TESTING TWO MEASURES OF SUBJECTIVE WELL-BEING AMONGST A SAMPLE OF CHILDREN IN THE WESTERN CAPE

STUDENT NAME: ZORINA NOORDIEN

Submitted in fulfilment of the requirement for the Masters Degree in Psychology in the Department of Psychology at the University of the Western Cape, Bellville

Supervisor: Shazly Savahl
Degree: M.A. Psychology
Department: Psychology

Keywords: Subjective well-being, children, confirmatory factor analysis, fit indexes, factor invariance, socio-economic status

DEPARTMENT OF PSYCHOLOGY
FACULTY OF COMMUNITY AND HEALTH SCIENCES
UNIVERSITY OF THE WESTERN CAPE
BELLVILLE

2015

DECLARATION

The author hereby acknowledges that this work is her own and that sources have been appropriately cited.

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ACKNOWLEDGEMENTS

ABSTRACT

Recent advancements in child well-being research have shown an increased interest in the importance of subjective well-being. The development of instruments and scales to measure subjective well-being among children and adolescents is in its infancy. Furthermore, there are few existing cross-cultural studies with child and adolescent populations. Validation of existing measures and cross-cultural comparisons has been identified by a number of researchers as critical in contributing to the international dialogue. In the current study, two measures of subjective well-being (Student Life Satisfaction Scale and Personal Well-Being Index-School Children) are tested among a sample of children in the Western Cape region of South Africa. Noting the diversity of experience between children from different socio-economic status groups in South Africa, the study further aims to determine the extent to which the measures are comparable across socio-economic status groups. Data from the Children's World Survey were used; and includes a sample of 1004 children randomly selected from 15 schools within the Cape Town Metropole. Confirmatory factor analysis was used to test the overall fit structure and multi-group factor analysis, with Scalar and Metric invariance constraints. The results show appropriate fit structure for the overall model, with Scalar and Metric factor invariance tenable across socio-economic status groups. The overall findings suggest that the two measures are appropriate for use with children from low and medium socio-economic status groups in the Western Cape province of South Africa.

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BACKGROUND

The children of South Africa have a long history of exposure to political violence, oppression, abuse, and affliction. Following the advent of democracy in 1994, the South African government made a series of legal commitments to redress the atrocities that children experienced in the past and to make South Africa a better place for all children. The ratification of the United Nations Convention on the Rights of the Child (UNCRC) culminated in the further legislative advancement of child specific legislation including the Children's Act (No. 38 of 2005), the associated Children's Amendment Act (No. 41 of 2007) as well as the promulgated Child Justice Act (2008). Acceding to these legal contracts has entrenched the rights and needs of children in the development strategies of the government, as well as guaranteeing children's socio-economic rights and protection from abuse, exploitation, and neglect. Co-ordinated by the Office on the Rights of the Child (ORC), the National Programme of Action (NPAC) was put in place to provide "a holistic framework for the integration of all policies and plans developed by government departments and civil society to promote the well-being of children" (2012, p. 9). With children themselves now being elevated to the legal status of rights holders, with the government ultimately accountable as the principal duty bearer, children's well-being is now afforded the highest priority within government. In 2009 the ORC was replaced by a dedicated Ministry, the Department of Women, Children and People with Disabilities (DWCPD) with the core function of improving the coordination of policies and monitoring mechanisms for children (Savahl et al., 2014a).

However, while the will and commitment of civic and government institutions have advanced social transformation and legislative frameworks, the benefits have not reached all children and their state of well-being remains adverse (Barbarin, 2003). While aggregate data and

objective indicators are available, researchers claim that the lack of child specific data is a major factor contributing to the innumerable burdens children face in their social, physical and psychological environments. Even though the South African government has initiated a number of programmes to alleviate the legacy of social inequality and deprivation of children, recent statistics posit a grave situation with regard to poverty, access to primary health care services, safety and education.

In 2012, the DWCPD initiated a large-scale project aimed at developing a comprehensive indicator framework to monitor the state and well-being of children and youth. While the focus was on improving monitoring systems and developing objective indicators of children's quality of life, the importance of ascertaining subjective perceptions of well-being and collecting data from children themselves was highlighted. The current study hopes to contribute in this regard, by providing a snapshot of children's subjective perceptions of well-being. An important factor when considering child well-being in South Africa, is noting the diversity of the childhood experience, rooted in South Africa's socio-political history which has resulted in high levels of social inequality and disparate socio-economic status (SES) groups.

