

**Adjustment of first year university students and the effect of a psychosocial intervention
on their mental health and adjustment over an interrupted time series**

Candice Stroud

Student number: 2464229

**Full Thesis submitted in fulfilment of the requirements for the degree
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Sciences, University of the Western Cape**



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Supervisor: Professor Nicolette Roman

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Abstract

First-year students face an array of challenges, ranging from financial, to academic and psychosocial problems. Research suggests that first-year students require student support structures to enable student retention. Higher education institutions have now focused on building towards student graduate attributes as well as developing well-balanced, well-rounded students. First-year experience studies have identified the growing interest in the potential impact of psycho-social interventions on the social adjustment and influence on students' mental health. This study assess the effects of psychosocial interventions on the mental health and adjustment of first-year students by using an Interrupted Time Series (ITS) analysis. To make this assessment, the study used the Depression, Anxiety and Stress Scale (DASS) and the Social Adjustment Scale (SAS) and the Statistical Package for Social Sciences (SPSS) software to analyse the data. Specifically, the study conducted an ANOVA analysis and relevant tests in order to examine the impact of the interventions on mental health and adjustment of the first-year students. The results suggest a positive change over time for the first-year students who participated in the psycho-social intervention scheme. Therefore, the conclusion from these results was that psycho-social intervention has contributed significantly towards reducing the anxiety and stress levels of first-year students.



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Keywords

First-year student

University

Mental health

Depression

Anxiety

Stress

Psychosocial intervention

Adjustment

Social adjustment

Student development



DECLARATION

I declare that *“Adjustment of first year university students and the effect of a psychosocial intervention on their mental health and adjustment over an interrupted time series”* **is my own work, that it has not been previously submitted for any degree or examination, and that all sources have been properly acknowledged.**

Candice Stroud

January 2017



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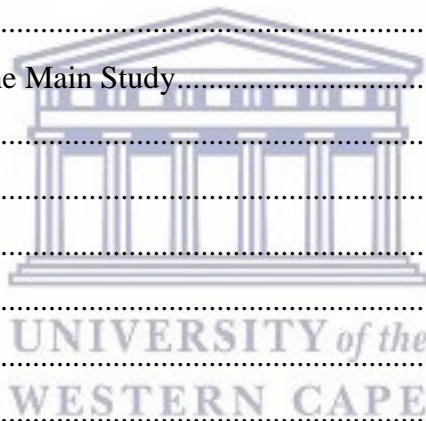
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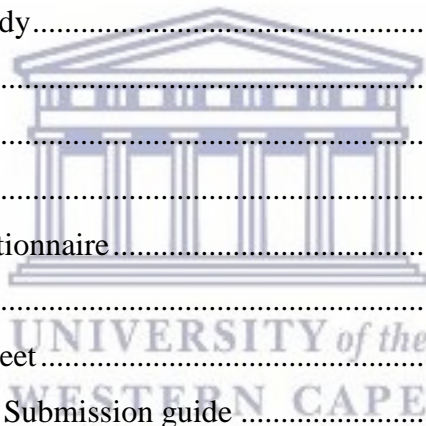
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CHAPTER ONE
INTRODUCTION

Background and Rationale

Larkin et al. (2015) suggest that mental health issues are on the constant rise amongst college and university students globally. Mental health issues are more likely to develop at the early onset between the ages of 16-25; the age where many youths start post-secondary education (Martin, 2010). For many first-year students, adjusting to post-secondary life can be a stressful journey. The transition from high school to post-secondary education can take a few months before adjusting fully to the new environment. According to Daizel, Peat and Upcraft (2005), first-year experiences have a profound impact on how students approach both their academic and social life at tertiary level. The first year is understood to be the year of transition and adjustment and offers an array of challenges, which may have a positive or adverse effect on the student (Daizel et al., 2005) both in the short and long term.

Currently, many first-year students are grappling with managing social challenges that include poverty; because majority of them come from low-income households and other family psychosocial issues that are not necessarily related to household income (Martin, 2010). Along with the many challenges that first-year students face, they also struggle academically and lack essential life coping skills. According to Payne (2006), the first-year students may also struggle with self-management skills and academic skills (studying and taking class notes) because of their great familial responsibilities. Furthermore, because of the challenges and the financial constraints these students face, they are at the risk of dropping out of university, which in turn inevitably affect universities' retention rates. Payne (2006) identifies the lack of family support

as one of the biggest challenges that the first-year students have to deal with once they start tertiary education.

In response to these first-year students' challenges, and to accommodate the non-traditional students, some South African universities have sought to provide developmental opportunities and learning spaces for these students. These support programmes include living and learning programmes and developmental opportunities. There are various programmes available to all residence students, ranging from psychosocial workshops and campaigns, voluntary community outreach programmes to leadership and developmental projects. The psychosocial programmes directly address the challenges that the first-year students may face during their first year at tertiary education level. These programmes serve to skill and equip first-year students with the necessary life skills required for successful adjustment during their first year. Regardless of the important role of these programmes in helping first-year students to adjust to life at tertiary institutions, a review of literature seems to show that there are no previous studies that have assessed the effect of these programmes in improving the mental health and adjustment of these students. Therefore, the purpose of this study is to assess the impact of psychosocial programmes on the mental health and rate of adjustment of first-year students at post-secondary academic institutions.

Theoretical Framework

To assess the role of psychosocial intervention programmes, this study uses Arthur Chickering's developmental model. The developmental model has seven vectors (De Larossa, 2000). The purpose of Chickering's seven vectors is to illustrate how university life and particularly the first year at a tertiary institution influences the holistic being of a student (De Larossa, 2000). Chickering's seven vectors encapsulate the developmental stages of a first-year student. These stages include the following vectors: Developing competence, managing

emotions, moving through autonomy to independence, developing mature interpersonal relationships, establishing identity, developing purpose and lastly developing integrity. According to Chickering, the seven vectors of identity development are critical stages of experiences a student should go through in order to understand their own sense of identity. Further, he explains how these competencies also include the ability to interact with others on a personal level (Chickering and Reisser, 1993). In the current study, the vectors above can be understood as the basis why students partake in the psychosocial programmes. Therefore, this study also intends to test this hypothesis.

Problem Statement

The mental health and adjustment of first-year students have become a growing concern for higher education institutions (Heinriques, 2014). As a result, higher education institutions have developed interventions and programmes to meet the specific needs of a tertiary first year students and to ensure that first-year students adjust properly to university life (Strydom, 2010). According to Sommer (2013), to be academically successful, students need to be able to meet the institutions' requirements as well as adjust to the "norms" and "standards" of that community. Thus, it is essential also to identify factors that influence a student's life at these institutions holistically. At the University of the Western Cape, the Residential Services Department created a variety of developmental and learning spaces that first-year students can choose to join. These opportunities range from academic support to psychosocial support through the implementation of interventions with the purpose of improving mental health and adjustment of first-year students. However, the programmes are yet to be evaluated in order to assess if they have an effect impact on students' mental health. Thus, this study seeks to determine the effect of psychosocial programming on the mental health and adjustment of first-year students.

Research Question

The purpose of this study is to answer the following questions:

1. What effect does a psychosocial intervention have on the mental health of first-year students?
2. Does a psychosocial intervention influence the social adjustment of first-year students?

Aims and Objectives of the Study

The aim of this study is to examine the effect of psycho-social interventions on the mental health and social adjustment of first-year university students.

1.5.1 Objectives of the Study

The objectives of the study are to:

- investigate the mental health and social adjustment of first-year university students as a baseline to the psychosocial intervention for first-year university students;
- implement the psychosocial intervention for first-year university students;
- assess first year students' mental health over multiple time series (4 series with a 2-week interval);
- Examine the effect of the psycho-social interventions on the mental health and adjustment over the four interval time series.

1.5.2 Hypothesis

There is an improvement in the mental health and adjustment of first-year university students attending psychosocial programme(s).

Methodology

This study uses a quantitative methodological approach. Quantitative research studies primarily observe data in a numerical or quantitative form (Rosnow and Rosenthal, 2002). The name quantitative research is defined based on how data is collected (numeric), the logic employed (exploratory or confirmatory), the method of analysis, and the approach to the research justification (variance theory) (Bazeley, 2002). The underlying theory for quantitative methodology lies in the “positivist” approach, which argues that if the “laws and mechanisms of human behaviour” can be identified then the cause and the effect relationships can also be determined (Morris, 2006: 3). Furthermore, the positivist approach assumes that the researcher or inquirer can “adopt a distant, non-interactive posture” (Morris, 2006). Hence, the choice of quantitative methodology in the current study.

Significance of the Study

The research findings benefit South African universities as well as other higher education institutions, and specifically, the higher education residence staff and students. The study provides student support services with a body of knowledge that could shape their attempts in providing psychosocial support for students living in residences. Mental health at higher education institutions in a South African context has not received much attention; thus, the results from this study can shade light on the benefits and encourage extensive research on the impact of psychosocial programming on student’s mental health and adjustment within an African context.

Definitions and Descriptions of Key Concepts

First-year student: A first-year student is defined as an undergraduate student who enrolled full time at a university within one year of completing their secondary level of education.

University Adjustment: A student's ability to comprehend academic material successfully, build healthy relations with others and the ability to solve psychological and social problems (Al-Katib et al., 2012).

Mental Health: A state of well-being in which every individual realizes his or her own potential and cope with normal stresses of life (World Health Organisation, 2014).

Depression: A mood disorder that contributes to a person persistently feeling sad and loss of interest in life and daily activities (www.mayoclinic.org).

Anxiety: Is a psychological and physical response to stress or tension, it is the consciously perceived feelings of tension (Vitasari, 2010).

Stress: Is the psychological and physical state that results when the resources of the individual are not enough to cope with the demands and pressures of a situation (Mighie, 2002).

Psychosocial intervention: Psychosocial intervention can be described as any form of intervention, which focuses on the psychological or social aspects of behaviour. The definition includes psychological therapies, health education, social support and networking (Forsman et al., 2011).

Social adjustment: The extent of adjustment between the student and their surrounding environment (Al-Katib et al., 2012).

Chickering's theory: Is a developmental theory applied to university students and comprises of a series of seven stages or phases a student experiences as part of developing their own identity.

First-year residences: A place or building where first-year students reside throughout their first year of enrollment at a tertiary institution.

Student development: Refers to the growth or progress of a student whilst being enrolled at a higher education institution (www.niu.edu/engaedlearning/themed_learning_2016).

Thesis Structure – Chapter Summaries

Introduction - is the introductory section to the study, which provides information on student mental health in relation to the students' first-year experience at a tertiary institution and their adjustment. Chapter One summarises and provides a brief overview of all aspects of the thesis. The chapter also encapsulates the context and rationale of the study. Further, Chapter One outlines the aims and objectives of the study.

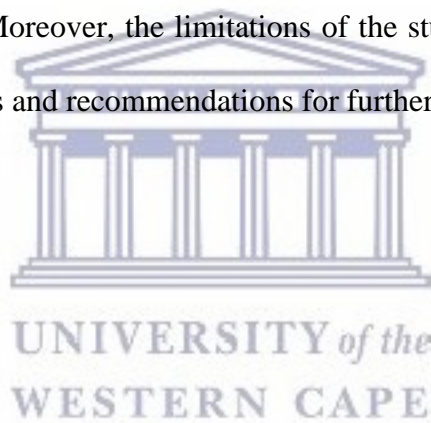
Chapter 2: Conceptual Framework - is focused on the theoretical framework underpinning which forms the bases of this research. In this study, the theoretical framework is primarily based on the student development model developed by Arthur Chickering, which, in this study, is referred to as Chickering's seven vectors of student development. This developmental model has seven vectors. The purpose of Chickering's seven vectors model is to illustrate how university life and particularly the first year at a tertiary institution affects the holistic being of a student (De Larossa, 2000). Chickering's seven vectors encapsulate the developmental stages of a first-year student. Further, this chapter is a compilation of information drawn from research articles, journals and other forms of literature covering issues of student mental health, student social adjustment at university and psychosocial interventions. The chapter also reviews evidence from past studies and identifies possible gaps in the literature.

Chapter 3: Methodology - this chapter outlines the theories behind the quantitative approach and methods. In addition, the chapter also discusses the quasi-experimental design and how the design can be used to answer research questions mentioned in Chapter One. This chapter provides a detailed description of the methods and data collection procedures; this also includes

the entire process of research implementation. Also, covered under this chapter are the research tools namely, the Social Adjustment Scale and Depression, Anxiety and Stress Scale.

Chapter 4: Results - this section focused on the research findings from the data. Specifically, the results are derived from both inferential and descriptive statistics. The study tabulates the findings from the data in tables to facilitate easy access. Besides the above presentation of the results, the study also formulated the results into an article, which was subsequently submitted to a journal for publication.

Chapter 5: Discussion, Conclusion and Recommendations – this chapter provides a detailed discussion of the research findings. The results in this study is compared to the findings in previous research literature. Moreover, the limitations of the study are identified. Lastly, the chapter provides a conclusions and recommendations for further study.



CHAPTER TWO
CONCEPTUAL FRAMEWORK

2.1 Introduction

To further contextualise this study, the chapter includes a brief synopsis of the *status quo* of first-year student development in South Africa and paint a picture of the developments within this landscape the post-apartheid era. Chapter Two also encapsulates the mental health trends and prevalence rates among the university student population in South Africa. Particularly, the trends of the prevalence rates focus on student anxiety, depression and stress prevalence.

2.2 Student Development Theory

The advent of Student Development Theory can be traced back to the 1960s. Then, the theories of student development were used to guide educators in understanding and dealing with students' psychosocial issues. The concept of student development has since broaden to also assisting student affairs practitioners in identifying and addressing students' psychosocial needs and inform designing of interventions, and programmes (Evans et al., 2010; Hawley, 2015). The notion of student development has changed over the years; initially students were referred to as "clients" and then later it changed to "consumers" (Walker, 2008). Prior to the 1970s, student development programmes were restricted to physical activities such as athletics. In the modern contemporary approach to student development, there is a more comprehensive approach to the student's overall well-being. As cited in Jones and Smith (2015), Evans (2005) observes that the notion of student development was derived from the psychology and sociology disciplines during the mid-twentieth century. As a result, there have been many student development theories; particularly, these theories have a focus on psychosocial

development, cognitive-structural development or typologies (Jones & Smith, 2015; Evans et al., 2015).

Student development can be described as a “conceptual or theoretical foundation used to understand and work with college students” (Walker, 2008). On the other hand, Student Development Theory can be defined as “a body of human development theories focused on how individuals who are enrolled in college coursework develop” (Walker, 2008). Furthermore, Student Development Recognises and merges all aspects of human functioning, that is, physical, biological, physiological, psychological, social and environmental factors (Walker, 2008; VanderVeen, 2013). VanderVeen (2013) eloquently describes the essence of Student Development Theory as a critical framework for explaining the experiences of college students. Student Development Theories also serve as a basis for which personnel or student development practitioners derive justifications and purpose for the work that they do.

2.2 Psychosocial Development Theories

The theoretical bases of this study are designed to assess the impact of psychosocial developmental programmes on the mental health and adjustment of first-year students. Students in their first year are faced with numerous challenges, which include not only their academics, but also their personal growth and self-identity. According to Long (2012), psychosocial theories describe the development and growth of students over a “life span”. The author further asserts that student development practitioners often find it useful to apply psychosocial theories in situations, which assist students with clarifying their personal identity and developing their sense of independence. Psychosocial theories are commonly used as a structure to guide engagements and dialogue around “identity, gender, race, ethnicity and sexual orientation (Long, 2012: 43).

