn't have it before.		
![] V3F1 *(required)*	How is Sharon feeling about the body changes she is experiencing, and the fact that she is going through puberty? Pick the best option among the following:	1	She is happy that she is becoming a grown-up

Field	Question	Answer	
		2	She thinks that something is wrong
		3	She is embarrassed about the changes she is experiencing
		4	She is worried about the changes
		5	She does not feel that she wants to start becoming like an an adult
		6	She is confused and wants more information about the changes she is experiencing
		996	I Prefer not to answer
▨ V3F2_note	V3F2. Sharon is confused about the changes that she is experiencing.		
		1	Tell no one that she has finally started puberty
		2	Speak with someone and ask for advice
▨ V3F2 *(required)*	What will she do next? Pick the best option among the following:	3	Search for information without talking to anyone about having her period
		4	Try to hide her body changes
		996	I Prefer not to answer
▨ V3F3_note	V3F3. Sharon tells her mother about her body changes.		
▨ V3F3 *(required)*	How is her mother most likely to first react to the fact that Sharon has finally begun puberty? Pick the best option among the following:	1	Her mother tells Sharon she is happy now that she is becoming a woman
		3	Her mother tells Sharon that now

Field	Question	Answer	
			that she is growing up, it is time to take on more responsibilities at home
		4	Her mother tells her she should no longer play with boys
		5	Her mother will teach her about hygiene and the meaning of periods
		996	I Prefer not to answer

Field	Question	Answer	
� V3F4_note	V3F4. For a long time, Sharon has been the subject of jokes and teasing by her more mature girlfriends. Now her friends start seeing that Sharon is also maturing.		
		1	They will make fun of her for being slow
		2	They will not say anything
V3F4 *(required)*	What do you think the friends are most likely to do? Pick the best option among the following:	3	They will tell her that because now she is a woman, it is time to get a boyfriend
		4	They will see it as normal and pay no attention to it
		996	I Prefer not to answer
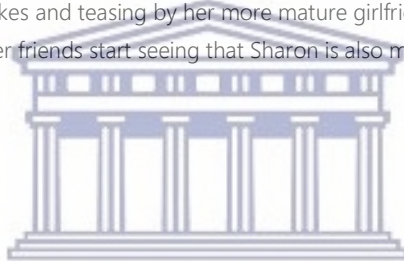
consented > vignette_f > vignetteF4

Field	Question	Answer
V4F1_note	V4F1. Andiswa is 15 years old and inGrade 10. Her boyfriend, Mandla, is also 15 years old. Recently, Andiswa realized that she is pregnant and told Mandla that he had made her pregnant. The next day, Andiswa's best friend notices that she is not herself and asks her what the problem is.	

Field	Question	Answer
▮▮ V4F1a *(required)*	How do you think Andiswa is feeling? Pick the best option about the following:	1 Confused 2 Scared 3 Happy 4 Proud 5 Angry 6 Sad 996 I Prefer not to answer
▮▮ V4F1b *(required)*	How do you think Andiswa will react when she realizes that she is pregnant? Pick the best option about the following:	1 Do nothing and hope it will just go away 2 Accept the pregnancy but refuse any further involvement with Mandla 3 Accept the pregnancy since she is happy to have a baby with Mandla 4 Refuse to carry the pregnancy and try to stop it somehow 996 I Prefer not to answer
▮▮ V4F1c *(required)*	How do you think you would react if you were ever in Andiswa's situation? Pick the best option about the following:	1 Do nothing and hope it will just go away 2 Accept the pregnancy but refuse any further involvement with Mandla 3 Accept the pregnancy since I would be happy to have a baby with Mandla 4 Refuse to carry the pregnancy and try to stop it somehow

397

Field	Question	Answer	
		996	I Prefer not to answer
▓▓ V4F2_note	V4F2. Andiswa tells her friend that she is pregnant and that Mandla has caused the pregnancy.		
		1	Run away from home
		2	Have the baby and raise it
		3	Have the baby and give it up for adoption
▓▓ V4F2 *(required)*	What does Andiswa's friend advise her to do? Pick the best option about the following:	4	Talk with Mandla and make a decision together
		5	Get an abortion
		6	Do whatever Mandla decides
		996	I Prefer not to answer
▓▓ V4F3_note	V4F3. Andiswa's younger sister finds out from Andiswa's friend that Andiswa is pregnant and tells their parents.		
		1	Kick Andiswa out of the house
		2	Say that they will find the money for Andiswa to have an abortion
▓▓ V4F3 *(required)*	How will Andiswa's parents react when they find out that their daughter is pregnant? Pick the best option about the following:	4	Say they will take care of the baby no matter what Andiswa decides to do with Mandla
		996	I Prefer not to answer
▓▓ V4F4a *(required)*	What do you think Andiswa should do with her pregnancy? Pick the best option about the following:	1	Continue the pregnancy and keep the baby
		2	End her relationship with Mandla and

Field	Question	Answer	
			continue the pregnancy alone
		3	Ask Mandla for help getting money for an abortion, but deal with it alone
		4	Ask Mandla accompany her to have the abortion
		996	I Prefer not to answer
		1	Continue the pregnancy and keep the baby
		2	End the relationship with Mandla and continue the pregnancy alone
V4F4b *(required)*	What do you think your friends would do if they ever were in this kind of situation? Pick the best option about the following:	3	Ask Mandla for help getting money for an abortion, but deal with it alone
		4	Ask Mandla accompany them to have the abortion
		996	I Prefer not to answer

consented > vignette_m

consented > vignette_m > vignetteM1

Field	Question	Answer	
V1M1_note	V1M1. Ashraf is in your grade. He is attracted to Fatima, who is in the same grade, but he doesn't know her and has never spoken with her. Most of his friends say they have girlfriends but he has never had one before. He wants to get her attention, but is not sure how.		
V1M1a *(required)*	What do you think he would do to get her attention? Pick the best option among the following:	1	Ask a friend to tell Fatima that he likes her
		2	Pass Fatima a note

Field	Question	Answer
		3 Go up and talk to Fatima directly
		4 Nothing, just wait, hoping he will meet Fatima
		996 Prefer not to answer
		1 Ask a friend to tell Fatima that you like her
		2 Pass Fatima a note
▮▮▮ V1M1b *(required)*	What about you? What option would you choose in that situation? Pick the best option among the following:	3 Go up and talk to Fatima directly
		4 Nothing, just wait, hoping you will meet Fatima
		996 Prefer not to answer
		1 Ask a friend to tell Ashraf that she likes him
▮▮▮ V1M1c *(required)*	If the situation was reversed and Fatima was attracted to Ashraf, but she didn't know him, what do you think she would do to get his attention? Pick the best option among the following:	2 Pass Ashraf a note
		3 Go up and talk to Ashraf directly
		4 Nothing, just wait hoping she will meet Ashraf
		996 Prefer not to answer
▮▮▮ V1M2_note	V1M2. It is Friday, and Ashraf and Fatima are both at a party with their friends. Ashraf (who is attracted to Fatima) sees that Fatima is standing in a corner across the room.	
▮▮▮ V1M2a *(required)*	What would it take for Ashraf to talk to her? Pick the best option among the following:	1 His friends challenged or encouraged him to go up to Fatima
		2 Fatima was alone
		3 Fatima came up to him or noticed him in another way

400

Field	Question	Answer	
		4	He knew from a friend that Fatima liked him
		5	He would not talk to Fatima under any circumstance
		996	Prefer not to answer
		1	Go up and speak with Fatima directly
		2	Do nothing and hope Fatima will notice him
V1M2b *(required)*	As it turns out, one of Fatima's friends tells Ashraf that Fatima likes him. Knowing this, what do you think he would do? Pick the best option among the following:	3	Give Fatima "a look"
		4	Walk by and bump into Fatima "accidentally"
		5	Ignore Fatima
		996	Prefer not to answer
		1	Her friends challenged or encouraged her to go up to Ashraf
		2	Ashraf was alone
V1M2c *(required)*	Now think about a situation at the party where the roles are reversed. Fatima is attracted to Ashraf and sees him in the corner of the room. She doesn't know what he thinks of her. What would it take for Fatima to talk to Ashraf? Pick the best option among the following:	3	Ashraf came up to her or noticed her in another way
		4	She knew from a friend that Ashraf liked her
		5	She would not talk to Ashraf under any circumstance
		996	Prefer not to answer
		1	Go up and speak with Ashraf directly
V1M2d *(required)*	As it turns out, one of Ashraf's friends tells Fatima that Ashraf likes her. Knowing this, what do you think she would do? Pick the best option among the following:	2	Do nothing and hope Ashraf will notice her
		3	Give Ashraf "a look"

401

Field	Question	Answer	
		4	Walk by and bump into Ashraf "accidentally"
		5	Ignore Ashraf
		996	Prefer not to answer

Field	Question	Answer	
V2M1_note	V2M1. Ever since he was a younger child, James has preferred playing with girls. He is now 13 and one day after school he sees his female classmates standing in a circle chatting in the middle of the playground. James wants to join them. He approaches them asking to join in.		
V2M1a *(required)*	What do you think the girls would do when James asks to join in? Pick the best option among the following:	1	They welcome him to join, just like anyone else
		2	They say that he can't join since the conversation is for girls only
		3	They refuse and call him names for wanting to act like a girl
		5	They allow him to join because he is good at the games they play
		6	They allow him to join, but tease him
		996	I Prefer not to answer
V2M2_note	V2M2. The girls refuse to allow James to join their conversation.		
V2M2a *(required)*	Why do you think they refuse to let him join them? Pick the best option among the following:	1	Because they feel uncomfortable discussing girl stuff with a boy
		2	Because they think boys should hang

402

Field	Question	Answer
		out with boys and girls with girls
		3 Because they think that James is very weird/unusual
		4 Because they don't want to be friends with someone they think acts too much like a girl
		996 I Prefer not to answer
▓▓ V2M3_note	V2M3. Conversation turns to games and the girls start playing netball. Again, James asks to join. Again, he is told no.	