An exploration of the impact of SES and social inequality on well-being in South Africa is incomplete without reference to the oppressive backdrop of Apartheid. Based on a philosophy of segregation and exclusion, the Apartheid legislative framework characterised the socio-political landscape of South Africa for nearly five decades. Characterised by institutionalised racism, systematic oppression and domination of one group over another, Apartheid resulted in a significant proportion of the population being disenfranchised, denied access to resources, land, education opportunities and basic human rights. One of the most

devastating legacies of Apartheid is the extreme levels of social inequality experienced by various cohorts of the population. This has manifested in the polarisation of communities and neighbourhoods into privileged or high SES and disadvantaged or low SES. Privileged communities are characterised by high income, high educational attainment, high levels of employment, and low incidence of violence.

While there is considerable variability in SES across countries, it remains a significant indicator of children's well-being (Bradley & Corwyn, 2002). Although there is currently no consensus as to the components of SES, many researchers adopt the definition proposed by Coleman (1988) of capital being comprised of three components, namely financial capital (referring to material resources), human capital (non –material resources such as education), and social capital (resources achieved through social relationships) (Krieger, Williams, & Moss, 1997). Research has found that SES is related to children and adolescents' health, cognitive and educational attainment, socio-emotional development, and access to resources (Bradley & Corwyn, 2002). Economic factors such as Gross Domestic Product, lower levels of household income and recent decreases in income were linked to decreased average levels of SWB among children (Bradshaw & Richardson, 2009; Bradshaw, Keung, Rees, & Goswami H (2011); Rees, Pople, & Goswami, 2011). An important consideration and indicator of inequality in a country is the Gini Co-effficient[1], which is the "international standard for measuring the distribution (or dispersion) of income and wealth in a country", and measured by a ratio between 0 and 1 ('0' indicating that all individuals receive the same income and '1' indicating that only one individual receives all the income). It is also referred

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[1] The Gini Index is calculated using a Lorenz curve which plots the cumulative percentages of total income received against the cumulative number of recipients, beginning with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

to as the Gini Index (Benson, 1970, as cited in Bosch, Roussouw & Claassens, & Du Plessis, 2010).

Notwithstanding the fundamental premise of equality in the South African Constitution, inequality remains pervasive in the country. With a Gini Index of .70 (Statistics South Africa, 2008; Bosch, et al., 2010), considered to be one of the highest in the world (in terms of wealth and income), it demonstrates a great dispersion of both wealth and income between the privileged and the disadvantaged. Although this inequality is experienced by the majority of the population, the burdens of these "multiple overlapping layers of inequality" are often endured by children who necessitate care and supervision from adults for both safety and basic tenets of their well-being (Hall, Woolard, Lake, & Smith, 2012, p. 24).

Noting the importance of obtaining children's subjective perceptions of well-being, it has now become critical to engage with measures and instruments that can be used to collect data on children's subjective perceptions of well-being. The first step in this process is to ascertain the state of international measures and to determine the extent to which these instruments can be used in the South African context. Within the international literature, a number of instruments have been identified, which have shown good validity across a range of cultural contexts. Previously the only psychometric scale assessing well-being included in a few of the international databases is the single-item scale the "Cantril Ladder" (Casas, Bello, Gonzalez, & Aligué, 2013). More recent evidence suggests that the use of multi-item measures of subjective well-being are more stable than single items (Casas, et al., 2013), reduces the risk of measurement error, and increases the reliability of the measure. Multiple item measures include the Personal Well-Being Index-School Children, the Student Life Satisfaction Scale, Brief Multidimensional Student Life Satisfaction Scale and the single item

Overall Life Satisfaction scale. These measures have been tested and show good validity across cultures and groups in developed countries. Less information is available with regard to its cross-cultural adaptability in developing countries. The current study hopes to contribute in this regard, by testing the extent to which these subjective measures of child well-being can be used with children in the local Western Cape context. It hopes to add to the database of child specific data and contribute to the international dialogue on children's subjective perceptions of well-being.