The psychosocial theoretical framework for this study is focuses on the seminal work of Arthur Chickering's seven vectors of development. According to Chickering, universities and colleges are places where students are "listening to find truths and values at the heart of their own identities, clarifying the standards by which they will live their own lives" (as cited in Walker, 2008: 90). Chickering's seminal work emerged from his interest in Education and Identity. In 1969, Chickering designed a development model, which describes the process of student development.

Chickering's psychosocial development theory argues for seven dimensions or vectors, which play a quintessential role in the development of university students (Zhang, 2008). Chickering's theory has two foci points that put emphasis around the students' namely physical appearance and sexual identity (Zhang, 2008). For his work, Chickering was inspired by Erik Erikson's work (1963; 1968). Schlukebier, (2013) and Torres (2009) highlight that Erikson's work paid particular focus on eight distinct psychosocial stages of development that human beings experience during the course of their lives. Of specific relevance to this study is Erik Erikson's fifth stage of development popularly known as the "Identity versus Role Confusion" stage. This stage has a strong focus on the transition that adolescent's experience (e.g., maturity of sexual organs). Chickering's theory emphasises on how adolescents experience and reach a stage whereby typical introspective questions are asked such as "Who am I?", "What is my purpose in life?" etc. (Schlugebier, 2013).

The purpose of Chickering's seven vectors is to demonstrate the interchangeable relationship between student development and student experiences within the students' environment. These experiences have a profound influence on the student's emotional, social, physical and intellectual development as a holistic person (Abiddin & Ismail, 2012). Chickering developed the seven vectors that are not "linear but does propose a sequence" (Coombs, 2013: 14).

Further, Chickering also states that “vectors” and “stages” differ from each other and that although these vectors latch onto each other, they are not “mutually exclusive or unilineal” (Torres et al., 2009: 33).

According to Schooler (2014), Chickering’s Theory of Identity is suitable for understanding the development of different kinds of populations although certain changes may be considered to some of the vectors. Schooler (2014) applied Chickering’s theory to a group of Native American students and made changes to the vectors “moving through autonomy toward interdependence and developing mature interpersonal relationships”. The author also argued that the mentioned vector does not “suit Native American students” since their culture emphasises on “interdependent relationships” from the early onset of life.

Due to Chickering’s passion for student development, the author is consistently conducted research in 1959 to provide more informed psychosocial programmes and interventions to improve the quality of student development. During Chickering’s working experiences at a tertiary institution, he experimented with various kinds of assessments and personality inventories and surveys. According to Mosek (2010), Chickering later revised his original theory with Reisser in order to accommodate and include other cultures and student populations. ASHE (2003) as cited in Mosek (2010) further explains how the typical college age student will be able to progress through the first three vectors throughout their undergraduate years. Students who are considered upper-class students would use the latter vectors (four, five and six) a little more challenging.

2.3 Chickering's Seven Vectors of Identity

The following is a description of Chickering and Reiser's seven vectors. These vectors were slightly adjusted by Reiser and named: Vector 1 – *Developing Competence*; Vector 2 – *Managing Emotions*; Vector 3 – *Moving through autonomy to independence*; Vector 4 – *Developing mature interpersonal relationships*; Vector 5 – *Establishing Identity*; Vector 6 – *Developing Purpose* and lastly, Vector 7 – *Developing Integrity*.

Description of the 7 vectors

2.3.1 Developing Competence

The developing competence vector alludes to a sense of competence and can be sub-divided into three components namely: intellectual, physical/manual and interpersonal competence (Walker, 2008; Schreiber, 2010; Filson & Whittington, 2013). The intellectual component is further sub-divided into other three sections. Firstly, intellectual can be described as the ability to master study material and being able to analyse and understand information critically. Further, Walker (2008) also states that the intellectual component is the individual's ability to be able to make sense and interpret their university experiences and their environmental experiences. The second part of the intellectual component is focuses on "cultural, aesthetic or intellectual values" (Walker, 2008: 26). Thirdly, intellectual competency focuses on the student's ability to use his or her own discretion around issues and the ability to communicate, and reason and exercise problem-solving skills (Walker, 2008; Passmore, n.d). Students who acquire these skills also gain a new sense of confidence as they master these skills (Long, 2012). The indication for clear development in the intellectual component is shown by the students' interest in analysing and understanding information other than memorising the information (Goldman, 2016; Patton, 2016). Patton (2016) asserts that the physical and manual competence does not necessarily refer to athletics or physical sporting activities.

2.3.2 Managing Emotions

This vector includes the development of a student's ability to become more aware of their emotions by accepting their feelings and working through difficult emotions (Goldberg, 2016). In other words, managing emotions entails the competence to be self-conscious of his/her own feelings and control these feelings in times of hardships.

2.3.3 Moving Through Autonomy to Independence

There are three important aspects to the build-up of the “moving through autonomy to independence” vector. These three aspects include:

- Becoming emotionally independent, without making to seek approval from others (e.g., their parents, friends, or fellow students);
- The ability to use their own discretion when making decisions – which essentially plays an integral part of becoming emotionally independent;
- The ability for a student to become emotionally aware of their role within the community such as accepting social responsibility as an individual (Goldberg, 2016; Patton, 2016).

2.3.4 Developing Mature Interpersonal Relationships

This vector refers to the establishment of meaningful relationships with others namely: friendships, family, intimate or romantic relations, role models and lecturers. These kind of relationships require genuine connection with people on a more meaningful interaction. This vector also requires the student to be open, and honest about their feelings, and becoming more tolerant, and accepting of others (Goldberg, 2016).

2.3.5 Establishing Identity

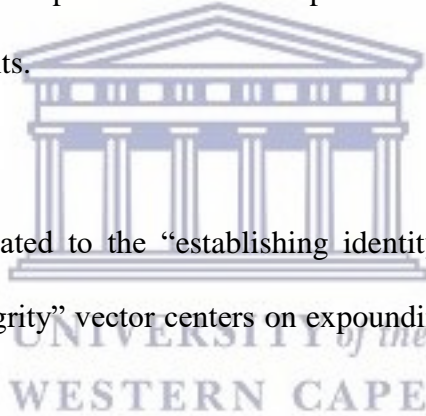
The “establishing identity” stage deals with the physical awareness of the student, appearance, sexual identity, family values and morals. To master this competence, it requires the student to recognise the identity that makes them feel more comfortable about themselves. As such, this vector addresses questions like – “Who am I?”; “What do I value as a person?”; “What are my family traditions?” etc. (Goldberg, 2016).

2.3.6 Developing Purpose

This vector focuses on the students’ interests, career, clarification of future goals and plotting a way forward to achieving those goals. In comparison to the other vectors, this vector has a different focus by placing more emphasis on the development of self-identity and interpersonal relationships with other students.

2.3.7 Developing Integrity

The last vector is closely related to the “establishing identity” and “clarifying purposes” vectors. The “developing integrity” vector centers on expounding the core values and beliefs of an individual or student.



2.4 Context of Higher Education in South Africa

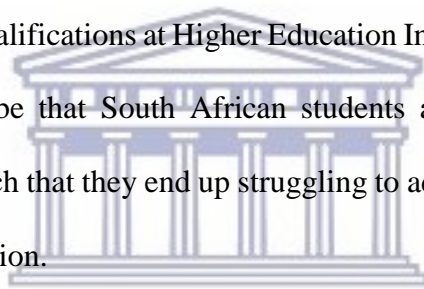
The number of students who are enrolling at universities and other higher education institutions is on the increase mainly due to the increased accessibility of financial assistance. Robotham and Julian (2006) and Murray (2014) highlight that even though there is a significant increase in the student population, there is also an increase in the student dropout rates from courses. For instance, statistics show that out of the 18% of South African youths who enroll at university, half of the students will never complete their degree and graduate (Pouris & Pouris, 2015). The most cited reasons for this high students dropout rates are financial constraints and pressures, poor decision-making, inability to transition into university, examination stress and

other study related stressors (e.g., assignments and general workload) (Upcraft, 2005; Murray, 2014).

Sharma (2012) suggests that students in their first year have many reasons for being at the tertiary institution. For some students, they want to pursue their degrees, for others it maybe to meet new people and learn new things that in essence, forms part of their individual personal development. Regardless of the reason for attending university, all new first-year students have to learn to adjustment to university life and negotiate a range of challenges. This process may lead to a variety of psychological conditions ranging from mild to severe mental health problems.

According to Leibowitz et al. (2012), the ability to transition into university life has become of great importance to the South African universities' graduate and retention rates. The students who are transitioning into the university life phase in South Africa post-apartheid era are facing unique challenges. Although South Africa celebrated twenty-two years of democracy in 2016, many groups especially the youths are still facing many social ills and inequalities and these problems are particularly evident in the country's secondary education system (Steyn et al., 2014). The statistics show that only about 5% of the country's South African youths are successfully completing their tertiary education whether it is in colleges or universities (CHE, 2016; Young, 2016). In addition, statistics also prove that the high failure and dropout rates are a natural phenomenon at the end of the first year of study for most students. The CHE (2016) report then suggests that continued student support and encouragement of a more flexible teaching and learning approach can have the potential to address the current high rate of dropout as well as the low throughput. Although there has been a significant general increase in the accessibility of tertiary education to all people in South Africa, the inequalities that were entrenched by the pre-apartheid regime is still evident in the education system (Young, 2016).

As emphasised by Young (2016), an alarming 55% of students who enrol into institutions of higher learning do not complete their degrees or courses. The Council on Higher Education (2016) reported the racial profile of this issue using 2012 statistics. The results showed that participation in the programme proves that according to racial class 16% for Africans; 14% for Coloureds; 47% for Indians and 55% for Whites. In support, the Department of Higher Education and Training, South Africa (DHET, 2012) indicated that the graduation rates for undergraduate students were lower than the proposed targets in the National Plan for Higher Education; an average of 25% of undergraduates have completed through contact programmes. The DHET (2012) statistics also confirmed that about 70 742 students graduated with undergraduate degrees in that year. Based on these statistics, it is evident that students are struggling to complete their qualifications at Higher Education Institutions. The possible reason for this low throughput can be that South African students are entering higher education institutions under-prepared such that they end up struggling to adjust to the academic demands and standards of higher education.



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To date, there is substantial evidence in journal articles and conference papers that show that student support practices and flexible teaching, and learning approaches have been implemented across South African institutions of higher learning. The evidence in these institutions point to a wide variety of student support structures, for instance, Financial Aid; Counselling Centers, Health Centers and Writing Centers. In most institutions, these support services are managed through the office of the Deputy Vice-Chancellor: Student Support (CHE, 2016). The success of student support programmes are often “uncoordinated and under-theorised and the impact is evident (CHE, 2016: p146).

2.5 First-Year Students – Experiences and Adjustment

For many first-year students, adjusting to university life can be a stressful experience. The transition from high school to university can take a few months before adjusting fully to the new environment. Studies have shown that the transition into higher education is a challenging experience, albeit, adjusting to higher education setting is essential in the process of personal development (Gan et al., 2014). However, many students who enrol in higher education courses and programmes often do not possess the necessary coping skills required to adjust throughout their first year (Gan et al., 2014).

Baker and Siryk (1984) as cited in Sevinc and Gizir 2014 explain how the concept of adjustment is a “multifaceted and complex phenomena”. Adjustment can be described as a notion identified by four aspects namely: academic, social, and interpersonal and “goal commitment/institutional attachment”. According to Saleem and Mahood (2013), college students are more vulnerable to mental health problems than the general population. Saleem and Mahood (2013), further concord that these mental health problems are influenced by several factors. One of the factors is the academic pressure that is inherit in all higher education institutions. The problem of academic pressure can be further compounded by other factors such as the need to develop and maintain interpersonal relationships and develop a sense of autonomy and personal identity. The first-year experiences have a profound impact on how students approach both their academic and social life at these tertiary institutions and beyond. The first year is understood to be the year of transition, and adjustments and offers an array of challenges, which may have a positive or negative impact on the student

The extensive literature on first-year university experiences demonstrates that these psycho-social, socio-economic and academic challenges are evident both locally and internationally (Heinriques, 2014). For many students, choosing higher education is a personal investment and the pathway to a better life for themselves, their families and their communities. Many of these

students are the first of their families to enrol at tertiary institutions and some of them would have travelled long distances from rural and disadvantaged communities (Tinto, 2011).

The issues mentioned above points to the considerably challenges for students in moving from high school to university. Briggs et al. (2012) describe the movement as a “personal investment of cultural capital” which they have accumulated throughout their schooling experiences. Briggs et al. (2012) further explain this life changing transition as a social displacement, that is, a student could be a first-generation student (first family member to enrol for an undergraduate degree) or perhaps be a representative from a minority race. The first-year students in their transition phase embark on finding their own identity and finding their autonomy within their new environment (university) (Briggs et al., 2012; Jacobs & Pretorius, 2016). Redmont (2014) argues that undergraduate students have the potential to establish their sense of identity within their first year of university life. In general, these first-year students start university with a little recognition of their own inner voice and being influenced by the university authority and staff (Redmont, 2014). The author warns that the student who fail to develop a sense of own identity could experience negative implications. To support this argument, Redmont (2014) cites a quote from Baxter Magolda and King (2007: 491), “self-ownership is a foundation for achieving many college outcomes”.

Arkoff (1968), as cited in Sharma (2012), defines adjustment to be a phenomenon that reflects on how much a student has achieved and how much personal growth has taken place throughout their first year. According to Mudhovozi (2012), adjusting to university life comes with mixed emotions; it is a predominantly stressful encounter, but also comes with a combination of exciting and challenging experiences. The author defines adjustment as “a psychological concept that refers to the behaviour that permits people to meet the demands of the

environment” (Mudhovozi, 2012: 718). Students are faced with many challenges that generate stress and anxiety throughout their first year.

Douglass and Islam (2006) allude that over the past decades, the complexity of first-year student stressors has “ballooned” consequently leading to a steady increase in psychological morbidity among first-year students. Starting university life is an indicator that the student has moved from complete dependence, in most cases, to independence away from his support system (family, friends, and teachers). The student may also experience new environments, cities, provinces, countries, or continent, which naturally exposes the student to new or exacerbates the old cultural and psychological challenges (Al-Khatib et al., 2002).

Students living in institution residences face a unique set of challenges in comparison to the students living at home or off-campus. These challenges include establishing their own autonomy and learning to accept, and reside in a community of students with many diverse religious and cultural backgrounds. It is further explained how living on residences plays a pertinent role in social integration. However, there has been conflicting evidence of whether or not living on residences enhances academic performance (Harvey et al., 2006). Adjustment literature identify important mental health concerns that are directly related to the pressure that is faced by first-year students (www.campushealthandsafety.org). The relevant constructs include “anxiety, depression, stress, vulnerability, anger, mood swings, mental illness”, which could have an adverse impact on the adjustment of a first-year student (Clinciu, 2012: 718).

Shanti (2016) claims that when students can perceive their university setting as a supportive environment through the implementation of formal and informal interactions with staff – they are more likely to deal with their academic difficulties and enhance their academic performance. Shanti (2016) cites Wang’s (2009) study on “*Shyness-Sensitivity and Social School and Psychological Adjustment in Rural Migrant and Urban Children in China*” as the

only study which researched the relationship between a supportive environment/academic support and student's emotional adjustment to date. Shanti (2016), elaborates that Wang's (2009) findings expound that students can express themselves freely if they perceived their teacher and learning environment as a caring and supportive. In line with Wang's (2009) findings, Shanti (2016) relates these findings to the university environmental context. Arguing that when students perceive that the university's staff provide them with emotional support, they are better able to express their sense of autonomy and trust the staff enough to be their support. Through the perceived available support from staff, students are empowered to integrate and adjust to their new surroundings.