Field	Question	Answer
▓▓ V2M3a *(required)*	What do most of James's male classmates think about him not being allowed to join netball with the girls? Pick the best option among the following:	1 They think he should be able to participate
		2 They think it is unfair, but boys shouldn't play with girls
		3 They think James is unusual and just makes trouble for himself
		4 They think he is acting too much like a girl
		996 I Prefer not to answer
▓▓ V2M4a_note	V2M4a. Imagine that the situation was reversed and it was a girl, Maria, who preferred to play with boys and who saw her male classmates standing in a circle talking and wanted to join them.	
▓▓ V2M4a *(required)*	Maria approaches them, asking to join in. What do you think the boys would do when Maria asks to join in? Pick the one best option among the following:	1 They welcome her to join, just like anyone else

Field	Question	Answer	
		2	They say that she can't join since the conversation is for boys only
		3	They refuse and call her names for wanting to act like a boy
		5	They allow her to join because she is good at the games they play
		6	They allow her to join, but tease her
		996	I Prefer not to answer
V2M4b_note	V2M4b. The boys refuse to allow Maria to join their conversation.		
V2M4b *(required)*	Why do you think they refuse to let Maria join them? Pick the best option among the following:	1	Because they feel uncomfortable discussing boy stuff with a girl
		2	Because they think boys should hang out with boys and girls with girls
		3	Because they think that Maria is very unusual
		4	Because they don't want to be friends with someone they think acts too much like a boy
		996	I Prefer not to answer
V2M4c *(required)*	If you were with a group of male friends and a girl like Maria asked to join, would you let her join? Pick the best option among the following:	1	Yes, I would have let her join like anyone else

Field	Question	Answer	
		2	Yes, I would have let her join, but I would not want to have anything to do with her
		3	No, because a girl like that would have made trouble for the group
		4	No, because a girl like that is unusual and I would rather not have her around
		5	No, because she would have been bullied if she had joined and it would not have been fun for the rest of us
		6	No, because I would not want to confront my male friends who are opposed
		996	I Prefer not to answer

consented > vignette_m > vignetteM3

Field	Question	Answer	
V3M1_note	V3M1. Mathew is 15 years old. He has been worried for a long time that all the other boys in his group were becoming taller and also had some facial hair. Until recently, Mathew had seen none of those changes himself. The other evening he woke up and his underwear was wet because he had had a "wet dream," and he has started noticing hair where he didn't have it before.		
V3M1 (required)	How is Mathew feeling about the body changes he is experiencing, and the fact that he is going through puberty? Pick the best option among the following:	1	He is happy that he is becoming a grown-up
		2	He thinks that something is wrong

Field	Question	Answer	
		3	He is embarrassed about the changes he is experiencing
		4	He is worried about the changes
		5	He doesn't really feel like becoming an adult
		6	He is somewhat confused and wants more information about the changes he is experiencing
		996	I Prefer not to answer
▓ V3M2_note	V3M2. Mathew is confused about the changes that he is experiencing.		
▓ V3M2 *(required)*	What will he do next? Pick the best option among the following:	1	Tell no one that he has finally started puberty
		2	Speak with someone and ask for advice
		3	Search for information without talking to anyone about the wet stains on his underwear
		4	Try to hide his body changes
		996	I Prefer not to answer
▓ V3M3_note	V3M3. Mathew tells his father about his body changes.		
▓ V3M3 *(required)*	How is his father most likely to first react to the fact that Mathew has finally begun puberty? Pick the best option among the following:	1	His father tells Mathew he is happy now that he is becoming a man
		2	His father makes fun of him
		3	His father tells Mathew that now that he is growing

406

Field	Question	Answer
		up, it is time to take on more responsibilities at home
		4 His father tells him he should no longer play with girls
		5 His father will teach him about hygiene and about the meaning of nocturnal emission/wet dreams
		996 I Prefer not to answer

Field	Question	Answer
▓▓ V3M4_note	V3M4. For a long time, Mathew has been the subject of jokes and teasing by his more mature guy friends. Now his friends start seeing that Mathew is also maturing.	
▓▓ V3M4 *(required)*	What do you think the friends are most likely to do? Pick the best option among the following:	1 They will make fun of him for being slow
		2 They will be too embarrassed to say anything
		3 They will tell him that because now that he is a man, it is time to get a girlfriend
		4 They will see it as normal and pay no attention to it
		996 I Prefer not to answer

▓ consented > vignette_m > vignetteM4

Field	Question	Answer
▓▓ V4M1_note	V4M1. Mandla is 15 years old and in 9th grade. His girlfriend, Andiswa, is also 15 years old. Recently, Andiswa realized that she is pregnant and told Mandla	

407

Field	Question	Answer
	that he had made her pregnant. The next day, Mandla's best friend notices that he is not himself and asks him what the problem is.	
V4M1a *(required)*	How do you think Mandla is feeling? Pick the best option about the following:	1 Confused 2 Scared 3 Happy 4 Proud 5 Angry 6 Sad 996 I Prefer not to answer
V4M1b *(required)*	How do you think Mandla will react when he realizes that Andiswa is pregnant? Pick the best option among the following:	1 Do nothing and hope it will just go away 2 Accept the pregnancy but refuse any further involvement with Andiswa 3 Accept the pregnancy since he is happy to have a baby with Andiswa 4 Tell Andiswa not to continue the pregnancy and try to stop it somehow 996 I Prefer not to answer
V4M1c *(required)*	How do you think you would react if you were ever in Mandla's situation? Pick the best option about the following:	1 Do nothing and hope it will just go away 2 Accept the pregnancy but refuse any further involvement with Andiswa 3 Accept the pregnancy since I would be happy to
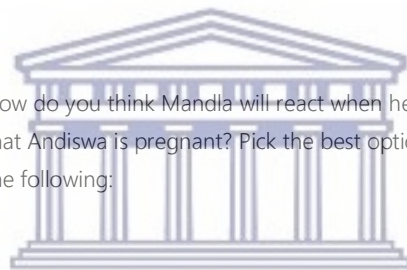
Field	Question	Answer	
			have a baby with Andiswa
		4	Tell Andiswa not to continue the pregnancy and try to stop it somehow
		996	I Prefer not to answer
▓ V4M2_note	V4M2. Mandla tells his friend that Andiswa is pregnant and that he has caused the pregnancy.		
		1	Run away from home
		2	Encourage Andiswa to have the baby and raise it
		3	Encourage Andiswa to have the baby and give it up for adoption
▓ V4M2 *(required)*	What does Mandla's friend advise him to do? Pick the best option about the following:	4	Talk with Andiswa and make a decision together
		5	Encourage Andiswa to get an abortion
		6	Do whatever Andiswa decides
		996	I Prefer not to answer
▓ V4M3_note	V4M3. Mandla's younger brother finds out from Mandla's friend that Mandla's girlfriend Andiswa is pregnant and tells their parents.		
		1	Kick Mandla out of the house
▓ V4M3 *(required)*	How will Mandla's parents react when they find out that their son's girlfriend is pregnant? Pick the best option among the following:	2	Say that they will find the money for Andiswa to have an abortion
		3	Say that he should take responsibility for the pregnanacy

Field	Question	Answer
		4 — together with Andiswa Say they will take care of the baby no matter what Mandla decides to do with Andiswa
		996 — I Prefer not to answer
V4M4a *(required)*	What do you think Mandla should do about Andiswa's pregnancy? Pick the best option among the following:	1 — Encourage Andiswa to continue the pregnancy and keep the baby
		2 — End his relationship with Andiswa even if she decides to continue the pregnancy alone
		3 — Help Andiswa get money for an abortion, but leave her to deal with it alone
		4 — Accompany Andiswa to have the abortion
		996 — I Prefer not to answer
V4M4b *(required)*	What do you think your friends would do if they ever were in this kind of situation? Pick the best option about the following:	1 — Encourage Andiswa to continue the pregnancy and keep the baby
		2 — End the relationship with Andiswa even if she decides to continue the pregnancy alone
		3 — Help Andiswa get money for an abortion, but leave her to deal with it alone

Field	Question	Answer
		4 Accompany Andiswa to have the abortion
		996 I Prefer not to answer
▌VIA1_note	The following questions are about your access to and use of media, for example: TV, radio, movies, computers, Internet, mobile phones.	

<div style="background:grey">consented > VIA1a_group</div>

Field	Question	Answer
▌VIA1a_note1	VIA1. For each item, please tell me if you have access to it:	
▌VIA1a *(required)*	Television	3 Yes, I have it 2 Yes, it is in my house 1 Yes, in school 0 No, do not have
▌VIA1b *(required)*	Radio	3 Yes, I have it 2 Yes, it is in my house 1 Yes, in school 0 No, do not have
▌VIA1c *(required)*	Computer/laptop or tablet with internet connection	3 Yes, I have it 2 Yes, it is in my house 1 Yes, in school 0 No, do not have
▌VIA1d *(required)*	Cell/mobile phone	3 Yes, I have it 2 Yes, it is in my house 1 Yes, in school 0 No, do not have
▌VIA1e *(required)*	Social media account such as Twitter, Instagram, Whatsapp or Facebook	3 Yes, I have it 2 Yes, it is in my house 1 Yes, in school 0 No, do not have
▌VIA2a *(required)*	VIA2a. On a typical day, how many hours total do you spend watching TV or movies?	1 None (I do not use media) 2 About 1 hour or less 3 About 2 hours 4 About 3 hours 5 Between 4 and 5 hours 6 More than 5 hours

411

Field	Question	Answer	
		996	Prefer not to answer
		1	None (I do not use media)
	VIA2b. On a typical day, how many hours total do you spend using social media, chatting with friends on-line, playing computer games, or using other interactivemedia?	2	About 1 hour or less
		3	About 2 hours
VIA2b *(required)*		4	About 3 hours
		5	Between 4 and 5 hours
		6	More than 5 hours
		996	Prefer not to answer

consented > VIA3_group			
VIA3_note	VIA3. How often do you do the following:		
		1	Never (Includes "do not have a phone")
		2	Less than weekly
VIA3a *(required)*	Contact your friends using texting or other social media	3	Weekly
		4	Daily
		996	Prefer not to answer
		1	Never (Includes "do not have a phone")
	Talk to your friends directly by phone or computer (for example, using a phone or video call)	2	Less than weekly
VIA3b *(required)*		3	Weekly
		4	Daily
		996	Prefer not to answer
		4	Often
	VIA4. Sometimes young people watch pornography, that is, movies or videos that show people's private parts (genitals) during sexual scenes. Have you watched pornography before?	3	Sometimes
		2	Rarely
VIA4 *(required)*		1	Never
		999	Don't know
		996	Prefer not to answer

consented > GN1_group			
GN_note	The following questions are about adolescents or people your age, for each statement, we would like to know how much YOU agree or disagree with each statement.		
GN1 *(required)*	GN1. A GIRL will lose interest in studying if she has a boyfriend. Do you agree or disagree?	5	Agree a lot
		4	Agree a little

Field	Question		Answer
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN2 *(required)*	GN2. A boy and a girl your age should be able to spend time together alone if they want to. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN3 *(required)*	GN3. Girls your age often get into "trouble" when they have boyfriends. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN4 *(required)*	GN4. A boy should be able to have a girlfriend if he wants to. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN5 *(required)*	GN5. BOYS have girlfriends for fun more than love. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN6 *(required)*	GN6. It's normal for a boy your age to want a girlfriend. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot

413

Field	Question	Answer	
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN7 *(required)*	GN7. Girls who have boyfriends are irresponsible. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN8 *(required)*	GN8. Boys like girls who wear revealing clothes. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN9 *(required)*	GN9. A girl should be able to have a boyfriend if she wants to. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN10 *(required)*	GN10. Girls are the victims of rumors if they have boyfriends. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN11 *(required)*	GN11. Boys tell girls they love them when they don't. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN12 *(required)*	GN12.Adolescent girls should avoid boys because they trick them into having sex. Do you agree or disagree?	5	Agree a lot
		4	Agree a little

414

Field	Question	Answer	
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN13 *(required)*	GN13. BOYS have girlfriends to show off to their friends. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN14 *(required)*	GN14. BOYS generally compete for the prettiest GIRLS. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN15 *(required)*	GN15. Boys feel they should have girlfriends because their friends do. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN16 *(required)*	GN16. Adolescent boys lose interest in a girl after they have sex with her. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN17 *(required)*	GN17. It's normal for a girl to want a boyfriend at your age. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot

Field	Question	Answer	
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN18 *(required)*	GN18.Adolescent boys fool girls into having sex. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		1	Yes
VIIA1 *(required)*	VIIA1. Have you heard of HIV/AIDS?	0	No
		999	Don't know
		996	Prefer not to answer
	VIIA2. Have you heard about condoms that men can put on before having sexual intercourse? By sexual intercourse we mean when a man puts his penis in a woman's vagina.	1	Yes
VIIA2 *(required)*		0	No
		999	Don't know
		996	Prefer not to answer

Field	Question	Answer	
VIIA4_note	Here are some statements about pregnancy and HIV/AIDS. Please tell me whether you think the statement is true, or false, or whether you don't know.		
	VIIA4_1. A girl can get pregnant the first time that she has sexual intercourse.	1	TRUE
VIIA4_1 *(required)*		0	FALSE
		999	Don't know
		996	Prefer not to answer
	VIIA4_2. A boy/girl can get HIV the first time that he/she has sexual intercourse.	1	TRUE
VIIA4_2 *(required)*		0	FALSE
		999	Don't know
		996	Prefer not to answer
	VIIA4_3. A girl can get pregnant after kissing or hugging.	1	TRUE
VIIA4_3 *(required)*		0	FALSE
		999	Don't know
		996	Prefer not to answer

Field	Question	Answer	
	VIIA4_4. A girl can swallow a pill every day to protect against pregnancy.	1	TRUE
VIIA4_4 *(required)*		0	FALSE
		999	Don't know
		996	Prefer not to answer

416

Field	Question	Answer	
VIIA4_5 *(required)*	VIIA4_5. Using a condom can protect against pregnancy.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer
VIIA4_6 *(required)*	VIIA4_6. Using a condom can protect against HIV.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer
VIIA4_7 *(required)*	VIIA4_7. You can get HIV through kissing.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer

consented > VIIA4_group3

Field	Question	Answer	
VIIA4_8 *(required)*	VIIA4_8. A girl can have a shot or injection that will protect against pregnancy.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer
VIIA4_9 *(required)*	VIIA4_9. A girl or boy can swallow a pill everyday before having sex that will protect against HIV.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer
VIIA4_10 *(required)*	VIIA4_10. A girl can use herbs to prevent a pregnancy.	1	TRUE
		0	FALSE
		999	Don't know
		996	Prefer not to answer
VIIA5 *(required)*	VIIA5. If an adolescent girl in your community needs contraception (including condoms/family planning), do you think she knows where to get it?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
VIIA5b *(required)*	VIIA5b. If an adolescent boy in your community needs contraception (including condoms)(family planning), do you think she knows where to get it?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer

consented > VIIA6_group1

Field	Question	Answer	
VIIA6_note	VIIA6. Tell me how much you think that the following is true.		
VIIA6b *(required)*	VIIA6b. I know where to go to get condoms	1	Yes
		0	No

417

Field	Question	Answer	
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
VIIA6d *(required)*	VIIA6d. I know where to go if I needed to get contraception (birth control/family planning)	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
VIIA6dd *(required)*	VIIA6dd. I know where to go if I needed treatment for a sexually transmitted infection (usually an infection that affects one's genitals and causes unusual discharge)	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer

consented > VIIA6_group2

Field	Question	Answer	
		1	Yes
		0	No
VIIA6e *(required)*	VIIA6e. I would feel too shy or embarrassed to go to a clinic or elsewhere if I needed contraception (birth control)	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
VIIA6f *(required)*	VIIA6f. I would feel too shy or embarrassed to go get a condom if I needed it	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
VIII_note	You are doing really great so far. Now we are going to talk about your health and your body.		
		4	Excellent
		3	Good
VIIIA1 *(required)*	VIIIA1. In general, how is your health?	2	Fair
		1	Poor
		999	Don't know
		996	Prefer not to answer
VIIIA4 *(required)*	VIIIA4. How do you think of yourself in terms of weight?	1	Much too thin

418

Field	Question	Answer	
		2	A bit too thin
		3	About the right weight
		4	A bit too fat
		5	Much too fat
		999	Don't know
		996	Prefer not to answer
		1	Much too tall
		2	A bit too tall
VIIIA5 *(required)*	VIIIA5. How do you think of yourself in terms of your height?	3	About the right height
		4	A bit too short
		5	Much too short
		999	Don't know
		996	Prefer not to answer
		1	Faster
VIIIA6 *(required)*	VIIIA6. As children grow up, their bodies start to change. Thinking about your body, how fast do you feel you are maturing/changing compared with other girls your age?	2	About the same
		3	Slower
		999	Don't know
		996	Prefer not to answer

consented > VIIIB_group

Field	Question	Answer	
VIIIB1 *(required)*	VIIIB1. Have your breasts started to grow/become larger?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
VIIIB2 *(required)*	VIIIB2. Have you started to have periods?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
VIIIB2a *(required)*	VIIIB2a. How old were you when you first got your period?	7	7
		8	8
		9	9
		10	10
		11	11
		12	12
		13	13
		14	14
		999	Don't know

419

Field	Question	Answer
		996 Prefer not to answer

Field	Question	Answer
VIIIB3	VIIIB3. Can you tell me how often you feel each of the following?	
VIIIB3a *(required)*	I feel ashamed of my body when I have my period	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
VIIIB3b *(required)*	Having a period tells me I am a woman	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
VIIIB3c *(required)*	It's important that I keep my period secret from anyone	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
VIIIB3d *(required)*	I feel proud that I have my periods	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer
VIIIB3e *(required)*	Getting my period is not a big deal for me	4 Very true 3 Somewhat true 2 Not very true 1 Not true at all 999 Don't know 996 Prefer not to answer

Field	Question	Answer
VIIIB6_note	VIIIB6. The last time that you had your period…	
VIIIB6_1 *(required)*	Did you use sanitary products (e.g. cloths/pads or tampons) to help manage your period?	1 Yes 0 No

Field	Question	Answer
		999 Don't know
		996 Prefer not to answer
		1 Yes
▌▌ VIIIB6_2 *(required)*	Did you miss school because of your period?	0 No
		999 Don't know
		996 Prefer not to answer

Field	Question	Answer
▌▌ VIIIC1 *(required)*	VIIIC1. Have you started puberty? For example, have your penis or testicles (balls) started to get larger compared to when you were younger?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▌▌ VIIIC2 *(required)*	VIIIC2. Do you speak in a deeper voice now than when you were younger?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▌▌ VIIIC2a *(required)*	VIIIC2a. How old were you when your voice changed?	1 <9 years old 2 9-10 years old 3 11-12 years old 4 13-14 years old 999 Don't know 996 Prefer not to answer
▌▌ VIIIC3 *(required)*	VIIIC3. Have you started growing facial hair (beard or mustache)?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▌▌ VIIIC3a *(required)*	VIIIC3a. How old were you when you began growing facial hair (beard or mustache)?	1 <9 years old 2 9-10 years old 3 11-12 years old 4 13-14 years old 999 Don't know 996 Prefer not to answer

Field	Question	Answer
▌▌ VIIID1_note	VIIID1. Boys/Girls can have different feelings about their bodies and the changes they experience. Here are some statements about how you feel about your body. Please tell me how much you agree or disagree with each.	
▌▌ VIIID1a *(required)*	On the whole, I am satisfied with my body	5 Agree a lot 4 Agree a little

421

Field	Question	Answer	
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
VIIID1b *(required)*	I worry about the way that my body looks	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
VIIID1c *(required)*	I like the way I look	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
VIIID1f *(required)*	I often wish my body was different	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
VIIID1g *(required)*	I am worried that my body is not developing like most people my age	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

consented > VIIID2_group

VIIID2_note	VIIID2. During the teenage years, GIRLS' and BOYS' bodies change in many ways, at different times. I would like to know how you feel about some of these changes. Please tell me how much you agree or disagree with the following statements.		

422

Field	Question	Answer	
▮ VIIID2a1 *(required)*	I like the fact that I am becoming a man	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▮ VIIID2a2 *(required)*	I like the fact that I am becoming a woman	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▮ VIIID2b *(required)*	I like that my primary caregiver may treat me more like a adult now	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▮ VIIID2c *(required)*	In general, I am proud of the pubertal changes I am going through	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▮ VIIID3 *(required)*	VIIID3. Have you talked with anyone about the changes that have happened to your body?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer

consented > VIIID4_group

Field	Question	Answer	
▮ VIIID4_note	VIIID4. Have you ever discussed the following topics with anyone?		
▮ VIIID4a *(required)*	Sexual relationships	1	Yes
		0	No

Field	Question	Answer	
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
▮▯ VIIID4b *(required)*	Pregnancy and how it occurs	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
▮▯ VIIID4c *(required)*	Condoms and Contraception	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
		1	Yes
		0	No
▮▯ VIIID4d *(required)*	HIV/AIDS	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
▮ VIIID5a *(required)*	VIIID5a. Who did you talk to about sexual relationships? (You may select more than one person)	1	Mother/female caregiver
		2	Father/male caregiver
		3	Sister
		4	Brother
		5	Other family member
		6	Friend/peer
		7	Doctor/nurse or other person at a health center
		8	Teacher
		997	Other
		996	Prefer not to answer
▮ refuseVIIID5a_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer"		

424

Field	Question	Answer
DK_VIIID5a_note *(required)*	was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers. You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
VIIID5b *(required)*	VIIID5b. Who did you talk to about pregnancy? (You may select more than one person)	1 Mother/female caregiver 2 Father/male caregiver 3 Sister 4 Brother 5 Other family member 6 Friend/peer 7 Doctor/nurse or other person at a health center 8 Teacher 997 Other 996 Prefer not to answer
refuseVIIID5b_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_VIIID5b_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
VIIID5c *(required)*	VIIID5c. Who did you talk to about contraception? (You may select more than one person)	1 Mother/female caregiver 2 Father/male caregiver 3 Sister 4 Brother 5 Other family member 6 Friend/peer

Field	Question	Answer	
		7	Doctor/nurse or other person at a health center
		8	Teacher
		997	Other
		996	Prefer not to answer
refuseVIIID5c_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_VIIID5c_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
		1	Mother/female caregiver
		2	Father/male caregiver
		3	Sister
		4	Brother
VIIID5d *(required)*	VIIID5d. Who did you talk to about HIV/AIDS? (You may select more than one person)	5	Other family member
		6	Friend/peer
		7	Doctor/nurse or other person at a health center
		8	Teacher
		997	Other
		996	Prefer not to answer
refuseVIIID5d_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_VIIID5d_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		

consented > GN19_group

426

Field	Question	Answer
GN19_note	The following questions are about adolescents or people your age, for each statement, we would like to know how much YOU agree or disagree with each statement.	
GN19 *(required)*	GN19. Boys should be raised tough so they can overcome any difficulty in life. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN20 *(required)*	GN20. Girls should avoid raising their voice to be lady like. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN21 *(required)*	GN21. Boys should always defend themselves even if it means fighting. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN22 *(required)*	GN22. Girls are expected to be humble. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN23 *(required)*	GN23. Girls need their parents' protection more than boys. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer

427

Field	Question	Answer
GN24 *(required)*	GN24. Boys should be able to show their feelings without fear of being teased. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN25 *(required)*	GN25. Boys who behave like girls are considered weak. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN26 *(required)*	GN26. A boy should always have the final say about decisions with his girlfirend. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
GN27 *(required)*	GN27. It's important for boys to show they are tough even if they are nervous inside. Do you agree or disagree?	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
IX_note	IX. During adolescence we know that people your age often experience emotional ups and downs, for example feeling really happy one day and really sad another day. That is normal. Here we would like to better understand if you experience depression or emotional lows a lot. Also, we want to know if as a child you had experiences that might have caused you to feel very sad or low.	

consented > IXA1_group

Field	Question	Answer
IXA1_note	IXA1. We would like to know a little about how you are feeling. Tell me how much you agree with the following statements:	

Field	Question	Answer
IXA1a *(required)*	In general, I see myself as a happy person	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
IXA1b *(required)*	I blame myself when things go wrong	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
IXA1c *(required)*	I worry for no good reason	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
IXA1d *(required)*	I am so unhappy I can't sleep at night	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
IXA1e *(required)*	I feel sad	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
IXA1f *(required)*	I am so unhappy I think of harming myself	5 Agree a lot
		4 Agree a little
		3 Neither agree, nor disagree

Field	Question	Answer
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer

Field	Question	Answer
IXB1_note	IXB1. Now we would like to ask whether as a child you ever experienced any of these things. You may not want to tell us, and that is OK, but the reason we are asking is that it will help us better understand who you are and what you have experienced.	
IXB1a *(required)*	Have you ever been scared or felt really bad because grown-ups called you names, said mean things to you, or said they didn't want you?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1b *(required)*	Have you ever been scared that your parents or other adults were going to hurt you badly (so that you were injured or killed)?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1c *(required)*	Have you ever felt like you are not loved or cared about?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1d *(required)*	Have you ever felt like you have no one that protects you?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1e *(required)*	Has there ever been a time of your life when you were totally on your own and had to take care of yourself for more than a short time?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1f *(required)*	Have your parents/guardians ever drunk too much alcohol or used drugs so they came home and were really abusive to you or your family?	3 Often 2 Sometimes 1 Never 999 Don't know

Field	Question	Answer
		996 Prefer not to answer

Field	Question	Answer
IXB1g *(required)*	Has there ever been a time when your family did not have enough food?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1h *(required)*	Have you ever seen your mom being hit, beaten or threatened?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1i *(required)*	Have you ever seen your mother or father so sad that they couldn't take care of you?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1j *(required)*	Have any of your parents ever been in prison/jail?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXB1k *(required)*	Has your family ever been forced to leave your home/house?	3 Often 2 Sometimes 1 Never 999 Don't know 996 Prefer not to answer
IXC1 *(required)*	IXC1. During the last six months, have you seen any of your MALE peers bully or threaten someone? By bullying we mean making threats, spreading rumors/gossip against someone, attacking someone verbally, or excluding someone from a group on purpose.	4 Yes, I have seen them bully/threaten other boys 3 Yes, I have seen them bully/threaten girls 2 Yes, I have seen them bully/threaten both boys and girls 1 No, I have not seen them bully/threaten someone

431

Field	Question	Answer
		999 Don't know
		996 Prefer not to answer
		4 Yes, I have seen them bully/threaten other girls
		3 Yes, I have seen them bully/threaten boys
IXC2 *(required)*	IXC2. During the last six months, have you seen any of your FEMALE peers bully or threaten someone?	2 Yes, I have seen them bully/threaten both boys and girls
		1 No, I have not seen them bully/threaten someone
		999 Don't know
		996 Prefer not to answer
		4 Yes, I have seen them start a fight against other boys
		3 Yes, I have seen them start a fight against girls
IXC3 *(required)*	IXC3. During the last six months, have you seen any of your MALE peers start a physical fight with someone?	2 Yes, I have seen them start a fight against both boys and girls
		1 No, I have not seen them start a fight against someone
		999 Don't know
		996 Prefer not to answer
		4 Yes, I have seen them start a fight against other girls
IXC4 *(required)*	IXC4. During the last six months, have you seen any of your FEMALE peers start a physical fight with someone?	3 Yes, I have seen them start a fight against boys
		2 Yes, I have seen them start a fight

432

Field	Question	Answer	
			against both boys and girls
		1	No, I have not seen them start a fight against someone
		999	Don't know
		996	Prefer not to answer
IXC6 *(required)*	IXC6. The last time you saw peers bully or threaten someone, did you try to do something (told them to stop, or called for help)?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
		4	Yes, by a girl
		3	Yes, by a boy
IXC7 *(required)*	IXC7. During the last six months, have you been teased or called names by someone?	2	Yes, by both boys and girls
		1	No
		999	Don't know
		996	Prefer not to answer
		4	Yes, by a girl or girls
		3	Yes, by a boy or boys
IXC10 *(required)*	IXC10. During the last 6 months, have you ever been slapped, hit or otherwise physcially hurt by a boy or girl in a way that you did not want (exclude play fighting)?	2	Yes, by both boys and girls
		1	No
		999	Don't know
		996	Prefer not to answer
		4	Yes, a girl or girls
		3	Yes, a boy or boys
IXC11 *(required)*	IXC11. During the last 6 months, have you bullied or threatened another boy or girl for any reason?	2	Yes, both boys and girls
		1	No
		999	Don't know
		996	Prefer not to answer
		4	Yes, a girl or girls
		3	Yes, a boy or boys
IXC12 *(required)*	IXC12. During the last 6 months, have you slapped, hit or otherwise physically hurt another boy or girl in a way that they did not want (exclude play fighting)?	2	Yes, both boys and girls
		1	No
		999	Don't know

433

Field	Question	Answer	
		996	Prefer not to answer
		1	Yes
IXD1 *(required)*	IXD1. Have you ever used alcohol (except for religious purposes)	0	No
		999	Don't know
		996	Prefer not to answer
		8	8 or younger
		9	9 years old
		10	10 years old
		11	11 years old
IXD2 *(required)*	IXD2. How old were you when you had your first drink of alcohol?	12	12 years old
		13	13 years old
		14	14 years old
		999	Don't know
		996	Prefer not to answer
		0	Never
		1	Once/ 1 time
IXD3 *(required)*	IXD3. In your lifetime, how often have you gotten drunk or very high from drinking alcohol?	2	2-3 times
		3	4 or more times
		999	Don't know
		996	Prefer not to answer
		1	Yes
IXD4 *(required)*	IXD4. In your lifetime, have you ever smoked cigarettes or a pipe?	0	No
		999	Don't know
		996	Prefer not to answer
		1	1 cigarette a week or less
		2	1 cigarette a day or less
		3	2-5 cigarettes a day
		4	More than 5 cigarettes a day
IXD5 *(required)*	IXD5. How many cigarettes do you normally smoke during a regular week?	5	I chew tobacco but don't smoke cigarettes
		6	I smoke a hookah or pipe, but I don't smoke cigarettes
		0	I do not smoke anymore

434

Field	Question	Answer
		999 Don't know
		996 Prefer not to answer
		1 Yes
IXD6 *(required)*	IXD6. Have you ever used (smoked or eaten) marijuana (dagga, ganja, grass, weed)?	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
IXD6b *(required)*	IXD6b. Do you now regularly (smoke or eat) marijuana (dagga, ganja, grass, weed)?	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
IXD7 *(required)*	IXD7. Have you ever used any other drugs? (These are sometimes referred to as "street drugs" such as Heroin, crack, tik, mandrax, ecstasy, etc.)	0 No
		999 Don't know
		996 Prefer not to answer

consented > GN28_group

Field	Question	Answer
GN28_note	The following questions are about adolescents or people your age, for each statement, we would like to know how much YOU agree or disagree with each statement.	
		5 Agree a lot
		4 Agree a little
GN28 *(required)*	GN28.It is ok for an adolescent girl to have sex as long as she avoids getting pregnant. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN29 *(required)*	GN29.In general, a girl should only have sex with someone she loves. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN30 *(required)*	GN30. Most of the time, if an adolescent girl says "no" to sex, her boyfriend will dump her. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little

Field	Question	Answer	
GN31 *(required)*	GN31. It is ok for an adolescent boy to have sex as long as he avoids getting a girl pregnant. Do you agree or disagree?	1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN32 *(required)*	GN32.In general, a boy should only have sex with someone he loves. Do you agree or disagree?	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN33 *(required)*	GN33. It is okay to tease a girl who acts like a boy. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN34 *(required)*	GN34. It's the girl's responsibility to prevent pregnancy. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN35 *(required)*	GN35. Women who carry condoms on them are easy. Do you agree or disagree?	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN36 *(required)*	GN36. Girls should be proud of their bodies as they become women. Do you agree or disagree?	5	Agree a lot

436

Field	Question	Answer
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN37 *(required)*	GN37. It is okay to tease a boy who acts like a girl. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN38 *(required)*	GN38. Boys and girls should be equally responsible for household chores. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN39 *(required)*	GN39. A woman's role is taking care of her home and family. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN40 *(required)*	GN40. A man should have the final word about decisions in the home. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN41 *(required)*	GN41. A woman should obey her husband in all matters. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little

437

Field	Question	Answer
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN42 *(required)*	GN42. A real man should have as many female partners as he can. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN43 *(required)*	GN43. Men are always ready for sex. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN44 *(required)*	GN44. Men should be the ones who bring money home for the family, not women. Do you agree or disagree?	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
X_note	Now we are interested in romantic relationships between young people your age in your community, and about your own experience with liking someone as more than just friends. Sometimes two young people really like each other and try to spend private time together. Some people call this dating or having a boyfriend or girlfriend. This can happen between any two young people.	
XA1 *(required)*	XA1. At what age do you think most GIRLS in your community start having boyfriends?	8 8 years or younger 9 9 years old 10 10 years old 11 11 years old 12 12 years old 13 13 years old 14 14 years old

438

Field	Question	Answer
		15 15 years old
		16 16 years old
		17 17 years old
		18 18 years old
		19 19 years old
		20 20 years old
		21 21 years old
		22 22 years old
		23 23 years old
		24 24 years old
		25 25 years old or older
		999 Don't know
		996 Prefer not to answer
		8 8 years or younger
		9 9 years old
		10 10 years old
		11 11 years old
		12 12 years old
		13 13 years old
		14 14 years old
		15 15 years old
		16 16 years old
▌XA2 *(required)*	XA2. At what age do you think most BOYS in your community start having girlfriends?	17 17 years old
		18 18 years old
		19 19 years old
		20 20 years old
		21 21 years old
		22 22 years old
		23 23 years old
		24 24 years old
		25 25 years old or older
		999 Don't know
		996 Prefer not to answer
		4 Very important
▌XA3 *(required)*	XA3. How important is it to you to have a girlfriend or boyfriend right now?	3 Somewhat important
		2 Not very important
		1 Not important at all
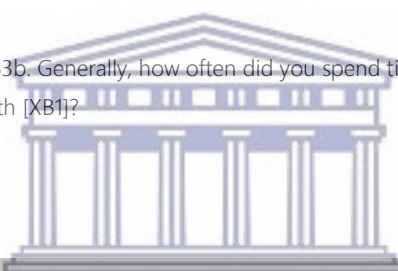
439