2.6 Mental Health in the Student Population

The Center for Disease Control and Prevention (CDC) defines mental health as a state of well-being in which the individual realises his or her own abilities, cope with the normal stresses of life, work productively, and fruitfully and can make a contribution to his or her community. Further, the CDC (2011) explains mental health as a term, which is commonly used in reference to mental illness. Advanced research in the mental health field makes it easier to distinguish between the two terms. Since the terms, "mental health and mental illness" can be widely interpreted, for this study, it is important that both terms are clearly defined in the context of this study. In this study, mental illness is defined as a collective diagnosable mental disorders or health conditions which is identified and characterised by changes in thinking, mood, behaviour, which impairs and individuals functioning, for example like depression (CDC, 2011). Most young people are usually mentally, physically and emotionally fit, yet there are four in every five youths within the general population who meet the criteria for a lifetime mental disorder – 17% of young people experience an emotional, mental or behavioural disorder (youth.gov/youth-topics health/prevalence).

Most mental health symptoms are identified as early as during adolescence stage, but are mostly diagnosed in adulthood. “Half of lifetime diagnosable mental health disorders start by age 14; this number increases to three-fourths by the age of 24” (National Adolescent Health Information Centre, 2008).

For the purpose of this study, mental health is defined as depression, anxiety, and stress and suicide. These psychological terms are loosely used in everyday vocabulary in modern society and are often misunderstood. Internationally there has been extensive studies, which have provided information about the mental health trends of university students (Bayram and Bigel, 2008).

The issue of mental health prevalence in higher education is proved to be a growing concern and particularly affecting a considerable proportion of the adolescents. During their early adult life (Worfel et al., 2016; Hussain et al., 2013, Chen et al., 2013) the age of the traditional students (meaning students who have started tertiary studies straight after secondary education) higher education first year students. International research shows that anxiety and depression are among the most commonly reported mental disorders among university students (Worfel, et al. 2016). According to the Department of Economic and Social Affairs (DESA) (2014), mental health conditions are prevalent among young people – nearly one-fifth of the global population is comprised of youth aged between the ages of 12-24 years. Further, DESA (2014) argues that mental health conditions have a considerable impact on youth development, social and economic integration. DESA (2014) also reported that at least 20% of the world’s youths (there are 1.2 billion youths around the world) experience a mental health condition of some sort.

2.6 Review of Studies on Mental Health in Higher Education

Worfel et al. (2015) reference the Einsburg's 2007 web-based survey conducted at two German universities. The study assessed the prevalence of anxiety and depressive disorders. The study used a four item- Patient Health Questionnaire. Prior to the results of this study, students had already shown that were 14.2 percentage with depressive disorders and 16.3% with anxiety symptoms.

Louw, Lipps and Young (2009) reveal that depression is the leading psychiatric mental illness among university students. Further, college students are more at risk of attempting to commit suicide. In most cases, students' who have suicidal tendencies are often depressed and show possible symptoms of depression. In addition to this, one can suggest that it can infer that students who have attempted to commit suicide or committed suicide were likely have been experiencing episodes of depression for some time. Depression is on the increase especially with the steady growth of the tertiary student population.

According to Lucas and Berkel (2005), who focused on the counseling needs of students at a University Counseling Center in the United States, the university student population has not only grown in diversity but also in need for psychological and vocational services . If depression is left untreated, it can have both immediate and delayed effects on a person because depression is usually a recurrent disease (Chen et al., 2013).

According to Flatt (2013), there are a number of students who are dealing with depression, anxiety and suicidal thoughts. Research conducted by the American Health Association in 2005 suggested that an average of 12% to 18% students have been diagnosed and treated for a mental disorder (Flatt, 2016).

For many students adapting to the university setting; their new lifestyle, plays a pertinent role in shaping the state of a student's mental health (Flatt, 2016). Although the first year is a crucial transition phase in the lives of young adults, students are responsible for their individual decisions they make, which also contributes to their overall well-being and general mental health (Flatt, 2016). International research, and particularly in the United States, provide a strong base of data which demonstrates that students between the ages of 18 to 24 years have increasable high rates for mental health conditions (Cleary et al., 2011).

Another study conducted in Canada amongst undergraduate students showed that 30% of the students had high levels of psychological distress scores, which was proved substantially greater than that of young adults in the general population (Berhardsdottir and Vilhajalmsson, 2012). Another study conducted in the United States, researching among undergraduate women, found that the psychological distress (e.g. anger, anxiety and depression) scores were higher than that of undergraduate men over the age of 25 -years (Berhardsdottir and Vilhajalmsson, 2012).

Other studies have also shown that university students are likely to experience more psychological distress in comparison to the non-university youths of the same age group in the general population (Hussain et al., 2013). Hussain et al. (2013) argue that mental ill health can contribute to negative outcomes for university students, for instance, risky health behaviour, poor academic performance, physical illnesses and a high desire to commit suicide. Chan et al. (2015) state that despite the negative outcomes which are associated with undiagnosed mental illnesses (e.g., poor interpersonal relationships), low participation in campus programmes and more importantly at a greater risk of dropping out of university – few students receive appropriate mental health treatment.

According to the statistics over the period 2014-2015, from the Center for Collegiate Mental Health (CCMH) (2015) annual report, 48.8% of college students have attended counselling for mental health concerns, 31% have taken medication for mental health problems, 10.2% have been hospitalised for mental health concerns, 25% have purposefully injured themselves without suicidal intent and 32.9% have seriously considered attempting suicide.

Hunt and Eisenberg (2010) conducted a study of 26,000 students across the United States. The statistics showed that 6% of the undergraduate students had reported seriously considering suicide within the previous 12 months. The understanding of mental disorders and its covariates a growing phenomenon amongst the college population (Hunt & Eisenberg, 2010). Although little is known about the strategies that go beyond the clinical or medical treatments for students. There are other contextual influencing factors, like peer support, student residential environments, academic support play a pertinent role in the well-being and overall mental state of students (Hunt and Eisenberg, 2010). Unfortunately, research based on evidence on interventions, programmes and policies is still seemingly under research.

Pendrelli et al. (2015) reported that depression is one of the most common found mental disorders among college students, with a prevalence rate of 7% to 9%. The author noted that depression has its first onset during childhood, adolescence or during early adult life. In this regard, depression as a mental disorder affects and significantly influence a person's daily activities and quality of life (Hysenbegasi et al., 2005; Ibrahim et al., 2013).

According to research conducted at the Western Michigan University (WMU) between 1998 and 2000 by Hysenbegasi et al. (2005) with a focus on undergraduate students, the participants reported that they lacked the ability to complete a number of academic activities.

In the United Kingdom, Regehr (2013) used longitudinal data on anxiety and depression for 16, 460 undergraduate students. The study reported that student anxiety scores increased in

their first terms of the first year and the final year of study. In comparison, depression levels rose steadily over time peaking during the students' final year of study (Regehr, 2013).

Shamsuddin et al. (2013) assessed the levels of depression, anxiety and stress and their correlation to socio-demographic factors (age, gender, family income) at a university in Malaysia. The assessment was based on a sample of 506 students and the results were mixed; the prevalence rates range from moderate to severe. The authors reported that about 37.2% of the students were depressed, 63.0% struggled with anxiety and 23.7% were stressed. However, Shamsuddin et al. (2013) observed that these results were different for Turkish students who showed the prevalence rates of - depression 27.1%, anxiety 47.1% and stress 27.0%. Even though the results were different, the prevalence rates are still high in both countries and these rates point to a potential high and increasing demand for depression, anxiety, stress and mental health care for university students.

Another interesting study in Australia by Farrer et al. (2016) focused on both the demographic and psychosocial risk factors for major depression as well as General Anxiety Disorder (GAD). The findings of this study alluded that major depression was slightly higher than the rates reported among the United States students. In addition, the findings have indicated that first-year students were more likely to experience depression in comparison to the postgraduate students (Farrer et al., 2016). The authors elaborated that this observation could be correlated to the transition phase the first-year students' experience. As mentioned earlier, we understand that the first year can become a stressful journey and contributes to the students' vulnerability.

Another exposition of student struggles is by Gisner, Mallett and Kilner (2012) in their novel study titled "*An examination of depressive symptoms and drinking patterns in first year*". The authors focused on the association between alcohol use and specific depression symptoms among first-year students. The results indicated that the five most commonly reported

symptoms are difficulty-sleeping, fatigue, loss of energy, loss of appetite and self-criticising (Geisner, Mallett and Kilner, 2012). These symptoms are indicators of an unpleasant life and would inevitably contribute to the maladaptive behaviours of students and can easily be linked to binge drinking, mental illnesses and dropping out of university (Geisner, Mallett and Kilner, 2012).

Although the prevalence of depression, anxiety and stress among university students have been researched widely worldwide, Chen et al. (2013) raises the problems of trying to compare the results. The author believes that due to the differences in methods of assessments and/or instruments used, results derived from these studies are likely to be different. Another problem is that, especially for depression, the results are likely to be influenced by the different cultural beliefs, socio-political and economic situations which makes them less comparable (Geisner, Mallett and Kilner, 2012; Reddy et al., 2015).

2.7 Conclusion

The results from the past studies indicate that the mental health problem among first-year university students has become apparent. Even though statistics concord the growing concerns about the prevalence of mental health, there seems to be a shortage in support programmes and interventions to assist students. Student development research has indicated that the first year student population is faced with many psychosocial challenges as part of their transition to university. However, the lack of literature around student mental health necessitates the need for more research in this area.

CHAPTER THREE
RESEARCH METHODOLOGY

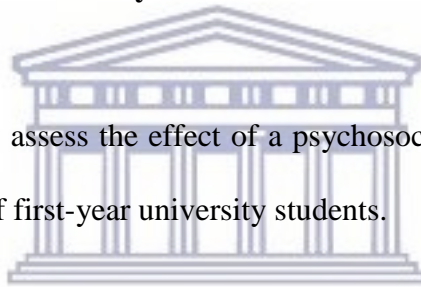
3.1 Introduction

This chapter summarises the research methods used in achieving the aims and objectives outlined in Chapter One. The chapter explains the methodology as well as the research design employed in this study. Besides research methodology and design, the chapter also discusses the process of data collection, research instrument and how the sample was selected.

3.2 Aims and Objectives of the Study

Aims:

The purpose of the study is to assess the effect of a psychosocial intervention on the mental health and social adjustment of first-year university students.



The objectives of the study were to:

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- Assess the mental health and social adjustment of first-year university students as a baseline to the psychosocial intervention for first-year university students;
- Implement the psychosocial intervention for first-year university students;
- Assess first-year students' mental health over multiple time series (4 series with a 2 week interval);
- Investigate the effect of the psychosocial interventions on the mental health and adjustment over the four interval time series.

3.3 Hypothesis

There is an improvement in the mental health and adjustment of first-year university students attending a psychosocial programme.

3.4 Methodological Approach

This study uses a quantitative methodological approach. Quantitative studies primarily observe data in a numerical or quantitative form (Rosnow and Rosenthal, 2002). Quantitative research is defined based on how data is collected (numeric), the logic employed (exploratory or confirmatory), the method of analysis, and the approach to the research justification (variance theory) (Bazeley, 2002). The underlying theory for quantitative methodology lies in the “positivist” approach, which argues that if the “laws and mechanisms of human behaviour” can be identified then the cause and the effect relationships can also be determined (Morris, 2006: 3). Furthermore, the positivist approach assumes that the researcher or inquirer can “adopt a distant, non-interactive posture” (Morris, 2006).

Quantitative research originated within the natural sciences field due to efforts to study ‘natural phenomena’ in the field (Hohmann, 2006). Today, the quantitative methodology is applied in social science research and in the education field. According to Rosnow and Rosenthal (2000), quantitative research is anchored in empirical reasoning, that is, the use of logic, validation and reliable evidence. The underlying theory for quantitative methods lies in the “positivist” approach, which assumes that the “objective reality exists outside of personal experience that has demonstrable and immutable laws and mechanisms” (Morris, 2006: 3). The positivists argue that if the “laws and mechanisms of human behaviour” can be identified, then, the cause and the effect relationships can also be determined (Morris, 2006).

One of the key features of quantitative research includes the term *variable*, which refers to the specific things that are being studied. Independent variables are referred to like things, which stay constant throughout the study, whereas a dependant variable refers to something that has the possibility of changing. In quantitative research, a dependent variable is usually the variable of interest to which we use different independent variables to help us understand what is driving the changes in the dependent variable.

The aim of quantitative research is to establish the relationship between one thing (independent variable) and another (dependant variable).

The quantitative methodology includes surveys or questionnaires, laboratory experiments, formal methods such as econometrics and numerical methods such as mathematical modelling (Hohmann, 2006). Quantitative research has two major types of research namely; experimental research and non-experimental research. The interest of experimental research is to study the cause and effect of relationships (causal relationships). The distinguishing feature of the experimental research is its active manipulation of the independent variables (Simon & Goes, 2011). On the other hand, in non-experimental research, there is no manipulation of the independent variables. However, when there is a relationship between two variables within non-experimental research, the cause and effect assumption cannot be made. The reason is that there are likely to be many other underlying reasons driving the relationship, thus, only correlation inference can be made from non-experimental research (Hohmann, 2006).

The most common method of data collection within quantitative research is through surveys. Surveys are easily associated with quantitative research methodology. Creswell (2009) explains that the survey design plays an instrumental role in collecting quantitative data. The author highlights that the surveys are central to “answering questions and hypothesis through the use of surveys and experiments”. The survey design, according to Creswell (2009), is

distinct as a strategy, which “provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population”.

According to Rosnow and Rosenthal (2002), there are three broad types of research pertaining to behavioural and social research. Additionally, there three types of research found within the quantitative framework: these include descriptive research, relational or correlational research and experimental research. Descriptive research studies “tell us how things are”, relational or correlation studies explain “things in relation to other things,” and experimental research focus on “how things got to be a certain way”.

In a descriptive study, associations between variables are established. In other words, descriptive research aims to investigate and describe occurrences within a research setting; it describes human behaviour within in specific contexts (Toury, 2012). This type of research involves collecting data to test hypotheses or to answer questions with regard to the focus of the study, that is, it is the documentation or reports that describes the way things are (Rosnow and Rosenthal, 2002; Toury, 2012).

Relational research (a non-experimental research), according to Simon and Goes (2011), can be described as the study of more than one characteristics which are varying together. Thus, relational or correlational research attempts to establish to what degree does a relationship exists between two or more variables (Toury, 2012). However, correlational research can never establish a cause and effect relationship. In a relational study, the relationship is expressed by a correlation coefficient (Toury, 2012). In a simple case of correlational research, the researcher looks for a relationship between variables by calculation the correlation coefficient (Simon and Goes, 2011). If the sign of the correlation coefficient is positive, then there is a positive relationship between variables, that is, the two variables generally move within the same

direction. If the correlation coefficient is negative, it means that the variables move in opposite directions or inversely related (Simon and Goes, 2011).

Experimental research establishes the cause and effect relationship and makes the comparison between variables; however, the cause can also be manipulated (Simon and Goes, 2011). Under experimental research, the hypothesis is that variations or movements in one variables (dependent variable) is caused by changes in other variables (independent variables) (Simon and Goes, 2011). Thus, an experimental research design under experimental research is designed to test the impact of treatment (or intervention) on an outcome, after controlling for all other factors that might influence that outcome (Creswell, 2009). The experimental design also includes the specific type of experiments, namely; the pre-experiment, quasi-experiment and true experiment or single subject experiment (Creswell, 2009). Using the experimental design, the researcher identifies the participants of the study, the variables of interests (control variables), the outcome variable(s) and the instruments of the pre-experiment, quasi-experiment and true experiment (Sukamolson, 2007; Creswell, 2009). Generally, experimental research is focused on identifying cause; it specifically looks at “what causes what? Or what leads to what?” (Rosnow and Rosenthal, 2002).

In conclusion, qualitative research methodology’s general framework seeks to confirm a hypothesis about a given phenomenon. Its instruments are more rigid in style of eliciting and categorizing responses to questions whereas quantitative research uses highly structured methods such as questionnaires, surveys and structured observation (Sukamolson, 2007; Creswell, 2009; Simon and Goes, 2011). In other words, the analytical objectives of quantitative research are to quantify variations in the outcome variable, predict causal relationships with other variables and describe the characteristics of a population. As such, data for quantitative research is obtained in a numerical form with specific values assigned to the

given responses. The response categories and questions used in surveys are closed or fixed. This inflexibility of quantitative research allows for meaningful comparison across participants.

3.4 Research Design

This study uses quasi-experimental research design with an interrupted time-series approach. Time series refers to assessing the same sample at different interval points during the collection of data and these different interval points are determined by time (Velicer et al., 2003). According to (Evangelos et al., 2015), the interrupted time series analysis method have proven to be a valuable quasi-experimental design. Furthermore, the interrupted time series is an analysis that tests for a change in an outcome over a set period of intervals (Penfold and Zhang, 2013). In the current study, data have been collected over a four interval time series.

3.5 Population and Sample

Yont (2006) defines population as “subjects you want to study”. The population can also be defined as “an entire group of things from which information will be ascertained” (Banjerjee and Chaudhury, 2010). On the other hand, a sample is a group of things that have been drawn from the population. This sample from the population can either be a representative sample; the sample has the same characteristics as the population from which it has been drawn or non-representative. To make inferences about the population, the sample must be a representative sample of the original population. In this study, the population is all first-year students who are residing in university residences, specifically, at the University of the Western Cape (UWC) in the Western Cape Province in South Africa. From this population, this study is drawn from a first year community, which consists of 671.

In terms of sampling, this study selected participants based on convenience sampling. Buchstalle and Khattab (2003) notes that convenience sampling is when a researcher benefits from the easy accessibility and proximity to the population of interest such that it becomes easier to draw a sample. Hence, the students who signed up for the First Years Psychosocial Support programme were invited to participate in this study. Students who had signed up were required to attend the psychosocial intervention at least once a week over a period of four weeks per term in order to be validated for the requirements for this study. The participants consisted both male and female students living in residences, although the majority of the sample ended up being females. Further, the sample consisted of students from all disciplines available at the study's research site. The maximum number of students allowed to attend a session ranged from 30-50 students depending on the type of intervention for the week. Some interventions required small group discussions to ensure meaningful and insightful discussions whereas with the larger than 50 groups we played interactive and competitive games.

3.6 Instruments

The research instruments include three sections: Section A – explores the demographic information of the participants. The questions in this section included cover characteristics such as gender, age, race, etc. Then, Section B covers the Social Adjustment Scale and lastly, Section C provides the Depression, Anxiety, and Stress Scale (DASS).

Section A: Demographics

Research participants were asked to indicate the following demographical information:

1. Where they have originated from - a rural or urban area;
2. their race – (white, coloured, black, Indian or other);
3. their sex – (male or female);

4. their age in the following categories (16-18; 18-20, 20-24, 24 and older);
5. their first and second language;
6. Whether they were a first family member to study at a tertiary institution (yes or no).

Section B: Social Adjustment Scale

The Social Adjustment Scale is a questionnaire based on behaviour and practiced habits over a period of two weeks. The Social Adjustment Scale has been widely used for individuals to assess their life satisfaction (Wissman & Bothwell, 1976). This scale measures overall social adjustment and an individual's life satisfaction. For the purpose of this study, the Social Adjustment Scale was subdivided into three categories; Social and Leisure activities, Extended Family and Family Unit. The questions asked for this section include; *have you been in touch with your family lately? Have you been worrying about your family more than necessary? Have you done things socially with your friends?* The participants responded on a Likert Scale of - 1 = not at all, 2 = occasionally, 3 = about half the time, 4 = most of the time, 5 = all the time. Mundt et al. (2002) reported a reliability and validity of the Social Adjustment Scale to have a Cronbach's alpha measure of internal scale consistency ranging from 0.70 to 0.94. The results according to Mundt et al., (2002), test-retest correlation were 0.73, which indicates that scores above 0.73 would indicate positive social adjustment.

Section C: Depression, Anxiety and Stress Scale (DASS)

The Depression Anxiety Stress Scales (DASS) were used to assess depression, anxiety and stress levels of first-year students. DASS is widely used for non-clinical populations. A study conducted by Mahmoud et al. (2010) at the University of Kentucky in the United States indicated that the reliability of the items forming each dimension of DASS nearly stayed the

same. This self-report assessment contains 42 items and is administered over five to ten minutes. Here are examples of items: *I felt like I was using a lot of nervous energy. I could not seem to experience any positive experience at all, I found it difficult to work up the initiative to do things, I found it difficult to work up the initiative to do things, etc.*

These questions were answered according to the following rating scale: 0 = *did not apply to me at all.* 1 = *Applied to me to some degree or some of the time.* 2 = *Applied to me to a considerable degree, or a good part of time.* 3 = *Applied to me very much, or most of the time.*

Mahmoud et al. (2010) explains that the Cronbach's alphas before the factor analysis were 0.90 for Depression, 0.83 for Anxiety, 0.86 for stress.

3.7 First Years First Programme (Adjustment Series)

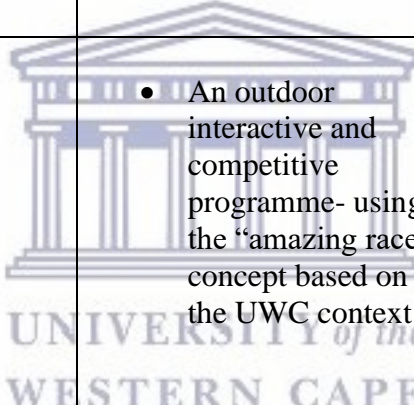
FYF is an adjustment series designed to support all first-year students throughout their first year of university life. The programme runs over the course of the year and consists of four series, which contain programmes with specific foci on adjusting to university life and how to access and promote growth on a personal and interpersonal level. The programmes under FYF were aimed at addressing student challenges and are implemented using educational, yet exciting and fun methods. These methods include the use of interactive discussions and creative art, physical activities, socials and talk-shops. The themes covered over the first semester (during the data collection period) are as follows:

Weekly Session Focus Themes, 02 March to 19 May

<i>Theme title</i>	<i>Life skills focus and brief description of activities</i>	<i>Programme Outcomes</i>
<i>I am my decisions</i>	This has been designed as an interactive session - including buzz groups	<ul style="list-style-type: none"> • Students should be able to make more

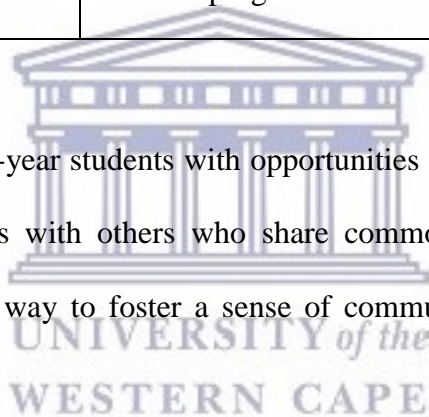
	(small group discussions), fun activities related to the theme and feedback sessions from the group sessions.	<p>firm and responsible decisions;</p> <ul style="list-style-type: none"> • Students will be more aware of the impact of their decisions; • Should have started building peer relationships with their fellow residence students.
<i>Will I belong?</i>	<p>This activity was implemented through a “movie and popcorn” night. The movies screening had a particular underlying theme of a student who starts university and facing many life challenges. After the movie, a facilitated discussion is conducted around what it means to belong and creating that sense of belonging.</p>	<ul style="list-style-type: none"> • Students start to analyse/form their own opinions about belonging and building interpersonal relationships; • Should have demonstrated the ability to think critically about what others are sharing.
<i>Goal Setting (Part 1): SMART (Specific Measurable Attainable Realistic Timeframe/Time bound)</i>	<ul style="list-style-type: none"> • This programme focussed on goal setting theory called SMART; • Students were required to plan short-term and long-term goals and how to apply SMART; • Some fun icebreakers and other activities are used to stimulate thinking about their future goals. 	<ul style="list-style-type: none"> • Students would be able to plan realistically towards their goals, • Students would be able to manage their time and work towards their goals; • They would be able to plan.
<i>Goal Setting (Part 2): Dream Story Boards</i>	<ul style="list-style-type: none"> • Students are required to creatively design their own dream story board with magazine pictures, drawings and colours that speak to their future goals over the next five years. 	<ul style="list-style-type: none"> • Students should be able to visualise their goal plans; • Student should understand the role they have in the actions toward their goals.

	The story board needs to depict which steps they will take in order for them to reach their goals how they will reach their goals.	
<i>Obstacles I face</i>	<ul style="list-style-type: none"> • Students are required to brainstorm/identify psycho-social issues students face in our residences; • Interactive discussions are focused on how these challenges impact the academic life of a student; • Students are required to creatively demonstrate (through prompt poetry, song or role-play) how students can practically overcome daily challenges. 	<ul style="list-style-type: none"> • Students should be able to identify what their challenges are; • Students would be in a better position to manage their challenges; • Students would know where to go to for professional help if they cannot manage to cope with their daily stressors; • Students would be supportive towards their fellow residence students.
<i>Body Beats</i>	<ul style="list-style-type: none"> • This activity is focused on how to live a healthy balanced lifestyle; • Activities include examples of cardio exercise techniques, relaxing exercises etc. 	<ul style="list-style-type: none"> • Students would be able to use the relaxation techniques when they feel they are under pressure or when they are stressed; • Students would understand that they need to take regular breaks while studying and understand that physical activities are an important aspect of a healthy balanced lifestyle.
<i>Pre-exam social</i>	<ul style="list-style-type: none"> • Brief exam preparation 	<ul style="list-style-type: none"> • Be more knowledgeable

	<p>discussions (based on booklet issued the week before);</p> <ul style="list-style-type: none"> • This event is meant to be a relaxed session- whereby students can talk about anything- listen to music, have informal conversations; • The venue has exam tips, and inspirational messages on the walls and space for students to write exam well wishes to students who are preparing for the exams. 	<p>about exam preparations;</p> <ul style="list-style-type: none"> • To be able to identify ways to approach studying.
<i>Survival Challenge</i>	 <ul style="list-style-type: none"> • An outdoor interactive and competitive programme- using the “amazing race” concept based on the UWC context. 	<ul style="list-style-type: none"> • Would have met fellow FYs; • They would have experienced some teamwork; • Would be able to socialise and interact with other first-year students; • They will know which student support services are available to them.
<i>Personal Motivation</i>	<ul style="list-style-type: none"> • Students were required to introduce their personal values and beliefs that inspire them; they get to share situations they have achieved and is most proud of; • Small groups prepare war cries that are 	<ul style="list-style-type: none"> • Students will feel motivated for the second term; • They should be reminded of their personal goals; • Students will be able to identify methods that would

	meant to motivate their members through favourite quotes or song lyrics.	motivate themselves; <ul style="list-style-type: none"> • They would have a sense of autonomy when it comes to motivating themselves.
<i>End Semester Excursion</i>	<ul style="list-style-type: none"> • Students who have demonstrated their commitment to the programme and who have attended 70% of the programme has been selected to join in an end semester excursion as part of the programme. 	<ul style="list-style-type: none"> •

The programme provides first-year students with opportunities for development and building strong peer support structures with others who share common interests. The enrichment activities were designed in a way to foster a sense of community among UWC residence students.



The FYF Programme aims to:

- create a sense of vibrancy and peer support across the student housing community;
- establish peer support structures so that first-year students are able to develop friendships that are deep and meaningful;
- facilitate the first-year students' personal journey in self-discovery and purpose;

- build capacity so that first-year students who join the programme may become change agents within the residence community and larger society by accessing opportunities that will contribute to developing them holistically; and
- provide first years with learning opportunities that broaden their career visions

3.7 Pilot Study

According to Teijlingen and Hundley (2001), a pilot study is a “small scale version or trial run done in preparation for a major study”. A pilot study is also an opportunity to assess the feasibility of the proposed research at a larger scale (Leon et al., 2011). Hence, approval of the proposal by the Senate for Higher Degrees and Senate Research Committees was subsequently followed by seeking permission from the Registrar, Deputy Vice Chancellor of Student Development and Support, Director of Residential Services, Managers, First Year Residence Co-Ordinators in order to conduct this particular research study. The mentioned relevant stakeholders were contacted timeously via e-mail to inform them about the research project and its progress and requesting the required permissions to ensure that the research and data collection were within the ethical bounds of the university.

The pilot study included a sample size of ten first-year students living in residences. The pilot study participants were informed about the purpose and key objectives of the research study, it also explained that their participation was voluntary such that they had the discretion to withdraw from the research at any point in time. The pilot study was conducted a week before the main study’s data collection process commences. The purpose of the pilot study was to test the instrument and determine whether the instrument was student friendly enough for students to complete successfully. The pilot study’s participants were issued with consent forms and participants were asked to complete the surveys within a period of 30 minutes. Surveys were then collected and later screened to regulate how well the instrument had been completed.

In total, the participants would be required to complete five sessions of data collection.

3.8 Data Collection of the Main Study

The method of data collection resembles that of the pilot study, which includes: a brief information session explain to the participants the research objectives, how to complete the questionnaire and to administer the consent forms. The eligible students to take part in the surveys are described as traditional time tertiary students, also known as “freshers” for the academic year 2016. For ethical reasons, participants were required to complete a consent form before completing the questionnaire. Also, participants were allowed to withdraw from the study at any point in time during the process of data collection be it due to lack of interest or feeling any sense of discomfort with any of the questions. At each data collection time series, research participants were required to complete a consent form (found in the appendices section).

Research data was collected over a five-time series (different collection times) – namely; the baseline questionnaire collected two weeks after the university academic calendar opened, the second questionnaire two weeks later, then after another two weeks, then week later and the final survey was administered five weeks later.

3.9 Data Analysis

The collected data was imputed into SPSS (Statistical Package for Social Sciences) for windows. The analysis of the data is done primarily via descriptive and inferential statistics. The descriptive statistics include a review of the means, percentages and standard deviations while the analysis of inferential statistics focuses on correlations and variances (ANOVA). The ANOVA method is a process of analyzing experiential data in response to one or more variables that are measured under different conditions or categories (Bharathi & Natarajan,

2010; McDonald, 2015). The results from the ANOVA estimates can then be used to conduct hypothesis testing for the hypothesis outlined in Chapter One.

3.10 Ethics Statement

In the process of researching human subjects, it is mandatory to consider the ethical principles in order to protect the participants from harm or danger on a physical, mental and psychological level (Ely & Anzl, 1991). In addition, it is important to consider the appropriate protocol and procedure within the setting or institution for a particular research to be conducted. Before the administration of research, the participants were well informed about the research topic and the aims and objectives of the study. The data was collected anonymously with no identifiable information required such that it would be possible to trace back the source of the given responses. The participants were informed that this study is on a voluntary basis. The data collected was not utilized without the participant's consent (see, Annexure A). The confidentiality of the participants' information was reiterated at every time series of the data collection process (with reference to the time series). The fact that participants had a discretion to withdraw from the study at any point in time was also reiterated throughout the data collection phase. Further, for record purposes, the data will be kept on record for a minimum of five years before being destroyed. If any referral is required for therapeutic help, the necessary steps have been put in place. The findings of the results were discussed with the participants at the end of the research.