Field	Question	Answer	
		999	Don't know
		996	Prefer not to answer
		1	100% attracted to boys
ca_XA4a *(required)*	XA4a. Sometimes boys feel attracted only to girls, and girls only to boys. But sometimes they feel attracted to both boys and girls. How would you describe yourself in terms of attraction to boys and girls?	2	Mostly attracted to boys, but a little to girls
		3	Equally attracted to girls and boys
		4	Mostly attracted to girls, but a little to boys
		5	100% attracted to girls
		999	Don't know
		996	Prefer not to answer
		4	All
		3	Most
XA5 *(required)*	XA5. Do you have any close friends your age who have had boyfriends or girlfriends?	2	Few
		1	None of them
		999	Don't know
		996	Prefer not to answer
		1	Yes, with a girl
		2	Yes, with a boy
XA6 *(required)*	XA6. Have you ever felt that you were in love with a boy or a girl?	3	Yes, with both boys and girls
		0	No, neither
		999	Don't know
		996	Prefer not to answer
		1	A boy
XA7 *(required)*	XA7. The last time you were in love, was it with...	2	A girl
		999	Don't know
		996	Prefer not to answer
		1	Yes
XA8 *(required)*	XA8. The last time you were in love, did this person like you back?	0	No
		999	Don't know
		996	Prefer not to answer
XA11 *(required)*	XA11. Today, which statement best describes you? (You can select more than one option)	7	I am married

Field	Question	Answer
		6 I am engaged to be married to someone
		5 I have a boyfriend
		4 I have a girlfriend
		3 I have more than one boyfriend
		2 I have more than one girlfriend
		1 I am not currently in a romantic relationship, but I have had a boyfriend/girlfriend in the past
		0 I have never been in a romantic relationship
		999 Don't know
		996 Prefer not to answer
XA11error_note *(required)*	You selected that you "have never been in a relationship", but you also clicked that you are or have been in a relationship. If you have never been in a relationship, then please go back and remove the checks on one or more types of relationship. If you have been in a relationship of some kind then please swipe back and remove the check from "have never been in a realtionship".	
refuseXA11_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XA11_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	

consented > XB_group

consented > XB_group > XB1_group

| XB1a_note | The following questions are about your current or most recent relationship. | |

441

Field	Question	Answer
XB1b_note	If you have more than one boyfriend or girlfriend, pick the one that is the most important for you.	
XB1 *(required)*	XB1. Can you give me the first letter of this person's name (first initial)?	
XB2 *(required)*	XB2. How old is [XB1]? Enter 999 for "Don't know" or 996 if you refuse to answer.	
XB3a *(required)*	XB3a. Generally, how often do you spend time alone with [XB1]?	5 Every day 4 3-4 times a week 3 1-2 times a week 2 Once a week or less 1 Very rarely 0 Never 999 Don't know 996 Prefer not to answer
XB3b *(required)*	XB3b. Generally, how often did you spend time alone with [XB1]?	5 Every day 4 3-4 times a week 3 1-2 times a week 2 Once a week or less 1 Very rarely 0 Never 999 Don't know 996 Prefer not to answer

consented > XB_group > XB4a_group

Field	Question	Answer
XB4a_note	XB4a. How much do you agree or disagree with the following statements about your relationship with [XB1]?	
XB4a_1 *(required)*	There are times when [XB1] cannot be trusted	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
XB4a_2 *(required)*	[XB1] makes me feel good about myself in a way my friends can't	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer

442

Field	Question	Answer	
XB4a_3 *(required)*	I sometimes do things because [XB1] is doing them	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4a_4 *(required)*	[XB1] often influences what I do	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4a_5 *(required)*	I sometimes do things because I don't want to lose [XB1]'s respect	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4a_6 *(required)*	[XB1] sometimes wants to control what I do	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4a_10 *(required)*	I feel comfortable talking with [XB1] when I have a problem	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4a_11 *(required)*	Sometimes I feel I need to watch what I say to [XB1]	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree

Field	Question	Answer	
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4a_12 *(required)*	[XB1] cares about me	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4a_13 *(required)*	I would rather be with [XB1] than anyone else	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4a_14 *(required)*	[XB1] always seems to be on my mind	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4a_15 *(required)*	[XB1] and I are practically inseparable	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4a_16 *(required)*	I can propose that [XB1] uses a method to avoid pregnancy (such as condom) if I wanted to.	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

444

Field	Question	Answer	
XB4b_note	XB4b. How much do you agree or disagree with the following statements about your relationship with [XB1]?		
XB4b_1 *(required)*	There were times when [XB1] could not be trusted	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_2 *(required)*	[XB1] made me feel good about myself in a way my friends couldn't	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_3 *(required)*	I sometimes did things because [XB1] was doing them	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_4 *(required)*	[XB1] often influenced what I did	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_5 *(required)*	I sometimes did things because I didn't want to lose [XB1]'s respect	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

Field	Question	Answer	
XB4b_6 *(required)*	[XB1] sometimes wanted to control what I did	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_10 *(required)*	I felt comfortable talking with [XB1] when I had a problem	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_11 *(required)*	Sometimes I felt I needed to watch what I said to [XB1]	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_12 *(required)*	[XB1] cared about me	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_13 *(required)*	I would have rather been with [XB1] than anyone else	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XB4b_14 *(required)*	[XB1] always seemed to be on my mind	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree

Field	Question	Answer	
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
XB4b_15 *(required)*	[XB1] and I were practically inseparable	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

Field	Question	Answer	
XB5_note	XB5. The following questions are about fights you may have had with [XB1].		
		2	Yes, several times
		1	Yes, one time
XB5_1 *(required)*	Has [XB1] ever thrown something at you?	0	No
		999	Don't know
		996	Prefer not to answer
		2	Yes, several times
		1	Yes, one time
XB5_2 *(required)*	Has [XB1] ever pushed, shoved, or grabbed you?	0	No
		999	Don't know
		996	Prefer not to answer
		2	Yes, several times
		1	Yes, one time
XB5_3 *(required)*	Has [XB1] ever slapped you in the face or head with an open hand?	0	No
		999	Don't know
		996	Prefer not to answer
		2	Yes, several times
		1	Yes, one time
XB5_4 *(required)*	Has [XB1] ever hit you?	0	No
		999	Don't know
		996	Prefer not to answer

Field	Question	Answer	
		2	Yes, several times
		1	Yes, one time
XB6_1 *(required)*	XB6. Have you ever thrown something at [XB1]?	0	No
		999	Don't know

447

Field	Question	Answer
		996 Prefer not to answer
		2 Yes, several times
		1 Yes, one time
▦ XB6_2 *(required)*	Have you ever pushed, shoved, or grabbed [XB1]?	0 No
		999 Don't know
		996 Prefer not to answer
		2 Yes, several times
		1 Yes, one time
▦ XB6_3 *(required)*	Have you ever slapped [XB1] in the face or head with an open hand?	0 No
		999 Don't know
		996 Prefer not to answer
		2 Yes, several times
		1 Yes, one time
▦ XB6_4 *(required)*	Have you ever hit [XB1]?	0 No
		999 Don't know
		996 Prefer not to answer
		1 I am too young
		2 My parents would be very angry
		3 It would interfere with my school work
		4 I would get a bad reputation
▮ XB9b *(required)*	XB9b. Young people have different reasons for not having boyfriends or girlfriends. What are the most important reasons that you do not have a boyfriend/girlfriend now? (You can select more than one reason)	5 It is against my culture/religion
		6 I want to but do not have the opportunity
		7 I am afraid of the consequences for my future
		9 I am not in love for the moment
		8 I don't trust girls
		999 Don't know
		996 Prefer not to answer
▮ refuseXB9b_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really	

448

Field	Question	Answer
DK_XB9b_note *(required)*	wish to refuse to answer then please go back and unclick the other answers. You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	

Field	Question	Answer
XB9g *(required)*	XB9g. Young people have different reasons for not having boyfriends or girlfriends. What are the most important reasons that you do not have a boyfriend/girlfriend now? (You can select more than one reason)	1 I am too young 2 My parents would be very angry 3 It would interfere with my school work 4 I would get a bad reputation 5 It is against my culture/religion 6 I want to but do not have the opportunity 7 I am afraid of the consequences for my future 9 I am not in love for the moment 8 I don't trust boys 999 Don't know 996 Prefer not to answer

Field	Question	Answer
refuseXB9g_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XB9g_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XCa_note	The following are questions about sexual behaviors. At times people your age do not understand the questions and at times they are uncomfortable. Whatever the reason, you should feel free not to answer any question or if you are embarrassed or uncomfortable with the questions being asked please feel free to stop. How	

449
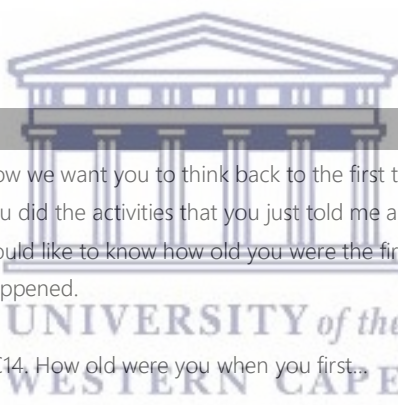
Field	Question	Answer
▌XCb_note	much to answer is completely your choice and no one will criticize you for not wanting to go on. First, we will ask some questions about what you think your close friends might have done together with someone as more than just a friend, like someone they are in love with [e.g. boyfriend and girlfriend].	
▌XC1 *(required)*	XC1. Have any of your close friends kissed with a boyfriend or girlfriend?	3 Yes, many friends 2 Yes, some 1 No, none 999 Don't know 995 Don't understand the question 996 Prefer not to answer
▌XC2 *(required)*	XC2. Have any of your close friends touched another boy's or girls' private parts (e.g. breasts or genitals)?	3 Yes, many friends 2 Yes, some 1 No, none 999 Don't know 995 Don't understand the question 996 Prefer not to answer
▌XC3 *(required)*	XC3. Have any of your close friends had sex (sexual intercourse)? This is when a man or boy puts his penis inside a girl's or woman's vagina.	3 Yes, many friends 2 Yes, some 1 No, none 999 Don't know 995 Don't understand the question 996 Prefer not to answer
▌XC3b *(required)*	XC3b. Have any of your close friends had anal sex? This is when a man or boy puts his penis inside someone else's anus.	3 Yes, many friends 2 Yes, some 1 No, none 999 Don't know 995 Don't understand the question 996 Prefer not to answer
▌XC_note	Now we would like to ask you about things that YOU might have done together with someone else as more than just friends (i.e. with a boyfriend/girlfriend). Remember that you can skip any question that you do	

Field	Question	Answer	
	not feel comfortable answering. You should also indicate if you don't understand the question.		
		2	Yes, with a girl
		1	Yes, with a boy
XC4 *(required)*	XC4. Have you ever spent time alone with someone you were in love with in a private space without any adults around? (Select all that apply)	0	No
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
XC4_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.		
refuseXC4_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_XC4_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
		2	Yes, with a girl
		1	Yes, with a boy
		0	No
XC5 *(required)*	XC5. Have you ever held hands with someone you were in love with? (Select all that apply)	995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
XC5_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.		
refuseXC5_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_XC5_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
XC6 *(required)*	XC6. Have you ever hugged or cuddled with someone you were in love with? By this we mean when two	2	Yes, with a girl
		1	Yes, with a boy