CHAPTER FOUR

ARTICLE

An assessment of the effect of a psycho-social intervention on the mental health and adjustment of first-year students using an Interrupted Time Series Analysis with a South African sample

Authors: C L Stroud; NV Roman; E. Davids

Abstract

First-year students are faced with an array of challenges ranging from financial, academic to psychosocial problems. Results from many studies suggest that first-year students require student support structures to ensure that institutions of higher learning maintain high student retention rates. Thus, higher education institutions have changed focus towards the building of student graduate attributes as well as developing well-balanced and rounded students. First-year experience studies have identified the growing interest in the potential impact of psychosocial interventions on social adjustment and students' mental health. This study assess the effects of psycho-social interventions on the adjustment and mental health of first-year students by using an interrupted Time Series Analysis. The outcome variables are the Depression, Anxiety and Stress Scale (DASS) and the Social Adjustment Scale (SAS). Analysis of Variance (ANOVA) method is used to test the data relying on the Statistical Package for Social Sciences (SPSS) to conduct these tests. The results suggest that the first-year student who participated in the psychosocial intervention experience an improvement in the above outcomes over time. The conclusion was, therefore, that psychosocial intervention has contributed to a significant change in depression, anxiety and stress levels of first-year students.

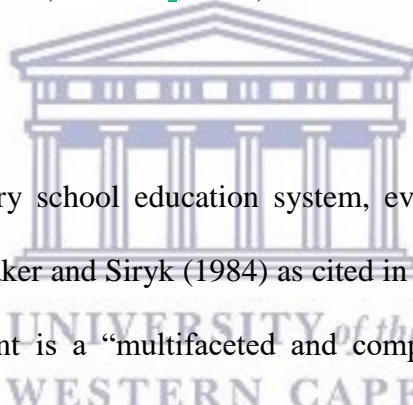
Keywords

First-year students; Mental health; Depression; Anxiety; Stress; Psycho-social intervention; Adjustment; Social adjustment; Student development

Introduction

Mental health and adjustment of first-year students have become a growing concern for higher education institutions (Heinriques, 2014). Many studies focusing first-year adjustment have linked mental health concerns directly to the pressure of first year studies (Tomsa et al., 2013). The first-year students are seemingly susceptible to developing heightened levels of depression, anxiety stress and other related mental illnesses. This susceptibility to these challenges is likely to have an adverse effect on their adjustment and development (Clinciu, 2012; Briggs et al., 2012 Redmont, 2014). Studies have shown that transition into higher education is a challenging experience, and many students are often ill prepared for the demands of tertiary education environment (Gan et al., 2014).

First Year Adjustment



In South Africa, the secondary school education system, even post-apartheid, still reflect inequalities (Young, 2016). Baker and Siryk (1984) as cited in Sevinc and Gizir (2014) posits that the concept of adjustment is a “multifaceted and complex phenomena” that can be described as a notion identified by four aspects; academic, social, interpersonal and a sense of loyalty towards the specific institution of study. According to Saleem and Mahood (2013), college students are more vulnerable to mental health problems than the general population. The factors that increase this vulnerability for college students include; academic pressure, the need to develop, and maintain interpersonal relationships and develop a sense of autonomy, and personal identity. The first-year experience has a profound impact on how students approach both their academic and social lives at tertiary institutions and beyond.

Most first-year students in South Africa face many social challenges mostly related to poverty (they come from poor households) and other family psychosocial issues. Furthermore, these students lack necessary life skills to cope with the demands of tertiary (Martin, 2010; Payne,

2006). The fact that students experience high levels of anxiety and stress because of many challenges such as dire financial constraints, social and academic demands is an area of concern that is generally overlooked. The severity of these challenges in South Africa is supported by high and low dropout and retention rates respectively. Payne (2006) asserts that the lack of family support is one of the major challenges that the first-year students have to deal with during their adjustment at institutions of higher learning.

Shanti (2016) states that when students can perceive the university setting as a supportive environment, through the implementation of formal and informal interactions with staff, they are more likely to deal with their academic difficulties better. Wang et.al (2016) indicate that students who receive support from their families have a higher chance of succeeding at university. In support, Sledge (2012) notes that the involvement of family throughout a student's higher education increases the student's persistence and resolve in social responsibility. Wang (2009) examined the relationship between a supportive environment or academic support and student's emotional adjustment. The author found that students expressed themselves freely whenever they perceived their teachers and learning environment to be caring and supportive. Accordingly, Shanti (2016) conducted a similar study for university environment and concluded that students are better able to express their sense of autonomy and trust when they perceive that the university staff and leadership them with provide emotional support. Through the provision of support, students are empowered to integrate and adjust to their new surroundings.

The Mental Health of the Student Population

According to Mowbray et al. (2006), majority of students enrolled at tertiary institutions have experienced a form of mental illness. Traditional university students correspond to the meeting criteria for diagnosis; this age has been categorised between the ages of 15 – 21 years old. Some studies have also observed that majority of the young adults experience their first psychiatric episode at university. The Center for Disease Control and Prevention (CDC, 2010) defines mental health as “a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can cope work productively and fruitfully, and is able to make a contribution to his or her own community”.

Generally, young people are mentally, physically and emotionally fit, yet, there are four to five youth within the general population who meets the criteria for a lifetime mental disorder – 17% of the general young adult population experience an emotional, mental or behavioural disorder (Center for Disease Control and Prevention (CDC, 2010). Most mental health symptoms are identified as early as adolescents but only diagnosed in adulthood. According to the National Adolescent Health Information Center (2008), the majority of mental illnesses are diagnosable at the age of 14 years and significantly increase to three-fourths statistically by the age of 24.

Higher Education Interventions

The prevalence of mental health problems in higher education seems to be a growing concern impacting the lives of a considerable proportion of early adults (Hussain et al., 2013, Chen et al., 2013; Worfel et al., 2016;). Worfel et al. (2016) notes that anxiety and depression are among the most commonly reported mental disorders among university students in international research. According to the Department of Economic and Social Affairs (DESA) (2014), mental health conditions were found to be prevalent among young people in New York in the United States. Statistics in the United States of America indicate that nearly one-fifth of the global

population is comprised of youth aged between the ages of 12-24 years. Further, DESA (2014) argued that mental health conditions have a considerable impact on youth development and social and economic integration. To support this claim, DESA (2014) confirmed that at least 20% of the world youth population (about 1.2 billion) experience some kind of mental health condition.

Yeager and Walton (2011) notes that many studies have pointed to the effectiveness of psychosocial interventions on enhancing students' educational achievement. The definition of intervention is wide to include health promotion, social adjustment and support – these interventions could be implemented in different forms such small groups students or individually (Forsman et al., 2011).

Over the past decade, most higher education institutions nationally and internationally have recognised that the first year of a student in their institutions is an essential foundation for student success (Strydom, 2010). The undergraduate student experience affects how the student progresses academically throughout their years of study. Thus, the first year is a crucial time in any first-year student's life and they often need support and guidance to help them to transition into university life. Higher education institutions globally have been attempting to provide these services to their first-year students through developmental interventions and co-curricular activities. According to Harvey et al., (2006), on the methodological approach, students prefer a more student-friendly approach to interventions. Over time, the paradigm has shifted from “only” academics to a more comprehensive approach. Institutions are now looking at developing well-rounded and balanced individuals, both academically and in other social facets of their lives. In order to attain this goal, institutions are instigating programmes to assist first-year students with adjustment and improve their mental health. Recent studies have revealed that psychosocial interventions have a positive impact on behaviour.

International Examples of Psychosocial Intervention Programmes

University of Pittsburgh

The First Year Experience (FYE) Programme at the University of Pittsburgh has three key elements of focus, the (1) orientation programme, (2) opportunities for students to get involved (co-curricular activities) and (3) connecting students with other students and staff. An example of a co-curricular at Pittsburgh is the “First Year Success Series”, which is a series of programmes, which follow the Orientation programme. These programmes are a series of educational and social activities. Another feature of the University of Pittsburgh’s First Years’ Experience (FYE) programme is the “Outside the Classroom Curriculum” which is an initiative designed to educate students through the completion of a series of programmes, activities and experiences that complement each student’s academic studies.

University of Johannesburg (UJ)

The University of Johannesburg introduced a First Year Experience programme in 2008. The UJ’s First Year Experience Programme was conceptualised as a “holistic” programme that consists of a combination of curricular and extra-curricular initiatives, and is executed through several activities and events. The programme allows students to progress and adjust to the university environment. The key objectives of the FYE are to; promote a smooth transition from high school to university life, support their students to graduation and enable students to form networks with their peers and their academics.

(Website:<http://www.uj.ac.za/EN/STUDYATUJ/UNDERGRADUATE/FYE>).

University of Witwatersrand (WITS)

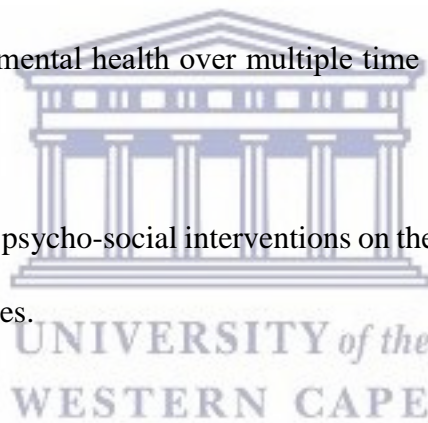
The University of Witwatersrand established a First Years' Experience programme that aims to provide first-year adjustment support to university life. This programme also provides support in “bridging the gap” between high school and university through empowering and equipping first-year students with the essential skills required to transition to university life. At the University of Witwatersrand, the FYE programme aims to combine teaching, extra-curricular activities, tutoring and mentoring to help students to successful transition into university life. The programme also provides structure and guidance to all first-year students. Furthermore, the FYE programme exposes students to an array of developmental opportunities for curriculum learning, student life and co-curricular activities (<http://www.wits.ac.za/prospective/studentsservices>).

In response to the lack of preparedness of first-year students, higher education institutions (as illustrated in the examples above) have developed interventions and programmes to meet the specific life-skill needs of first-year students and to ensure that first-year students adjust well to university life (Strydom, 2010). To be academically successful, students need to be able to meet the institution's requirements as well as adjust to the “norms” and “standards” of that community (Sommer, 2013). Therefore, it is essential to identify factors that affect students holistically. Areas of research that exist around first years are based on the students' experiences and challenges during their first year.

A study conducted by Tomsa et al. (2014) among Hispanic university students in the United States revealed that there is a moderate to high association between mental health and the adjustment of first-year students). Given the paucity of research in the area of first-year student adjustment and mental health concerns, this study aims to address this research gap in the context of South Africa's higher education. The study relies on retention rates as a determinant

of the extent of adjustment. International studies have found a positive impact of psychosocial interventions on addressing relevant psychological and social challenges. In light of the relationship between psychosocial interventions and first year adjustment, it is evident that South Africa needs more research to assist in making informed decisions around the improvement of successful adjustment of university students. Therefore, this study aims to focus on the following objectives to;

- 1) Assess the mental health and social adjustment of first-year university students as a baseline to the psychosocial intervention of first-year university students,
- 2) implement the psychosocial intervention for first-year university students,
- 3) Assess first-year students' mental health over multiple time series (4 series with a 2 week interval) and
- 4) Investigate the effect of the psycho-social interventions on the mental health and adjustment over the four interval time series.



Theoretical Framework

The theoretical bases of this study are designed to assess the impact of psychosocial developmental programmes on the mental health and adjustment of first-year students. Students in their first year are faced with numerous challenges that include not only their academics, but also their personal growth and self-identity. According to Long (2012), psychosocial theories describe the development and growth of students over their “student life span”. Furthermore, Long (2012) explains that student development practitioners often find it useful to apply psychosocial theories in situations which assist the students in clarifying their personal identity and developing a sense of independence. These psychosocial theories are

commonly used as a structure to guide engagements and dialogue around “identity, gender, race, ethnicity and sexual orientation (Long, 2012: 43).

The psychosocial theoretical framework for this study focuses on the seminal work of Arthur Chickering’s seven vectors of development. According to Chickering, universities and colleges is a place where students are “listening to find the truths and values at the heart of their own identities and clarifying the standards by which we will live our own lives” (as cited in Walker, 2008: 90). The foundations of Chickering’s seminal work can be traced to the author’s interest in education and identity. Chickering (1969) designed a development model, which describes the process of student development.

Chickering’s psychosocial development theory suggest seven dimensions or vectors which quintessential describes the development of university students (Zhang, 2008). Chickering’s theory has two foci points; physical appearance and sexual identity (Zhang, 2008). Chickering’s work can further be traced to the work of Erik Erikson (1963;1968). Instead of seven dimensions, Erikson’s work focuses on eight distinct psychosocial stages of development throughout human life (Torres, 2009; Schlukebier, 2013). Erik Erikson’s fifth stage of development, “Identity versus Role Confusion”, has a strong focus on the transition that adolescent’s experience (e.g., maturity of sexual organs). On the other hand, Chickering’s theory emphasises on how adolescents transition to a stage where they start asking typical introspective questions such as “Who am I?”, “What is my purpose in life?” etc. (Schlukebier, 2013).

The purpose of Chickering’s seven vectors is to demonstrate the interchangeable relationship between student development, and student experiences and the students’ environment. These experiences have a profound influence on the student’s holistic emotional, social, physical and intellectual development (Abiddin & Ismail, 2012). Chickering’s seven vectors are not “linear

but does propose a sequence” (Coombs, 2013: 14). Furthermore, Chickering also states that “vectors” and “stages” are different from each other. Although the vectors latch onto each other, they are not “mutually exclusive or unilineal” (Torres, et al. 2009: 33).

According to Schooler (2014), Chickering’s Theory of Identity is suitable for studying the development of different kinds of populations although certain changes may need to be considered for some of the vectors. Thus, after some adjustment to the vectors, Schooler (2014) applied Chickering’s theory to a group of Native American students. The author specifically made some changes to vectors “moving through autonomy toward interdependence and developing mature interpersonal relationships”. The argument was that the mentioned vectors do not “suit Native American students” since their culture emphasises on “interdependent relationships” from the early onset of life.

Driven by the passion for student development, Chickering conducted research in 1959 with an intent to provide an evidence based and informed psychosocial programmes and interventions to improve the quality of student development.

Method

This study uses a quantitative approach to determine the effects psychosocial interventions on the mental health and adjustment of first-year students. The study also utilises time series data. Time series is a process where data is collected at different time intervals/stages; the time lengths between the intervals can vary (Jebb et al., 2015). Further, the characteristics of data time analysis include predicting the behaviour of variables over different fields. Moreover, time series data can provide results of impact or effectiveness of an event (Jebb et al., 2015).

Participants

The participants selected using a convenient sampling method. The sample consisted of first time enrolled first-year students who were willing to participate in a voluntary psychosocial intervention and resided in university residences. The participants were a combination of both male and female students across all disciplines. The majority of the participants' ages ranged between 18 and 24 years old.

Measurements

The data collected used a survey questionnaire, and the demographic section of the survey recorded characteristics such as race, gender, age and language. In addition to the demographic characteristics, the survey also included section capturing:

Depression, Anxiety and Stress Scale (DASS)

The Depression, Anxiety and Stress Scale (DASS) was administered to assess depression, anxiety and stress levels of first-year students. DASS is widely used for non-clinical populations. This self-report assessment contains 21 items and is administered over five to ten minutes. Here are examples of items: *I felt like I was using a lot of nervous energy. I could not seem to experience any positive experience at all; I found it difficult to work up the initiative to do things, I found it difficult to work up the initiative to do things.* These questions are answered by using the following rating scale: 0 did not apply to me at all. 1 Applied to me to some degree or some of the time. 2 Applied to me to a considerable degree, or a good part of time. 3 Applied to me very much, or most of the time. Mahmoud et.al (2010), explains that the Cronbach's alphas before the factor analysis were, 0.90 for Depression, 0.83 for Anxiety, 0.86 for stress.

Social Adjustment Scale (SAS)

The Social Adjustment Scale is a questionnaire based on a behaviour and practiced habits over a period of two weeks. The Social Adjustment Scale has been widely used for individuals to assess their life satisfaction (Wissman & Bothwell, 1976). This scale measures overall social adjustment and an individual's life satisfaction. For the purpose of this study, 3 sections of the Social Adjustment Scale has been applied, namely: Social and Leisure activities, Extended Family and Family Unit. The Cronbach's alpha subscales ranged from 0.58 to 0.78. There have been significant correlations with health-related quality of life (Gameroff et al., 2012). The social and leisure role ranged between 0.77 and 0.78; the extended family role: 0.79 and 0.83 (Gameroff et al., 2012).

Procedure

Questionnaires administered over a five-time series during the first semester of the student's first year. Students, who have regularly attended over the course of the data collection periods, were required to complete the questionnaire every two weeks. Participants were informed that the questionnaire could be sensitive and may evoke some emotions. They were informed that as a participant they were at liberty to withdraw if they were uncomfortable with answering the questions.

The specific programme for the purpose of this study focused on an adjustment series, called the First Years First programme. FYF is an adjustment series designed to support all first-year students throughout their first year of university life. The FYF programmes has been specifically designed to support and assist students with their transition. The programme runs over the course of the year and consists of four key themes based on Chickering's theory, which contain programmes with specific foci on adjusting to university life and how to access and promote growth on a personal and interpersonal level. Programmes are aimed at addressing

student challenges and are implemented using educational, yet exciting and fun methods. These include the use of arts and crafts, painting, physical activities, socials and talk-shops. The programme provides first-year students with opportunities for development and building strong peer support structures with others who share common interests. The enrichment activities very importantly also, are designed in a way where fostering a sense of community among UWC residence students is pivotal.

The FYF Programme aims to:

1. Create a sense of vibrancy and peer support across the student housing community,
2. Establish peer support structures so that first-year students can develop friendships that are deep and meaningful, facilitate the first year student with their personal journey in self-discovery and purpose,
3. Build capacity so that first year student who join the programme may become change agents within the residence community and larger society they access opportunities that contribute to developing the holistically and to provide first years with learning opportunities that broaden their career visions.

Data Analysis

According to (Evangelos et.al; 2015) the interrupted time series analysis method has proven to be a valuable quasi-experimental design. Furthermore, the interrupted time series is an analysis that tests for a change in an outcome over a set period of intervals (Penfold and Zhang, 2013). In the current study, data was collected weekly over a period of five weeks. The collected data was then transformed into SPSS (Statistical Package for Social Sciences) format. The study then uses descriptive and inferential statistics to analyse and interpret the data. The descriptive statistics include a review of the means, percentages and standard deviations.

Results

This section presents the results from the Depression, Anxiety and Stress Scale and the Social Adjustment Scale scoring.

Demographic Profile

Table 1 illustrates the demographic information of the 31 research participants in this study who resided in the university residence in South Africa, Cape Town.

Table 1: Demographic profile of participants

Variables		Total Sample
Gender	Male	35.2%
	Female	61.3%
Race	Coloured	19.4%
	Black	80.6%
Language	English	19.4%
	Afrikaans	12.9%
	IsiXhosa	38.7%
	Other	29%
Area	Urban	26.1%
	Rural	73.9%
First Generation Student	Yes	58.1%
	No	35.5%

The demographic profile indicates that majority of the students who participated in this study were from rural areas ($n = 23$; 73.9%), Black ($n = 25$; 80.6%), female ($n = 19$; 61.3%), spoke IsiXhosa ($n = 12$; 38.7%) and were the first family member to study at university (first generation student) ($n = 18$; 58.1%).

The mental health of the students was measured with the DASS. Lovibond and Lovibond (1995) recommended cut-off scores for the severity rating scales. These are described in the following table to put the subsequent results of this study into perspective.

DASS-21 Cut-Off scores

Interpretation	Depression (D)	Anxiety (A)	Stress (S)
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28	20	34

Table 2: Mental Health (Depression, Anxiety and Stress scores over Time Series)

Item	Time Series 1		Time Series 2		Time Series 3		Time Series 4		Time Series 5	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Depression	0.81	0.78	0.76	0.70	0.75	0.67	0.60	0.56	0.82	0.61
Anxiety	0.87	0.76	0.81	0.64	0.69	0.63	0.51	0.55	0.98	0.62
Stress	0.88	0.66	0.87	0.69	0.75	0.55	0.62	0.58	0.94	0.59

Table 3: Representation of scores over the research time series:

The scores indicate that participants who have scores of beyond 9 would range within the *normal* category and therefore who be less likely to have clinical depression. Those who reports the scores between 10 and 13 are *mildly* depressed, participants who score in the range 14-20 are *moderately* depressed, 21-27 have *severe* clinical depression and 28 and above would be most likely to have *extremely severe* depression.

In the same way, DASS-21 has cut-off scores for anxiety and stress. The cut-off scores for anxiety – 0-7 = *normal* and will less likely have clinical anxiety; scores between 8-9 = *mild* anxiety, these participants are likely to experience the onset of anxiety, scores between 10-14 = *moderate* anxiety; scores between 15-19 will most likely have *severe* anxiety, scores ranging between 20 or more will be considered to have extreme levels of anxiety.

Lastly, the cut-off scores for stress according to the DASS-21, 0-14 = *normal*; less likely have stress, 15-18 = *mild* stress; likely to experience stress, 19-25 = *moderate* stress, 26-33; most likely to have *severe* stress and 34 and above; more to have extreme levels of stress.

Table 2 illustrates the mean (M) and standard deviation (SD) statistics of mental health over an interrupted time series. Using ANOVA, the study tests whether there are significant differences stress over Times 1 to 5 using Bonferroni Correction ($p = .05/4 = .01$). The results suggest a significant difference in stress scores between Time 1 and Time 2 with an *F*-statistic (14, 16) = 6.99 and $p = .00$. However, there is no significant difference between Time 1 and Time 3 ($F(9, 21) = 2.33, p = .05$), as well as for Time 4 ($F(11, 19) = 1.60, p = .18$) and Time 5 ($F(11, 11) = 3.31, p = .03$). The significant differences for Anxiety were tested using ANOVA. The results suggest no significant difference between Time 1 and Time 2, $F(12, 17) = 1.80, p = .13$, similarly between Times 1 and 3, $F(11, 18) = 1.72, p = .15$, Times 1 and 4, $F(10, 18) = .25, p = .99$, as well as Times 1 and 5, $F(10, 11) = .80, p = .64$. The results suggest that no

significant differences were found in Depression between Times 1 and 2, $F(13, 17), p = .03$, Times 1 and 3, $F(13, 17) = 2.97, p = .02$, Times 1 and 4, $F(10, 20) = 1.55, p = .20$, as well as for Times 1 and 5, $F(11, 10) = 2.19, p = .11$.

Table 4: Social Adjustment Scale (SAS) Results

	Time Series 1		Time Series 2		Time Series 3		Time Series 4		Time Series 5	
Item	M	SD	M	SD	M	SD	M	SD	M	SD
Extended Family	3.41	0.69	2.55	0.65	2.54	0.70	3.61	0.62	3.32	0.57
Social/Leisure	2.67	0.55	2.56	.69	2.57	0.53	3.52	0.72	3.36	0.59

Table 4 analyses the results of the Social Adjustment Scale (SAS) over an interrupted time series. When examining levels of Social and Leisure Activities using ANOVA, the results suggest significant differences between Times 1 and 2, $F(19, 11) = 11.92, p = .00$. However, no significant differences were found between Times 1 and 3, $F(17, 12) = 1.30, p = .33$, Times 1 and 4, $F(13, 15) = .83, p = .63$, as well as between Times 1 and 5, $F(13, 10) = .36, p = .96$. The Extended Family suggested no significant differences in the results between Times 1 and 2, $F(13, 10) = .73, p = .71$, Times 1 and 3, $F(12, 7) = 3.56, p = .05$, Times 1 and 4, $F(12, 8) = 2.28, p = .13$, as well as between Times 1 and 5, $F(9, 8) = 1.61, p = .26$.

Discussion

The aim of this study is to assess the effect of psychosocial interventions on the adjustment and mental health of first-year students. In this study, the first step is to evaluate the prevalence of mental health concerns among first-year students. The results from the sample indicate that

majority of the students are less likely to be experiencing severe mental health concerns. These results are in sharp contrast to the alarming statistics of mental health issues reported in recent studies. For instance, a study for undergraduate students in Hong Kong by Wong et al. (2009) indicated that the levels of depression, anxiety and stress were moderately severe, with 21%, 41% and 27% of the respondents indicated to have experienced these issues respectively. Shamsuddin et al. (2013) conducted a similar study at a university in Malaysia. The author focused on assessing the correlation between levels of depression, anxiety, and stress and socio-demographic factors. The results showed the prevalence of mental health issues to be ranging from moderate to severe; review of past studies depression - 2013 has compared this study among Turkish students, the prevalence levels were different, depression – 27.1%; anxiety 47.1% and stress 27.0% - these research findings supports the hypothesis that depression, anxiety and stress are prevalent among university students and that mental health care is an increasing demand.

According to a study conducted by Dachew et al. (2015), the prevalence of mental distress among African students was 40.9% and this prevalence was lower than that of American students (57%). Although there have been no significant results in the present study and students mental health, the findings in this study indicate a trifling improvement in the depression scores (although the score remains less than the cut-off score of 0.9 – which is considered as *normal* in relation to the cut-off scores). The baseline results during the first time series indicates a mean score of 0.81 and for time series two data, which was collected two weeks post the baseline assessment, a mean score of 0.66. The mean score continued to decrease in all the other subsequent two-time series and then suddenly increased after. The sudden increase is likely to be linked to students' apprehension towards their first semester examinations.

Conclusion

For anxiety, the results seem to show the prevalence of mild anxiety, thus, this can be interpreted as students are experiencing a clinical anxiety disorder. These results are in line with Hunt and Eisbenberg (2010) who found that anxiety symptoms were common among undergraduate students than that of the greater population. They also noted the high vulnerability of students who live in poor socio-economic environments to developing anxiety disorders. Post psychosocial intervention attendance, the results indicates a noticeable decline in the mean scores. The scores declined from a high of 0.78 in the baseline sample to 0.52 by the fourth time series and then a similar sudden spike as under depression. Similar to the reasons raised above, this spike in anxiety could be due to examination apprehension. The downward trending interval might be suggesting that psychosocial interventions have helped students to cope with their anxiety. Although the results suggests correlation, it is difficult to infer causation because the decline in anxiety levels could be due to other possible contributing factors. One example of these other contributing factors could be the role of family. The participants in this study indicated their strong need to rely on their extended family structure. In relation to the social adjustment instrument, the results show how participants are family-orientated and depend on their family for support. This behaviour could be reflecting socio-cultural beliefs of collectivism within the sample community.

Many studies have indicated that university students are faced with many forms of psychosocial issues. As a result, these issues have a major influence on the day-to-day functioning of students – which inevitably increases the potential development of mental health problems. The increasing interest in research on psychosocial interventions has alluded that there are significant improvements on the student adjustment during their first year. The findings of this article support the notion of how pivotal to the adjustment and overall well-being of university students. Although there has been research based on the impact of psychosocial interventions within the medical treatment implementation. Research shows that there needs to be more

research focused on the impact of psychosocial interventions, academic support, and other student developmental programmes.



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CHAPTER FIVE

DISCUSSION

5.1 Introduction

The purpose of this study is to assess the impact of psychosocial interventions on the social adjustment and mental health of first-year students. The results of this quantitative study are explored in line with the student development theory. Specifically, the results are explained within the context of Chickering's Student Development theory.

5.2 The Prevalence of First-year Students Mental Health

The first objective is to assess the prevalence of mental health problems and social adjustment of first-year students as a baseline to a psychosocial intervention. The results show that the majority of the first-year participants reported a significant difference in both levels of anxiety and stress. There has been no significant results found in the depression levels when assessed with the DASS-21 self-report measure.

Consistent with other studies (Shamsuddin et al., 2013; Mustafa et al., 2015; Priyadarshini and Ansari, 2016) that focused on mental health issues and social adjustment among first-year students, the first year student experience shows has a substantial increase in the levels of anxiety and stress. It can be assumed that these anxieties and stressors are triggered by typical influencing factors like adjusting to a new environment, academic pressure, the need to develop and maintain interpersonal relationships and developing a sense of autonomy and personal identity (Saleem and Mahood, 2013). Geisner et al., 2012 assert that it is not surprising that first-year students would experience apprehension and perhaps they are likely to be confused throughout their transition to university life.

As mentioned in Chapter 2, some studies (Berhardsdottir and Vilhajalmsson, 2012; Polanczyk et al., 2015) revealed that students' psychological distress (i.e., anger, anxiety and stress) scores are substantially higher than the general young adult population. The current study suggests that students who have enrolled in their first year of study do experience anxiety and stress, especially during the early weeks of their enrolment. As can be expected, one has to consider that academic pressures are not solely the main contributor to students' distress. Student triggers also include familial, financial and a variety of other stressful situations (Long, 2012; Sommer, 2013). In light of this being said, student development practitioners find it useful in applying psychosocial theories to guide and assist students with their adjustment process – these theories often help students clarify their personal identity within their new spaces, as well as developing a sense of independence (Long, 2012). Chickering's model of Student Development has a consequential impact on the student's emotional, social, physical and intellectual development as a holistic person (Abiddin and Ismail, 2012).

5.3 the Impact of Psychosocial Intervention

Chapter one posited that psychosocial intervention programmes improves the mental health and adjustment of first-year students. The results dominantly show that psychosocial intervention programmes had a positive effect over the interrupted time series. It can be argued that the first year's depression (although not significantly), anxiety and stress levels were reduced by attending a psychosocial intervention.

Based on the evidence provided in this study, the results point towards suggesting that the psychosocial intervention had a positive effect on the mental health and adjustment of first-year students. This research paper attempts to apply Chickering's theory in relation with the participants' developmental process. Chickering indicated that a typical first-year undergraduate student would experience the first three vectors namely; *Vector one- Developing*

Competence, Vector 2 – Managing Emotions and Vector 3 – Moving through autonomy to independence. On logical grounds, there is no compelling reason to argue that perhaps students who experienced these phases; vectors one through to three, have started the process of pursuing the outcome indicators of these vectors. As mentioned in Chapter 2, these vectors could occur simultaneously and do not necessarily follow a linear motion (Goldman, 2016). Mastering or achieving the outcome of the expected skills associated with the mentioned vectors could demonstrate the improvement of students' mental health and adjustment in their first year. The first three vectors of Chickering's theory focus on self-identity and attainment of independency. The basis is that uncertainty about "who you are" can naturally be a stressful experience.

The data gathered in this study suggest that the first years who have participated in the psychosocial interventions demonstrated a positive change over time. These findings are consistent with Forsman (2011), correspondingly indicated that psychosocial interventions have a positive effect on the quality of life and positive mental health. Other studies (Scholte et al., 2011; Da Silva et al., 2013; Brown et al., 2016) presented evidence based on eleven depression trials and the results indicated a moderate and positive effect of psychosocial interventions on social functioning. The studies also showed a significant positive effect on participants.