451

Field	Question	Answer
	young people hold each other close as more than just friends, to show love or affection. (Select all that apply)	0 No
		995 Don't understand the question
		999 Don't know
		996 Prefer not to answer
▌ XC6_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
▌ refuseXC6_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
▌ DK_XC6_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
▌ XC7 *(required)*	XC7. Have you ever kissed or been kissed by someone on the lips or with your tongue? (Select all that apply)	2 Yes, with a girl
		1 Yes, with a boy
		0 No
		995 Don't understand the question
		999 Don't know
		996 Prefer not to answer
▌ XC7_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
▌ refuseXC7_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
▌ DK_XC7_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
▌ XC8 *(required)*	XC8. Have you ever flirted with someone using a phone, email, or social media? (Select all that apply)	2 Yes, with a girl
		1 Yes, with a boy
		0 No
		995 Don't understand the question
		999 Don't know

452

Field	Question	Answer
		996 Prefer not to answer
XC8_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
refuseXC8_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XC8_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XC9 *(required)*	XC9. Have you ever sent a sexual picture of yourself to someone using the phone, email, or social media? (Select all that apply)	2 Yes, with a girl 1 Yes, with a boy 0 No 995 Don't understand the question 999 Don't know 996 Prefer not to answer
XC9_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
refuseXC9_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XC9_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XC9b *(required)*	XC9b. Have you ever received a sexual picture from someone else using the phone, email, or social media? (Select all that apply)	2 Yes, with a girl 1 Yes, with a boy 0 No 995 Don't understand the question 999 Don't know 996 Prefer not to answer
XC9b_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	

453

Field	Question	Answer
refuseXC9b_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XC9b_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XC10 *(required)*	XC10. Have you ever touched another boy or girls' private parts or been touched by someone? By touching, we mean touching boys' or girls' private parts, breasts or other body parts in a sexual way. (Select all that apply)	2 Yes, with a girl 1 Yes, with a boy 0 No 995 Don't understand the question 999 Don't know 996 Prefer not to answer
XC10_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
refuseXC10_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XC10_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XC11 *(required)*	XC11. Have you ever had sexual intercourse? (By this we mean when a boy or man puts his penis in a girl's or woman's vagina.)	2 Yes, several times 1 Yes, one time 0 No, never 995 Don't understand the question 999 Don't know 996 Prefer not to answer
XC12 *(required)*	XC12. Have you ever put your mouth on someone's genitals (private parts), or has someone put their mouth on your genitals (private parts)? Some people call this oral sex. (Select all that apply)	2 Yes, with a girl 1 Yes, with a boy 0 No 995 Don't understand the question 999 Don't know

Field	Question	Answer
		996 Prefer not to answer
XC12_note *(required)*	You have selected both "yes" and "no". Please go back to the last question and correct your answer.	
refuseXC12_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XC12_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XC13 *(required)*	XC13. Have you ever had anal sex? This is when a man or boy puts his penis inside someone else's anus.	2 Yes, several times 1 Yes, one time 0 No, never 995 Don't understand the question 999 Don't know 996 Prefer not to answer

consented > XC14_group

Field	Question	Answer
XC14_note	Now we want you to think back to the first time that you did the activities that you just told me about. I would like to know how old you were the first time they happened. XC14. How old were you when you first...	
XC14a *(required)*	Spent time alone in a private space without any adults around	7 7 or younger 8 8 9 9 10 10 11 11 12 12 13 13 14 14 999 Don't know 998 I never did that 996 Prefer not to answer
XC14b *(required)*	Held hands	7 7 or younger 8 8

455

Field	Question	Answer
		9 9
		10 10
		11 11
		12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
		10 10
		11 11
XC14c *(required)*	Cuddled/hugged	12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
		10 10
		11 11
XC14d *(required)*	Kissed on the lips or with tongue	12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
XC14e *(required)*	Flirted with someone using a phone or social media	10 10
		11 11
		12 12
		13 13

456

Field	Question	Answer
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
		10 10
		11 11
XC14f *(required)*	Sent a sexual picture of yourself	12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
		10 10
		11 11
ca_XC14fb *(required)*	Received a sexual picture from someone else	12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
		7 7 or younger
		8 8
		9 9
		10 10
		11 11
XC14g *(required)*	Touched someone elses genitals (private parts) in a sexual way	12 12
		13 13
		14 14
		999 Don't know
		998 I never did that
		996 Prefer not to answer
XC14h *(required)*	Oral sex [In sites where possible]	7 7 or younger

Field	Question	Answer	
		8	8
		9	9
		10	10
		11	11
		12	12
		13	13
		14	14
		999	Don't know
		998	I never did that
		996	Prefer not to answer
		7	7 or younger
		8	8
		9	9
		10	10
		11	11
XC14i *(required)*	Sexual intercourse	12	12
		13	13
		14	14
		999	Don't know
		998	I never did that
		996	Prefer not to answer
		7	7 or younger
		8	8
		9	9
		10	10
		11	11
XC14j *(required)*	Anal sex	12	12
		13	13
		14	14
		999	Don't know
		998	I never did that
		996	Prefer not to answer
XC15a *(required)*	XC15a. The first time you either touched or were touched by someone (touching private parts, breasts or other parts of the body in a sexual way), what was your relationship to this person?	1	It was my boyfriend/girlfriend
		3	It was a boy or girl in school or the community other than a boyfriend/girlfriend

Field	Question	Answer	
		4	It was a stranger
		5	It was a sex worker
		6	It was my father or mother
		7	It was my brother or sister
		8	It was another relative
		9	It was a teacher
		13	It was another adult at school
		10	It was someone I just met
		11	It was someone who paid me
		997	Other
		996	Prefer not to answer
		999	I don't know/I can't remember
		1	Same age as me
		2	Younger than me
		3	1-2 years older than me
XC15b *(required)*	XC15b. How old was this person?	4	3-4 years older than me
		5	5 or more years older than me
		999	Don't know
		996	Prefer not to answer
XC15c *(required)*	XC15c. The first time you either touched or were touched by someone (That is, touching private parts, breasts, or other parts of the body in a sexual way), would you say you were willing, somewhat willing or not willing at all to? Willing means you gave permission or said it was OK, or that you did it because you wanted to and not because someone made you.	1	Very willing
		2	Somewhat willing
		3	Not willing at all
		999	Don't know/ remember
		996	Prefer not to answer

consented > XC15d_group

Field	Question	Answer	
XC15d_note	XC15d. Young people touch each other for different reasons. Please tell me which of the following		

459

Field	Question	Answer
	statements best describes the first time you touched or were touched by someone.	
▮ XC15d_1 *(required)*	I wanted to show love	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_2 *(required)*	I was curious about it	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_3 *(required)*	My friends pressured me	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_4 *(required)*	I felt obliged to my boyfriend/girlfriend	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_5 *(required)*	I was threatened	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_6 *(required)*	The person insisted and would not take "No" for an answer	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_7 *(required)*	I was promised money or gifts	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_8 *(required)*	I was physically forced	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC15d_9 *(required)*	I threatened or physically forced the person	1 Yes 0 No 999 Don't know 996 Prefer not to answer

460

Field	Question	Answer
▌▌ XC15d_10 *(required)*	I was given alcohol or drugs	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▌▌ XC15d_11 *(required)*	Other	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▌ XC15d_oth *(required)*	Please specify what other statement best describes the first time you touched or were touched by someone.	
▌ XC16a *(required)*	XC16a. The first time you had oral sex with someone (put one's mouth on someone's genitals in sexual way or vice versa), what was your relationship to this person?	1 It was my boyfriend/girlfriend 3 It was a boy or girl in school or the community other than a boyfriend/girlfriend 4 It was a stranger 5 It was a sex worker 6 It was my father or mother 7 It was my brother or sister 8 It was another relative 9 It was a teacher 13 It was another adult at school 10 It was someone I just met 11 It was someone who paid me 997 Other 996 Prefer not to answer 999 I don't know/I can't remember
▌ XC16b *(required)*	XC16b. How old was this person?	1 Same age as me 2 Younger than me

461

Field	Question	Answer	
		3	1-2 years older than me
		4	3-4 years older than me
		5	5 or more years older than me
		999	Don't know
		996	Prefer not to answer
XC16c *(required)*	XC16c. The first time you had oral sex with someone, would you say you were willing, somewhat willing or not willing at all to? Willing means you gave permission or said it was OK, or that you did it because you wanted to and not because someone made you.	1	Very willing
		2	Somewhat willing
		3	Not willing at all
		999	Don't know/ remember
		996	Prefer not to answer

consented > XC16d_group

Field	Question	Answer	
XC16d_note	XC16d. Young people have oral sex for different reasons. Please tell me which of the following statements best describes the first time you had oral sex with someone.		
XC16d_1 *(required)*	I wanted to show love	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XC16d_2 *(required)*	I was curious about it	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XC16d_3 *(required)*	My friends pressured me	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XC16d_4 *(required)*	I felt obliged to my boyfriend/girlfriend	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XC16d_5 *(required)*	I was threatened	1	Yes
		0	No
		999	Don't know

Field	Question	Answer
		996 Prefer not to answer
		1 Yes
XC16d_6 *(required)*	The person insisted and would not take "No" for an answer	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
XC16d_7 *(required)*	I was promised money or gifts	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
XC16d_8 *(required)*	I was physcially forced	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
XC16d_9 *(required)*	I threatened or physically forced the person	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
XC16d_10 *(required)*	I was given alcohol or drugs	0 No
		999 Don't know
		996 Prefer not to answer
		1 Yes
XC16d_11 *(required)*	Other	0 No
		999 Don't know
		996 Prefer not to answer
XC16d_oth *(required)*	Please specify what other statement best describes the first time you had oral sex with someone.	
XC17a *(required)*	XC17a. The first time you had sexual intercourse with someone, what was your relationship to this person?	1 It was my boyfriend/girlfriend
		3 It was a boy or girl in school or the community other than a boyfriend/girlfriend
		4 It was a stranger
		5 It was a sex worker
		6 It was my father or mother

463

Field	Question	Answer	
		7	It was my brother or sister
		8	It was another relative
		9	It was a teacher
		13	It was another adult at school
		10	It was someone I just met
		11	It was someone who paid me
		997	Other
		996	Prefer not to answer
		999	I don't know/I can't remember
		1	Same age as me
		2	Younger than me
		3	1-2 years older than me
XC17b *(required)*	XC17b. How old was this person?	4	3-4 years older than me
		5	5 or more years older than me
		999	Don't know
		996	Prefer not to answer
		1	Very willing
	XC17c. The first time you had sexual intercourse with someone, would you say you were willing, somewhat willing or not willing at all to? Willing means you gave permission or said it was OK, or that you did it because you wanted to and not because someone made you.	2	Somewhat willing
XC17c *(required)*		3	Not willing at all
		999	Don't know/ remember
		996	Prefer not to answer

consented > XC17d_group

Field	Question	Answer	
XC17d_note	XC17d. Young people have sexual intercourse for different reasons. Please tell me which of the following statements best describes the first time you had sexual intercourse with someone.		
		1	Yes
XC17d_1 *(required)*	I wanted to show love	0	No
		999	Don't know

464

Field	Question	Answer
▐ XC17d_2 *(required)*	I was curious about it	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_3 *(required)*	My friends pressured me	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_4 *(required)*	I felt obliged to my boyfriend/girlfriend	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_5 *(required)*	I was threatened	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_6 *(required)*	The person insisted and would not take "No" for an answer	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_7 *(required)*	I was promised money or gifts	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_8 *(required)*	I was physcially forced	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_9 *(required)*	I threatened or physcially forced the person	996 Prefer not to answer 1 Yes 0 No 999 Don't know
▐ XC17d_10 *(required)*	I was given alcohol or drugs	996 Prefer not to answer 1 Yes 0 No 999 Don't know 996 Prefer not to answer

465

Field	Question	Answer
▮▮ XC17d_11 *(required)*	Other	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC17d_oth *(required)*	Please specify what other statement best describes the first time you had sexual intercourse with someone.	
▮ XC17e *(required)*	XC17e. The first time you had sexual intercourse, did you or your partner do anything to protect against pregnancy or sexually transmitted infections?	1 Yes 0 No 999 Don't know 996 Prefer not to answer
▮ XC17f *(required)*	XC17f. What did you do to avoid a pregnancy? (Select all methods that apply)	1 Male condom 2 Pill 3 Injection 4 Female condom 5 Foam/jelly 6 Periodic abstinence/rhythm 7 Withdrawal 8 Emergency contraception 9 Vasectomy 10 IUD/Coil 11 Implant 12 Tubal ligation 997 Other 996 Prefer not to answer 999 Don't know/ remember
▮ refuseXC17f_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
▮ DK_XC17f_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
▮ XC17f_oth *(required)*	What other method did you use?	

466

Field	Question	Answer	
XC17g *(required)*	XC17g. The first time you had sexual intercourse, were you under the influence of alcohol or drugs?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer

consented > XD_group

Field	Question	Answer	
XD_note	Now we will ask some questions about what you have done together with [XB1], your current or last boyfriend/girlfriend or partner.		
XD1 *(required)*	XD1. Have you ever had sexual intercourse with [XB1]?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XD2 *(required)*	XD2. Do you feel that having sex with [XB1] has led to a closer relationship between you two?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XD3 *(required)*	XD3. Some people are worried about sexually transmitted diseases. How concerned are you (or were you) about getting an STI from [XB1]?	4	Very concerned
		3	Somewhat concerned
		2	Not really concerned
		1	Not at all concerned
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
XD4a *(required)*	XD4a. Some young people are worried about pregnancy. How concerned are you (or were you) about getting pregnant with [XB1]?	4	Very concerned
		3	Somewhat concerned
		2	Not really concerned
		1	Not at all concerned
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
XD4b *(required)*	XD4b. Some people are worried about pregnancy. How concerned are you (or were you) about getting [XB1] pregnant?	4	Very concerned
		3	Somewhat concerned
		2	Not really concerned

Field	Question	Answer	
		1	Not at all concerned
		995	Don't understand the question
		999	Don't know
		996	Prefer not to answer
XD5a *(required)*	XD5. Are you and [XB1] doing anything to avoid a pregnancy ?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XD5b *(required)*	XD5. Were you and [XB1] doing anything to avoid a pregnancy ?	1	Yes
		0	No
		999	Don't know
		996	Prefer not to answer
XD6a *(required)*	XD6. What are you doing to avoid pregnancy? (Select all that apply)	1	Male condom
		2	Pill
		3	Injection
		4	Female condom
		5	Foam/jelly
		6	Periodic abstinence/rhythm
		7	Withdrawal
		8	Emergency contraception
		9	Vasectomy
		10	IUD/Coil
		11	Implant
		12	Tubal ligation
		997	Other
		996	Prefer not to answer
		999	Don't know/ remember
refuseXD6a_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_XD6a_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake		

Field	Question	Answer
	please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XD6b *(required)*	XD6. What were you doing to avoid pregnancy? (Select all that apply)	1 Male condom
		2 Pill
		3 Injection
		4 Female condom
		5 Foam/jelly
		6 Periodic abstinence/rhythm
		7 Withdrawal
		8 Emergency contraception
		9 Vasectomy
		10 IUD/Coil
		11 Implant
		12 Tubal ligation
		997 Other
		996 Prefer not to answer
		999 Don't know/ remember
refuseXD6b_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XD6b_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XD7b1 *(required)*	XD7. Young people have different reasons for not using contraceptives (birth control). Tell me which reasons best describe why you and [XB1] are not using birth control? (Select as many as apply)	1 I am/was too embarrassed to talk about using birth control
		3 I want/wanted to get ... pregnant
		5 It is/was too hard to get ... to use birth control with me

469

Field	Question	Answer	
		6	Birth control interferes with enjoyment
		7	I don't/didn't know where to get birth control
		8	I don't/didn't want to seem too eager for sex
		9	I don't/didn't think I could get ... pregnant
		10	I never really thought about it
		11	I can't/couldn't afford it
		997	Other
		999	Don't know
		996	Prefer not to answer
▮ refuseXD7b1_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
▮ DK_XD7b1_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
▮ XD7b2 *(required)*	XD7. Young people have different reasons for not using contraceptives (birth control). Tell me which reasons best describe why you and [XB1] did not use birth control? (Select as many as apply)	1	I am/was too embarrassed to talk about using birth control
		3	I want/wanted to get ... pregnant
		5	It is/was too hard to get ... to use birth control with me
		6	Birth control interferes with enjoyment

470

Field	Question	Answer
		7 I don't/didn't know where to get birth control
		8 I don't/didn't want to seem too eager for sex
		9 I don't/didn't think I could get ... pregnant
		10 I never really thought about it
		11 I can't/couldn't afford it
		997 Other
		999 Don't know
		996 Prefer not to answer
refuseXD7b2_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XD7b2_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XD7g1 *(required)*	XD7. Young people have different reasons for not using contraceptives (birth control). Tell me which reasons best describe why you and [XB1] are not using birth control? (Select as many as apply)	1 I am/was too embarrassed to talk about using birth control
		2 I want/wanted to get pregnant
		4 Things were out of control
		5 It is/was too hard to get ... to use birth control with me
		6 Birth control interferes with enjoyment

471

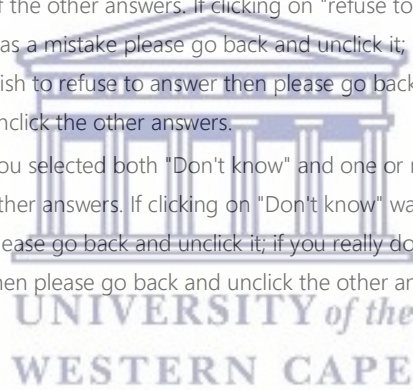| Field	Question	Answer	
		7	I don't/didn't know where to get birth control
		8	I don't/didn't want to seem too eager for sex
		9	I don't/didn't think I could get pregnant
		10	I never really thought about it
		11	I can't/couldn't afford it
		997	Other
		999	Don't know
		996	Prefer not to answer
refuseXD7g1_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.		
DK_XD7g1_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.		
XD7g2 *(required)*	XD7. Young people have different reasons for not using contraceptives (birth control). Tell me which reasons best describe why you and [XB1] did not use birth control? (Select as many as apply)	1	I am/was too embarrassed to talk about using birth control
		2	I want/wanted to get pregnant
		4	Things were out of control
		5	It is/was too hard to get … to use birth control with me
		6	Birth control interferes with enjoyment

472

Field	Question	Answer
		7 I don't/didn't know where to get birth control
		8 I don't/didn't want to seem too eager for sex
		9 I don't/didn't think I could get pregnant
		10 I never really thought about it
		11 I can't/couldn't afford it
		997 Other
		999 Don't know
		996 Prefer not to answer
refuseXD7g2_note *(required)*	You selected both "refuse to answer" and one or more of the other answers. If clicking on "refuse to answer" was a mistake please go back and unclick it; if you really wish to refuse to answer then please go back and unclick the other answers.	
DK_XD7g2_note *(required)*	You selected both "Don't know" and one or more of the other answers. If clicking on "Don't know" was a mistake please go back and unclick it; if you really don't know then please go back and unclick the other answers.	
XD8 *(required)*	XD8. Do you think that you will have sexual intercourse with someone in the next year?	2 Yes
		1 Maybe
		0 No
		999 Don't know
		996 Prefer not to answer
XD9 *(required)*	XD9. Would you wish to use a method to avoid pregnancy?	1 Yes
		0 No
		2 Unsure
		999 Don't know
		996 Prefer not to answer

consented > XD9_group

Field	Question	Answer
XD9_note	XD9. Here are some statements about adolescent pregnancy. Please indicate whether you agree a lot, agree a little, disagree a little, or disagree a lot	

Field	Question	Answer
XD9_1 *(required)*	Adolescent girls who get pregnant should have an abortion if they are not married	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
XD9_2 *(required)*	Adolescent girls who get pregnant should have an abortion because they are too young to raise children	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
XD9_3 *(required)*	Adolescent girls who get pregnant should have an abortion to stay in school	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer
XD9_4 *(required)*	Adolescent girls who get pregnant should have an abortion because the law says they can	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer

consented > XD10_group

Field	Question	Answer
XD10_note	XD10. Please indicate how much you agree or disagree with each of the following statements:	
XD10a *(required)*	In general, homosexuality is given too much attention	5 Agree a lot 4 Agree a little 3 Neither agree, nor disagree 2 Disagree a little 1 Disagree a lot 996 Prefer not to answer

474

Field	Question	Answer	
XD10b *(required)*	Gay people should not display romantic feelings in public (e.g., hand holding, kissing)	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XD10c *(required)*	Gay people are normal like everyone else	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XD10d *(required)*	Gay people should have the same rights as everybody else.	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
XD10e *(required)*	Even if I myself am not attracted to someone of the same sex as me, it is good that South Africa has a law that does not allow us to treat people who are attracted to those of the same sex different from anyone else.	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

consented > GN45_group

Field	Question	Answer	
GN45_note	The following questions are about adolescents or people your age, for each statement, we would like to know how much YOU agree or disagree with each statement.		
GN45 *(required)*	GN45. The expectations of the community regarding taking care of siblings should be the same for boys as for girls (Belgian item)	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little

475

Field	Question	Answer	
GN46 *(required)*	GN46. Physical appearance is as important for boys as for girls	1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN47 *(required)*	GN47. It's ok that boys polish their nails	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN58 *(required)*	GN58. Boys who are attracted to other boys should be treated the same as everyone else	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN48 *(required)*	GN48. It's normal that girls play soccer	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
GN59 *(required)*	GN59. Girls who are attracted to other girls should not be teased	3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN49 *(required)*	GN49. Boys who wear pink are ridiculous	5	Agree a lot
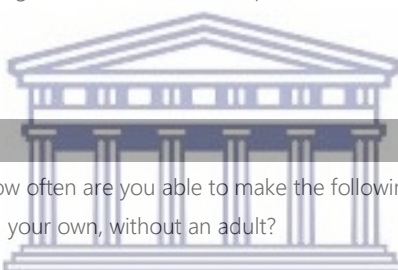
476