The results could be indicating that the psychosocial intervention have been one of the contributing factors that have been helping to mitigating problems of mental health and social adjustment among first-year students. Herr and Kurtz (2016) supports the idea that the relationship between psychosocial interventions and student development is evident. The interrupted time series over the five different data collection periods provided the opportunity to monitor the impact of the psychosocial intervention. Although the results show a significant

spike in the last data collection session – this can be seemingly explained by the student’s apprehension toward the final semester examinations. As a result, this further proves the reality of student stress and anxiety experiences pre-examinations.

University Adjustment and Family Support

The findings of this study have indicated that first year students heavily rely on their extended family for support. Over the time series, it is evident that this need has declined over the period. This could be an indicator that students are still dependent on their familial support. Results have indicated that the first-year students have adjusted well, with the support of their family. Likewise, Awang et al. (2016) indicates that students who receive support from their family are most likely to be successful at university. Furthermore, Sledge (2012) has concluded that family involvement throughout the students’ higher education increases the persistence and students resolve in social responsibility.

In contrast to the study’s findings and similar evidence in other studies, Heiss’ stress theory suggests that psychological distress of parental separation causes students to underperform (Sledge, 2012). Moreover, data gathered in this study has indicated that majority of the students are first-generation students. In light of this being said, the lack of family support is another concern to the adjustment of first-year students. Further, parents who do not have higher education experience may not understand the challenges accompanied with university life – this would inevitably contribute to the insufficient emotional support and limited understanding of the students’ pressures (Falcon, 2015). In Yazedjian and Toews (2010) research findings, it was concluded that parental support is pertinent to helping students in their transition to higher education. They further highlight the fact that if there is a lack of support it may hinder the students’ adjustment.

5.4 Limitations to the study

The most constraining limitation to this study was the problem of attrition of participants over the time series. It was difficult to keep students interested in completing the same survey over the course of five weeks. Although there was an initial group of 50 students who had agreed to participate in this study, only 31 participants' data were found to be valid. Another limitation was the quality of student responses; some students would just answer questions because of time and would not carefully think about survey questions. Although, the results found similar evidence to current literature, the sample study was not large enough to be able to generalise the results to the first-year student population. In addition to the limitations, considering that the data collected was based on a self-report instrument, the participants could have answered questions according to what they thought were more appropriate and this introduces some problems of biases in the data. Another aspect that may be viewed as a limitation could also include the quality of the students' data; participants seemed to have completed the survey rushed and seemed to have lost interest in completing the same questionnaire five times. This approach would have shown if the psychosocial intervention was the contributing factor in improving students' mental health and social adjustment.

5.5 Recommendations

There is a need for more research in the area of mental health among youth, especially among students in higher education. As it stands, it seems there is no concrete statistics, which are addressing the mental health concerns within this context. Furthermore, there also seems to be paucity in areas of first-year adjustment in South Africa, thus, further research in this area is needed. Based on global research and findings reported in this study, the results suggest that student development practitioners should consider exploring these avenues. To improve the

authenticity of the results, perhaps, the study could have a comparative group of students who did not attend the psychosocial intervention as a control group. Higher education settings also need to equip themselves with the necessary skills and resources to create a supportive environment for first-year students. South African higher education institutions need to provide mental health policies, which accommodate the needs of the evident mental health concerns. Further research is also required in evaluating the relationship between mental health concerns and dropout rates in the South African context.

5.6 Conclusion

There has been a clear link between students' mental health and adjustment among first-year students. The data gathered in this study has corresponded with current research and suggests that the hypothesis of this study has been confirmed. Although the limitations mentioned suggests that perhaps the sample is not large enough to generalise the student population. The results further indicate that the first years have adjusted well to their first year of university. Moreover, one has to acknowledge the influence of family involvement, social activities and psychosocial interventions in the adjustment of first-year students.

Reference List

- Abiddin, N. Z., & Ismail, A. (2012). Exploring student development theory in enhancing learning through supervision. *International Journal of Academic Research in Progressive Education and Development*, 1(1), 213-223.
- Aktekin, M., Karaman, T., Senol, Y. Y., Erdem, S., Erengin, H., & Akaydin, M. (2001). Anxiety, depression and stressful life events among medical students: A prospective study in antalya, turkey. *Medical Education*, 35(1), 12-17.
- Al-Khatib, B. A., Awamleh, H. S., & Samawi, F. S. (2012). Student's adjustment to college life at albalqa applied university. *American International Journal of Contemporary Research*, 11(2), 8-16.
- Au, J. (2011). A Longitudinal Study Examining the Role of Social Connectedness in the Course of Depressive Symptoms: An Evaluation of Transfer and Freshman Students.
- Awang, M. M., Kutty, F. M., & Ahmad, A. R. (2014). Perceived social support and wellbeing: First-year student experience in university. *International Education Studies*, 7(13), 261.
- Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology*, 43(8), 667-672.
- Bazeley, P. (2009). Analysing qualitative data: More than 'identifying themes'. *Malaysian Journal of Qualitative Research*, 2(2), 6-22.
- Bernard, H.R. (2000). *Social Research Methods: Qualitative & Quantitative Approaches*. Sage Publications: Thousand Oaks.
- Bernhardsdóttir, J., & Vilhjálmsón, R. (2013). Psychological distress among university female students and their need for mental health services. *Journal of Psychiatric and Mental Health Nursing*, 20(8), 672-678.
- Bharathi, A., & Natarajan, A. (2010). Cancer classification of bioinformatics data using ANOVA. *International Journal of Computer Theory and Engineering*, 2(3), 369.
- Booth, S. M., & Matthews, R. A. (2012). Family-supportive organization perceptions: Validation of an abbreviated measure and theory extension. *Journal of Occupational Health Psychology*, 17(1), 41-51.
- Briggs, A. R., Morrison, M., & Coleman, M. (2012). *Research methods in educational leadership and management*. Sage Publications.
- Brown, A., Creswell, C., Barker, C., Butler, S., Cooper, P., Hobbs, C., & Thirlwall, K. (2017). Guided parent-delivered cognitive behaviour therapy for children with anxiety disorders: Outcomes at 3- to 5-year follow-up. *The British Journal of Clinical Psychology*, doi:10.1111/bjc.12127 [doi]

- Buchstaller, I., & Khattab, G. (2013). Population samples. *Research methods in linguistics*, 74-95.
- Centers for Disease Control and Prevention. (2012). CDC, 2011. *Active Bacterial Core Surveillance Report, Emerging Infections Program Network, Methicillin-Resistant Staphylococcus aureus*.
- Chan, L. M., & Salaba, A. (2015). *Cataloging and classification: an introduction*. Rowman & Littlefield.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity. The jossey-bass higher and adult education series*.
- Cliniciu, A. I. (2013). Adaptation and stress for the first-year university students. *Procedia-Social and Behavioral Sciences*, 78, 718-722.
- Coombs, N., Shelton, N., Rowlands, A., & Stamatakis, E. (2013). Children and adolescents' sedentary behaviour in relation to socioeconomic position. *Journal of epidemiology and community health*, 67(10), 868-874.
- Creswell, J. W., & Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of traumatic stress*, 22(6), 612-621.
- Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative and Mixed methods Approach*. (2nd ed). California: Sage Publications
- Da Silva, R. A., Bilodeau, M., Parreira, R. B., Teixeira, D. C., & Amorim, C. F. (2013). Age-related differences in time-limit performance and force platform-based balance measures during one-leg stance. *Journal of Electromyography and Kinesiology*, 23(3), 634-639.
- Dachew, B. A., Fekadu, A., Kisi, T., Yigzaw, N., & Bisetegn, T. A. (2015). Psychological distress and associated factors among prisoners in north west Ethiopia: Cross-sectional study. *International Journal of Mental Health Systems*.
- De Larrosa, L. L., & Butner, B. (2000). Chickering's seven vectors of student development explained. *Partial Fulfillment of the Requirements for the MC Nair Scholars Program, Faculty Advisor: Dr. Butner, B. May, 5*.
- De León, M., & Rodrigues, P. R. (2011). *Methods of differential geometry in analytical mechanics* (Vol. 158). Elsevier.
- Douglass, L., & Islam, M., Rabul. (2006). Emotional wellbeing of first-year university students: Critical for determining future academic success. *School Social Sciences & Liberal Studies- Charles Sturt University*,
- Ely, M. & Anzul, M. 1991. *Doing qualitative research: circles within circles*. London: Falmer.

Evans, C., & Stevenson, K. (2010). The learning experiences of international doctoral students with particular reference to nursing students: A literature review. *International Journal of Nursing Studies*, 47(2), 239-250.

Falcon, L. (2015). Breaking down barriers: First-generation college students and college success. *Innovation*, 10(6).

Filson, C., & Whittington, M. S. (2013). Engaging undergraduate students through academic advising. *NACTA Journal*, 57(4).

Flatt, S. (2016). Why it is time to ditch the ‘therapeutic relationship’ mental health nurses should forge partnerships with patients, says Steve Flatt. *Nursing Standard*, 31(2), 29-29.

Forsman, A. K., Schierenbeck, I., & Wahlbeck, K. (2011). Psychosocial interventions for the prevention of depression in older adults: Systematic review and meta-analysis. *Journal of Aging and Health*, 23(3), 387-416.

Gallagher, R.P. (2010). *National Survey of Counselling Center Directors*. University of Pittsburgh: The International Association of Counseling Services.

Gameroff, M. J., Wickramaratne, P., & Weissman, M. M. (2012). Testing the short and screener versions of the social adjustment Scale–Self-report (SAS-SR). *International Journal of Methods in Psychiatric Research*, 21(1), 52-65.

Gan, Y., Zheng, W., & Wen, Y. (2014). The sequential model of future-oriented coping and adjustment to university life: The role of attitudes as further evidence. *The Psychological Record*, 64(1), 13-20.

Gardner, J. N., Upcraft, M. L., & Barefoot, B. O. (2005). Eds Challenging and supporting the first year student: A handbook for improving the first year of college.

Geisner, I. M., Mallett, K., & Kilmer, J. R. (2012). An examination of depressive symptoms and drinking patterns in first year college students. *Issues in mental health nursing*, 33(5), 280-287.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-606.

Goldberg, H. L., & Finnerty, R. J. (1979). The comparative efficacy of buspirone and diazepam in the treatment of anxiety. *The American journal of psychiatry*.

Goldman, E., Stamler, J., Kleinman, K., Kerner, S., & Lewis, O. (2016). Child mental health: Recent developments with respect to risk, resilience, and interventions. *Health promotion for children and adolescents* (pp. 99-123) Springer.

Hall, M., & Symes, A. (2005). South African higher education in the first decade of democracy: From cooperative governance to conditional autonomy. *Studies in Higher Education*, 30(2), 199-212.

Harvey, L., & Stensaker, B. (2006). Old wine in new bottles? A comparison of public and private accreditation schemes in higher education. *Higher Education Policy*, 19(1), 65-85.

Hawley, P. H., & Williford, A. (2015). Articulating the theory of bullying intervention programs: Views from social psychology, social work, and organizational science. *Journal of Applied Developmental Psychology*, 37, 3-15.

Henriques-Calado, J., Duarte-Silva, M. E., Junqueira, D., Sacoto, C., & Keong, A. M. (2014). Five-factor model personality domains in the prediction of axis II personality disorders: An exploratory study in late adulthood women non-clinical sample. *Personality and Mental Health*, 8(2), 115-127.

Herr, L., & Kurtz, H. (2016). A systematic review: Effects of psychosocial interventions on outcomes in refugee adolescents resettled in the US, Canada, and the UK.

Hofmann, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioural therapy: A review of meta-analyses. *Cognitive Therapy and Research*, 36(5), 427-440.

Hohmann, U. (2006). Quantitative methods in education research. Retrieved May, 18, 2013.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behaviour among college students. *Journal of Adolescent Health*, 46(1), 3-10.

Huppert, F. A., & Cooper, C. L. (2014). *Wellbeing: A complete reference guide, interventions and policies to enhance wellbeing* John Wiley & Sons.

Hussain, M. A., Monaghan, J., & Threlfall, J. (2013). Teacher-student development in mathematics classrooms: Interrelated zones of free movement and promoted actions. *Educational Studies in Mathematics*, 82(2), 285-302. E

Jacobs, M., & Jacobs, G. J. (2014). Role perceptions of science academics who teach to first-year students the influence of gender. *Journal of Institutional Research*, 19(1), 33-45.

Jacobs, M., & Pretorius, E. (2016). First-year seminar intervention: Enhancing first year mathematics performance at the University of Johannesburg. *Journal of Student Affairs in Africa*, 4(1), 77-86.

Jebb, A. T., Tay, L., Wang, W., & Huang, Q. (2015). Time series analysis for psychological research: Examining and forecasting change. *Frontiers in Psychology*, 6

Kolkhorst, B., Yazedjian, A., & Toews, M. (2010). A longitudinal examination of parental attachment, college adjustment, and academic achievement. *Journal of the First-Year Experience & Students in World Health Organization, & World Health Organization. Management of Substance Abuse Unit. (2014). Global status report on alcohol and health, 2014. World Health Organization. Transition*, 22(1), 9-25.

Larkin, G. L., Beautrais, A. L., Spirito, A., Kirrane, B. M., Lippmann, M. J., & Milzman, D. P. (2009). Mental health and emergency medicine: A research agenda. *Academic Emergency Medicine*, 16(11), 1110-1119.

Leibowitz, B., Van der Merwe, A., & Van Schalkwyk, S. (2009). *Focus on first-year success* AFRICAN SUN MeDIA.

Long, D. (2012). Theories and models of student development.

Lowe, G. A., Lipps, G. E., & Young, R. (2009). Factors associated with depression in students at the university of the west indies, mona, jamaica. *The West Indian Medical Journal*, 58(1), 21-27.

Lucas, M. S., & Berkel, L. A. (2005). Counseling needs of students who seek help at a university counselling center: A closer look at gender and multicultural issues. *Journal of College Student Development*, 46(3), 251-266.

Management of Substance Abuse Unit (2014). *Global status report on alcohol and health, 2014*. World Health Organization. *Transition*, 22(1), 9-25.

Martin, J. M. (2010). Stigma and student mental health in higher education. *Higher Education Research & Development*, 29(3), 259-274.

McAleavey, A. A., Lockard, A. J., Castonguay, L. G., Hayes, J. A., & Locke, B. D. (2015). Building a practice research network: Obstacles faced and lessons learned at the Center for Collegiate Mental Health. *Psychotherapy Research*, 25(1), 134-151.

Merriam, S. B. (2005). How adult life transitions foster learning and development. *New directions for adult and continuing education*, 2005(108), 3-13.

Michie, P. T., Innes-Brown, H., Todd, J., & Jablensky, A. V. (2002). Duration mismatch negativity in biological relatives of patients with schizophrenia spectrum disorders. *Biological Psychiatry*, 52(7), 749-758.

Mistler, B. J., Reetz, D. R., Krylowicz, B., & Barr, V. (2012). The association for university and college counselling center directors annual survey. Retrieved from Association for University and College Counseling Center Directors Website: http://files.Cmcglobal.com/Monograph_2012_AUCCCD_Public.Pdf.

Morris, T. (2006). *Social Work Research Methods: Four Alternative Paradigms*. Thousand Oaks, CA: Sage Publications

Mosek, A., & Ben-Oz, M. (2011). Baccalaureate social work education: A developmental perspective. *Journal of Teaching in Social Work*, 31(1), 89-109.

Mudhovozi, P. (2012). Social and academic adjustment of first-year university students. *Journal of Social Science*, 33(2), 251-259.