Field	Question	Answer
		4 Agree a little
		3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer
		5 Agree a lot
		4 Agree a little
GN60 *(required)*	GN60. Parents should treat their daughter the same whether she loves a boy or a girl	3 Neither agree, nor disagree
		2 Disagree a little
		1 Disagree a lot
		996 Prefer not to answer

consented > XIA_group

Field	Question	Answer
XIA1	XIA1. Can you tell me how often you are allowed to do the following alone (without an adult present)?	
XIA1a *(required)*	XIA1a. Go to after-school activities (like sports clubs)	4 Often
		3 Sometimes
		2 Rarely
		1 Never
		999 Don't know
		996 Prefer not to answer
XIA1b *(required)*	XIA1b. Go to a party with BOYS and GIRLS	4 Often
		3 Sometimes
		2 Rarely
		1 Never
		999 Don't know
		996 Prefer not to answer
XIA1c *(required)*	XIA1c. Meet with friends after school	4 Often
		3 Sometimes
		2 Rarely
		1 Never
		999 Don't know
		996 Prefer not to answer
XIA1d *(required)*	XIA1d. Go to community center/movies/youth center	4 Often
		3 Sometimes
		2 Rarely

477

Field	Question	Answer	
		1	Never
		999	Don't know
		996	Prefer not to answer
		4	Often
		3	Sometimes
XIA1f *(required)*	XIA1f. Visit a friend of the opposite sex (e.g. visit a girl if you are a boy or visit a boy if you are a girl)	2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer

consented > XIB_group

Field	Question	Answer	
XIB1	XIB1. How often are the following statements true for you?		
		4	Often
		3	Sometimes
XIB1a *(required)*	XIB1a. My parents or guardians ask for my opinion on things	2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
		4	Often
		3	Sometimes
XIB1b *(required)*	XIB1b.My parents or guardians listen when I share my opinion	2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
		4	Often
		3	Sometimes
XIB1c *(required)*	XIB1c. My friends ask my advice when they have a problem	2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
		4	Often
		3	Sometimes
XIB1d *(required)*	XIB1d. If I see something wrong in school or the community, I feel I can tell someone and they will listen	2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
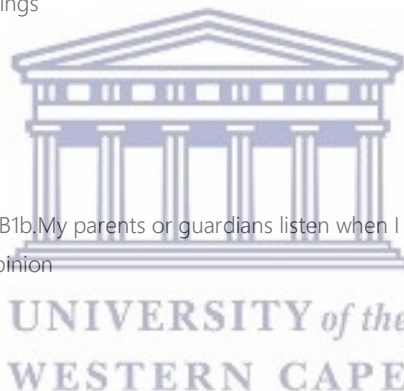
Field	Question	Answer	
XIB1e *(required)*	XIB1e. I can speak up in class when I have a comment or question	4	Often
		3	Sometimes
		2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
XIB1f *(required)*	XIB1f. I can speak up when I see someone else being hurt	4	Often
		3	Sometimes
		2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
XIB1g *(required)*	XIB1g. I can ask adults for help when I need it	4	Often
		3	Sometimes
		2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer

consented > XIC1_group

Field	Question	Answer	
XIC1	How often are you able to make the following decisions on your own, without an adult?		
XIC1a *(required)*	XIC1a. What clothes to wear when you are not in school/working	4	Often
		3	Sometimes
		2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
XIC1b *(required)*	XIC1b. What to do in your free time	4	Often
		3	Sometimes
		2	Rarely
		1	Never
		999	Don't know
		996	Prefer not to answer
XIC1c *(required)*	XIC1c. What to eat when you are not at home	4	Often
		3	Sometimes
		2	Rarely
		1	Never

Field	Question	Answer
		999 Don't know
		996 Prefer not to answer
		4 Often
		3 Sometimes
XIC1e *(required)*	XIC1e. Who you can have as friends	2 Rarely
		1 Never
		999 Don't know
		996 Prefer not to answer

Field	Question	Answer
XIC2	How much do you think you will influence the decision:	
		4 Very much
		3 Somewhat
		2 Not very much
XIC1d *(required)*	XIC1d. When to leave school	1 Not at all
		999 Don't know
		996 Prefer not to answer
		4 Very much
		3 Somewhat
		2 Not very much
XIC1f *(required)*	XIC1f. When to marry	1 Not at all
		999 Don't know
		996 Prefer not to answer
		4 Very much
		3 Somewhat
		2 Not very much
XIC1g *(required)*	XIC1g. Who to marry	1 Not at all
		999 Don't know
		996 Prefer not to answer
XII1	XII1. In this section we would like to better understand at what age you expect certain things will happen to you in your life.	
XII1_note	XII1. We are interested in knowing if you think the following events will happen to you and if they will when you think they will happen. Please tell me if you think they will happen to you.	
XII1a *(required)*	XII1a. At what age do you think you will leave school forever?	10 10
		11 11
		12 12

480

Field	Question	Answer	
		13	13
		14	14
		15	15
		16	16
		17	17
		18	18
		19	19
		20	20
		21	21-25
		26	26-30
		31	>30
		999	Don't know
		996	Prefer not to answer
XII2a *(required)*	XII2a. Do you think you will ever have a child?	2	Has already happened
		1	Will happen
		0	Will never happen
		999	Don't know
		996	Prefer not to answer
		10	10
		11	11
		12	12
		13	13
		14	14
		15	15
		16	16
XII2b *(required)*	XII2b. At what age do you think you will have your first child?	17	17
		18	18
		19	19
		20	20
		21	21-25
		26	26-30
		31	>30
		999	Don't know
		996	Prefer not to answer
		0	0
XII2c *(required)*	XII2c. How many children do you think that you will have in your lifetime?	1	1
		2	2

481

Field	Question	Answer	
		3	3
		4	4
		5	5
		6	6
		7	7
		8	8 or more
		999	Don't know
		996	Prefer not to answer
XII3a *(required)*	XII3a. Do you think you will ever get a job?	2	Has already happened
		1	Will happen
		0	Will never happen
		999	Don't know
		996	Prefer not to answer
		10	10
		11	11
		12	12
		13	13
		14	14
		15	15
		16	16
XII3b *(required)*	XII3b. At what age do you think you will get your first job?	17	17
		18	18
		19	19
		20	20
		21	21-25
		26	26-30
		31	>30
		999	Don't know
		996	Prefer not to answer
		2	Has already happened
		1	Will happen
XII4a *(required)*	XII4a. Do you think you will get married?	0	Will never happen
		999	Don't know
		996	Prefer not to answer
XII4b *(required)*	XII4b. At what age do you think you will marry?	10	10
		11	11

Field	Question	Answer	
		12	12
		13	13
		14	14
		15	15
		16	16
		17	17
		18	18
		19	19
		20	20
		21	21-25
		26	26-30
		31	>30
		999	Don't know
		996	Prefer not to answer

consented > GN51_group

Field	Question	Answer	
GN51_note	The following questions are about adolescents or people your age, for each statement, we would like to know how much YOU agree or disagree with each statement.		
GN52 *(required)*	GN52. Girls should wear skirts and dresses	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN55 *(required)*	GN55. Boys who don't like sports are not real boys	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
GN56 *(required)*	GN56. Girls should be interested in make-up	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little

483

Field	Question	Answer	
▉ GN58a *(required)*	GN58a. Girls who are attracted to other girls should be treated the same as everyone else	1	Disagree a lot
		996	Prefer not to answer
		5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▉ GN59a *(required)*	GN59a. Boys who are attracted to other boys should not be teased	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer
▉ GN60a *(required)*	GN60a. Parents should treat their son the same whether he loves a boy or a girl	5	Agree a lot
		4	Agree a little
		3	Neither agree, nor disagree
		2	Disagree a little
		1	Disagree a lot
		996	Prefer not to answer

distressconclude

Field	Question	Answer
▉ close *(required)*	We are now finished with the questions. Thank you so much for talking to me, you did a really great job! Please call over the interviewer to finalize your survey. *Interviewer please enter finalization code.*	
▉ close_note	These next few questions are to be filled out by interviewer!	
▉ flag_note	WARNING: Respondent has indicated that they are experiencing distress or may be at risk of emotional, physical and/or sexual abuse. They have reported the following: No, No, No, ${flag_drugalcohol_E Say the following to the respondent "We'd like to follow up with you about some of the experiences you noted on the survey"	

Field	Question	Answer
dstrss1	D1. "I know that some of the questions that I asked may have been sensitive or uncomfortable for you to talk about. Can you tell me how are you feeling right now? " [Interviewer should read the statement above and then fill out the below options based on what the respondent tells them (e.g. ok, good, worried, upset) or their impression of how the respondent is feeling]	1 Good (happy, not at all upset) 2 Ok (nor happy or upset) 3 Somewhat worried/upset 4 Very worried/upset 5 Reported abuse
dstrss1a	If you are comfortable telling me, please tell me what has upset or worried you?	
dstrss2_note	D2. If the respondent reports abuse or that they are very worried/upset: "Based on your saying to me [or showing] that our interview may have upset you, I would like to share this with my supervisor [field coordinator] so that we can let you know where to find help that might be useful. If ok with you, we will also talk to your mother (or father) so that they can help you" [If the adolescent does not want to share this with his/her parents/guardians, help them identify another adult they could talk with]. D3. If the respondent does not report abuse, and is not very worried/upset:	
dstrss3	"We have talked about many things today that you might have more questions about [give examples e.g. romantic relationships, sex, bullying or violence]. I want to give you this card with numbers and locations for organizations [say the local names] that work with young people your age. You might have heard of some, and some might be new to you. If you have questions or want to talk to someone, you can call them and they will try to help you."	
dstrss4_note	Interviewer, please complete the questions below based on your own observation and assessment of the entire interview process, and the respondent.	
dstrss4	D4. How did you find the respondent's cooperation?	1 Very good 2 Moderate (ok) 3 Bad 4 Very bad

485

Field	Question	Answer
dstrss4a	Please explain why very bad	
dstrss5	D5. How accurate/true did you find the respondent's answers?	1 Very accurate/true 2 Somewhat accurate/true 3 Not very accurate/true 4 Highly inaccurate (the responses should not be trusted)
dstrss5a	Please explain why can't be trusted	
dstrss6	D6. How did you find the respondent's understanding of the questions discussed?	1 Very good (understood perfectly) 2 Moderate (understood ok) 3 Bad (did not understand many of the questions) 4 Very bad (did not understand at all)
dstrss6a	Please explain about their not understanding	
dstrss7	D7. How did you find the respondent's concentration and attentiveness during the survey or interview	1 Very good (highly concentrated/attentive) 2 Moderate/ok (somewhat concentrated/attentive) 3 Bad (could not concentrate for many parts of the interview) 4 Very bad (could not concentrate at all)
dstrss7a	Please explain why very bad concentration	
dstrss8	D8. About how many breaks did you take during the full interview? *Enter number*	
dstrss9	D9. Other comments about the interview	
note_endinterview	Thank you. This concludes our Interview	