- Mundt, J. C., Marks, I. M., Shear, M. K., & Greist, J. M. (2002). The Work and Social Adjustment Scale: a simple measure of impairment in functioning. *The British Journal of Psychiatry*, 180(5), 461-464.
- Murray, M. (2014). Factors affecting graduation and student dropout rates at the university of KwaZulu-natal. *South African Journal of Science*, 110(11-12), 01-06.
- Mustafa, M. S., Rasotgi, V., Jain, S., & Gupta, V. (2015). Discovery of fifth serotype of dengue virus (DENV-5): A new public health dilemma in dengue control. *Medical Journal Armed Forces India*, 71(1), 67-70.
- Patton, L. D., Renn, K. A., Guido, F. M., Quaye, S. J., & Forney, D. S. (2016). *Student development in college: Theory, research, and practice* John Wiley & Sons.
- Payne, B. K., & Monk-Turner, E. (2006). STUDENTS' PERCEPTIONS OF GROUP PROJECTS: THE ROLE OF RACE, AGE, AND SLACKING. *College Student Journal*, 40(1).
- Peat, M., Dalziel, J., & Grant, M. (2001). Enhancing the first year student experience by facilitating the development of peer networks through a one-day workshop. *Yale University School of Medicine*, 20, 199-215.
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry*, 39(5), 503-511.
- Penfold, R. B., & Zhang, F. (2013). Use of interrupted time series analysis in evaluating health care quality improvements. *Academic pediatrics*, 13(6), S38-S44.
- Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345-365.
- Pouris, A. E., & Pouris, A. (2015). An assessment of South Africa's research journals: impact factors, Eigenfactors and structure of editorial boards. *South African Journal of Science*, 111(3-4), 26-33.
- Redmond, P. (2014). Reflection as an indicator of cognitive presence. *E-Learning and Digital Media*, 11(1), 46-58.
- Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of affective disorders*, 148(1), 1-11.
- Robotham, D & Julian, C (2006). Stress and the Higher Education student: A critical review of the literature, *Journal of Further and Higher Education*, vol30 (2), pp. 107-117.
- Rosnow, R.L & Rosenthal, 2002). *Beginning behavioural research: A conceptual primer*. (4th Ed.). New Jersey: Pearson Education.

- Saleem, S., Mahmood, Z., & Subhan, S. (2015). Perceived parental practices and mental health problems: Cross-cultural validation of EMBU-C on Pakistani adolescents. *FWU Journal of Social Sciences*, 9(1), 44.
- Schluckebier, M. E. (2013). Dreams worth pursuing: How college students develop and articulate their purpose in life.
- Scholte, W. F., Verduin, F., Kamperman, A. M., Rutayisire, T., Zwinderman, A. H., & Stronks, K. (2011). The effect on mental health of a large-scale psychosocial intervention for survivors of mass violence: a quasi-experimental study in Rwanda. *PLoS One*, 6(8), e21819.
- Schooler, S. D. (2014). Native American college student transition theory. *College Student Affairs Leadership*, 1(1), 1.
- Schreiber, B., Luescher, T. M., & Moja, T. (2010). The first-year experience, student transitions and institutional transformation.
- Sevinc, S., & Gizir, C. A. (2014). Factors negatively affecting university adjustment from the views of first-year university students: The case of Mersin university. *Educational Sciences: Theory and Practice*, 14(4), 1301-1308.
- Shamsuddin, K., Fadzil, F., Ismail, W. S. W., Shah, S. A., Omar, K., Muhammad, N. A., Mahadevan, R. (2013). Correlates of depression, anxiety and stress among Malaysian university students. *Asian Journal of Psychiatry*, 6(4), 318-323.
- Shanti, T. I., Janssens, J., & Setiadi, B. (2016). University support, motivation to learn, emotional adjustment, and academic performance. *Asian Journal of Basic and Applied Sciences Vol*, 3(1)
- Sharma, B. (2012). Adjustment and emotional maturity among first-year college students. *Pakistan Journal of Social and Clinical Psychology*, 9(3), 32-37.
- Simon, M. K., & Goes, J. (2011). Correlational research.
- Sledge, L. (2012). Get your education: Family support for African-American college students. *McNair Scholars Research Journal*, 4(1), 6.
- Sommer, A. (2013). *Crossing the boundaries of mind and body. Psychical research and the origins of modern psychology* (Doctoral dissertation, UCL (University College London)).
- Stebleton, M. J., Soria, K. M., & Huesman, R. L. (2014). First-Generation students' sense of belonging, mental health, and use of counselling services at public research universities. *Journal of College Counseling*, 17(1), 6-20.
- Steyn, M. G., Harris, T., & Hartell, C. G. (2014). Institutional factors that affect black south African students' perceptions of early childhood teacher education. *South African Journal of Education*, 34(3), 01-07.

Strydom, J., Mentz, M., & Kuh, G. (2010). Enhancing success in higher education by measuring student engagement in south Africa. *Acta Academica*, 42(1), 259-278. *The American Journal of Psychology*, 255-271.

Sukamolson, S. (2007). Fundamentals of quantitative research. *Bangkok: EJTR*.

The Department of Higher Education and Training. (2013). Statistics on post-school education and training in South Africa: 2011.

Tomsa, R., Ortiz, V., Sedano, J., & Jenaro, C. (2014). Mental health of first-year college students from the psychoanalytic approach of councillor. *Procedia - Social and Behavioral Sciences*, 127, 621-625. doi: <http://dx.doi.org/10.1016/j.sbspro.2014.03.323>

Torres, V., Jones, S. R., & Renn, K. A. (2009). Identity development theories in student affairs: Origins, current status, and new approaches. *Journal of College Student Development*, 50(6), 577-596.

Toury, G. (2012). *Descriptive Translation Studies and beyond: Revised edition* (Vol. 100). John Benjamins Publishing.

Van Teijlingen, E. R., Rennie, A. M., Hundley, V., & Graham, W. (2001). The importance of conducting and reporting pilot studies: the example of the Scottish Births Survey. *Journal of advanced nursing*, 34(3), 289-295.

VanderVeen, K. M. (2013). Psychosocial development of students with autism spectrum disorder in higher education.

Velicer, W. F., & Fava, J. L. (2003). Time series analysis. *Handbook of psychology*.

Visser, P. S., Krosnick, J. A., & Lavrakas, P. J. (2000). Survey research.

Vitasari, P., Wahab, M. N. A., Othman, A., Herawan, T., & Sinnadurai, S. K. (2010). The relationship between study anxiety and academic performance among engineering students. *Procedia-Social and Behavioral Sciences*, 8, 490-497.

Walker, M. (2008). Working with college students & student development theory primer. Retrieved from the University of North Carolina Wilmington Student Affairs Professional Development Committee: [Http://uncw.edu/studentaffairs/pdc/documents/StudentDevelopmentTheorybyM.Walker.Pdf](http://uncw.edu/studentaffairs/pdc/documents/StudentDevelopmentTheorybyM.Walker.Pdf),

Ward, K. (2003). *Faculty Service Roles and the Scholarship of Engagement*. ASHE-ERIC Higher Education Report. Jossey-Bass Higher and Adult Education Series. Jossey-Bass, 989 Market Street, San Francisco, CA 94103-1741.

Wong, Y. J., Rew, L., & Slaikeu, K. D. (2006). A systematic review of recent research on adolescent religiosity/spirituality and mental health. *Issues in Mental Health Nursing*, 27(2), 161-183.

Wörfel, F., Gusy, B., Lohmann, K., Töpritz, K., & Kleiber, D. (2016). Mental health problems among university students and the impact of structural conditions. *Journal of Public Health, 24*(2), 125-133.

Yang, C., & Brown, B. B. (2015). Factors involved in associations between facebook use and college adjustment: Social competence, perceived usefulness, and use patterns. *Computers in Human Behavior, 46*, 245-253.

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education They're not magic. *Review of Educational Research, 81*(2), 267-301.

Young, D. G. (2016). The case for an integrated approach to transition programmes at south Africa's higher education institutions. *Journal of Student Affairs in Africa, 4*(1), 17-32.

Zhang, L. (2008). Thinking styles and identity development among Chinese university students. In Bazeley, P. (2002). *Handbook of mixed methods for the social and behavioral sciences: Computerized data analysis for mixed methods research*. Thousand Oaks, CA: Sage



Appendix 1: Research Questionnaire

UNIVERSITY of the
WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-9592469 Fax: 27 21-959 2140
E-mail: clstroud@uwc.ac.za

Section 1

DEMOGRAPHIC DETAILS <i>Please complete and tick the relevant box</i>					
Residence	Area				
Race	White	Coloured	Black	Indian	Other
Sex	Female	Male			
Age	16-18				
	18-20				
	20-24				
	over 24				
First Language					
Other Language					
Are you the first family member to study at university?					
			Yes	No	

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Section 2

DASS21 Name:	Date:
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you <i>over the past week</i> . There are no right or wrong answers. Do not spend too much time on any statement.	
<i>The rating scale is as follows:</i>	
0 Did not apply to me at all	
1 Applied to me to some degree, or some of the time	
2 Applied to me to a considerable degree, or a good part of time	
3 Applied to me very much, or most of the time	


01	I found it hard to wind down	0	1	2	3
02	I was aware of dryness of my mouth	0	1	2	3

03	I couldn't seem to experience any positive feeling at all	0	1	2	3
04	I experienced breathing difficulty (e.g., excessively rapid breathing,	0	1	2	3
	breathlessness in the absence of physical exertion)				
05	I found it difficult to work up the initiative to do things	0	1	2	3
06	I tended to over-react to situations	0	1	2	3
07	I experienced trembling (e.g., in the hands)	0	1	2	3
08	I felt that I was using a lot of nervous energy	0	1	2	3
09	I was worried about situations in which I might panic and make	0	1	2	3
	a fool of myself				
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with	0	1	2	3
	what I was doing				
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical	0	1	2	3
	exertion (e.g., sense of heart rate increase, heart missing a beat)				
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Section 3

Social Adjustment Scale (SAS)

**note that on the next section scores for starred questions are reversed – 5, 4, 3, 2, 1*

<p><i>this questionnaire asks about how you have been during the last two weeks at work, spare time activities and in family life – please read each statement and then put a tick (✓) in the box to the right to indicate how much the statement has applied to you <u>during the last two weeks</u></i></p> 	1 = not at all	2 = occasionally	3 = about half the time	4 = most of the time	5 = all the time
<p><u>social and leisure activities:</u> <i>the following questions are about your friends and what you have been doing in your spare time – over the last 2 weeks have you:</i></p>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Been in touch with any of your friends?					
Been able to talk about your feelings openly with your friends?					
Done things socially with your friends (e.g. visiting, entertaining, going out together)?					
Spent your available time on hobbies or spare time interests?					
Got angry with or argued with your friends?*					
Been offended or had your feelings hurt by your friends?*					
Felt ill at ease, tense or shy when with people?*					
Felt lonely and wished for companionship?*					
Felt bored in your free time?*					

Extended family: the following questions are about your extended family, i.e. parents, or brothers, sisters, in-laws, and children not living at home (please do not include your partner or children living at home) – over the last 2 weeks have you:					
	1	2	3	4	5
Got angry with or argued with any of your relatives?*					
Made an effort to keep in touch with your relatives?					
Been able to talk about your feelings openly with you relatives?					
Depended on your relatives for help, advice or friendship?					
Been feeling that you have let your relatives down at any time?*					
Been feeling that your relatives have let you down at any time?*					
Enjoyed your sexual relations with your partner?					
Family unit: the following questions are about how things have been with your immediate family that is your partner and children at home. If you do not have an immediate family, please ignore this section. Over the past 2 weeks have you:					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Been worrying more than necessary about things happening to your family?*					
Been feeling that you have let your immediate family down at all?*					
Been feeling that your immediate family has let you down at all?*					

Actual ideal %

Social & leisure =

Family unit =

Extended family =

Total score =



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Appendix 2: Consent Form

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-9592469 Fax: 27 21-959 2140
E-mail: clstroud@uwc.ac.za

CONSENT FORM

Title of Research Project:

An assessment of the effect of a psychosocial intervention on the mental health and adjustment of first year students

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.....



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Appendix 3: Information Sheet

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-9592469 Fax: 27 21-959 2140
E-mail: clstroud@uwc.ac.za

INFORMATION SHEET

Project Title: An assessment of the effect of a psychosocial intervention on the mental health and adjustment of first year students over an interrupted time series

What is this study about?

This is a research project being conducted by Candice Stroud at the University of the Western Cape. We are inviting you to participate in this research project because you meet the criteria of this study: you are a first time enrolled first year student, you live in residence, you have voluntarily signed up to participate in a psychosocial programme. The purpose of this research project is to assess the effects of a psychosocial intervention on the mental health and adjustment of first year students over a time series.

What will I be asked to do if I agree to participate?

After every intervention you have participated in, you will be asked to stay behind and complete a questionnaire. Further, you will be required to complete the same questionnaire five times, with different time intervals. You are required to attend intervention over the first semester. Each session will take approximately 15 – 20 minutes.

Would my participation in this study be kept confidential?

The researcher undertake to protect your identity and the nature of your contribution. To ensure your anonymity, the questionnaire will require a code and apply the same code for each week, in order to be able to track participants over the time series. ***Please be assured of the following: (1) your name will not be included on the collected data; (2) a code will be placed on the questionnaire; (3) through the use of an identification key, the researcher will be able to link your survey to your identity; and (4) only the researcher will have access to the identification key.***

To ensure your confidentiality the data will be locked in a safe filing cabinet and data codes are only accessible on a password-protected computer. If we write a report or article about this research project, your identity will be protected.

What are the risks of this research?

There may be some risks from participating in this research study. The questions may open up some emotions that may require referral for counselling.

All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about first year student's mental health and adjustment within South Africa. We hope that, in the future, other people might benefit from this study through improved understanding of first year students mental health support and strategies to the implantation of psychosocial interventions.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by *Candice Stroud, Child and Family Studies Unit* at the University of the Western Cape. If you have any questions about the research study itself, please contact Candice Stroud at: 021 9592469 or clstroud@uwc.ac.za

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof N Roman
Head of Department
University of the Western Cape
Private Bag X17
Bellville 7535
nroman@uwc.ac.za

Prof José Frantz
Dean of the Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Senate Research Committee.

Appendix 4: Journal Article Submission guide

IJER Evaluation Protocol Publishing Guidelines

Authors wishing to publish an evaluation/research protocol should report it with at least the following information:

Background

Significance

- "An explanation of the scientific background, policy context and rationale for the research being undertaken.

Intervention

- "Details of the intervention being tested.

Research Plan

Research questions

- "Questions the research is designed to answer. This should include both primary and secondary outcomes.

Design

- "The design should be carefully explained and the unit of randomization explained (i.e. school, class, and individual).
- "The method used to allocate to condition should be indicated.

Participants

- "A clear statement should be given of eligibility and exclusion criteria during the recruitment process.

Outcome Measures

- "Clearly defined primary and secondary outcomes and how they are administered and measured.
- The validity and reliability of the measures should be discussed.
- "Details of plans to ensure validity in the testing process (eg, administered blind at pre/post test, data to be analysed blind to condition).

Article structure

Subdivision - numbered sections

Divide your article into clearly defined and numbered sections. Subsections should be numbered (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Experimental/Materials and methods:

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Theory:

A Theory section should extend, not repeat, the background to the article already dealt with in the introduction and lay the foundation for further work.

Results:

Results should be clear and concise.

Discussion:

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions:

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Acknowledgements:

Place acknowledgements before the references, in a separate section, and not as a footnote on the title page.

Appendices:

If there is more than one appendix, they should be identified as A, B, etc.