AIMS OF THE STUDY

The primary aim of the study is to determine whether the Personal Well-Being Index-School Children and the Student Life Satisfaction Scale can be used to measure subjective well-being amongst children in the local context of the Western Cape. More specifically, the study aims to test the fit indexes of these measures and to ascertain whether they can be used across socio-economic status groups. The following objectives were developed to guide the study:

   a. To test the fit structure of the overall model of the Personal Well-Being Index-Schools Children and the Student Life Satisfaction Scale

   b. To test the metric and scalar factor invariance of the multigroup model across socio-economic status groups

OBJECTIVELY SPEAKING: THE CONTEXT OF CHILDREN IN SOUTH AFRICA

The South African child population stands at 18.5 million children, with 11 million living in impoverished conditions and 60% living below the lower-bound of the poverty line (equal to R575 per person per month in 2010). Specifically, within the Western Cape, 30.60% of children ($n = 542\ 000$) were categorised as falling within the income poverty bracket. This

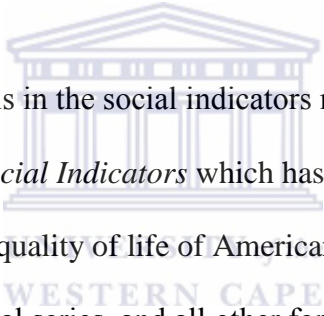lack of sufficient income impacts upon children's rights to nutrition, education, and health care services.

With regard to living conditions, 2 million children live in informal settings with poor access to basic services; 19% live in overcrowded conditions; 45% live in rural areas with 34% of these having little or no access to drinking water in their home and 31% have inadequate access to sanitation and 85% have electricity (www.childrencount.ci.org.za). Key health indicators show the under-5 mortality rate at 56 per 1000 live births and an infant mortality rate of 40 per 1000 live births, in comparison to global under-5 mortality estimates of 48 per 1000 live births (United Nations Children's Fund, 2013).

With regard to education, there are 26 000 schools to accommodate 12.2 million school going children. While the attendance rate is high at 97%, dropout rates are high with an estimated 290 000 children not attending school. Twenty percent of children have to travel an average of 30 minutes to get to school. Eighty-nine percent of schools have access to water and 61% have sufficient sanitation.

Additionally, violence and crime remain importunate threats to children in SA (United Nations Children's Fund (UNICEF), 2009). In SA, between 2008 and 2009, approximately 50 000 children were victims of violent crimes (South African Police Services, 2010). This figure increased to 56 500 children being victims of violent crime between 2009 and 2010 (UNICEF, 2009). Further, child sexual abuse remains the most pertinent form of violence against children in the country (South African Police Service, 2010). Statistics indicate that 61% of children who have been the victim of child sexual abuse are younger than 15, while 29% were between the ages of 0 and 10 years (UNICEF, 2009).

WELL-BEING

The genesis of well-being can be located in the work of Jahoda (1958) and more specifically in the concept of positive psychological health, and is later evident in studies of quality of life and happiness (See Casas, 1997; 2000; Cummins, 1995), standard of living and health, as well as the field of positive psychology (see Seligman, 2002 and Savahl et al., 2014b). Ben Arieh, Casas, Frones, & Korbin (2014) identify two different trajectories of well-being, both commencing in the mid-twentieth century. The first tradition located in the health sciences was manifest in the World Health Organisations' preface of its initial articles of association: "*Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity*" (WHO, 1948, as cited in Conti & Heckman, 2012).

The second tradition has its genesis in the social indicators movement of the 1960's, encapsulated in Bauer's (1966) *Social Indicators* which has advanced the interest in measuring the well-being and the quality of life of American citizens. Bauer defined social indicators as "…statistics, statistical series, and all other forms of evidence that enable us to assess where we stand and where we are going with respect to our values and goals" (Bauer, 1966, p. 1 as in Land, Lamb, & Meadows, 2007). Land et al. (2007) further identify (Olsen's, 1969) *Toward a Social Report* as making a significant contribution to measuring and reporting on social issues and quality of life. Land et al (2009) contend that with these 'founding definitions' as the genesis, the field of monitoring and measuring well-being and quality of life have led to two major strands of development: objective and subjective well-being indicators. Objective indicators also referred to as quality of life indicators or more generally as key national indicators refer to observable measures that have been developed to measure a range of pre-determined objective standards of well-being. Subjective indicators on the other hand refer to indicators that reflect individuals' perceptions of their own life.

Considering the above, it is axiomatic that within the field, child well-being has been defined in various ways. Historically, the most popular conceptualisation of well-being is that of a set of objective standards that reflect individuals' quality of life across a range of domains, typically pre-determined by social scientists and policy makers. However, over the past few decades, researchers have voiced discontent at the use of objective indicators as the sole measure of determining well-being (Forgeard, Jayawickreme, Kern, & Seligman, 2011). This has resulted in the increasing interest in subjective measures of well-being.

Aked, Steuer, Lawlor and Spratt (2009) define child well-being as a dynamic state "…emerging from the interaction between their external circumstances, inner resources and their capabilities and interactions with the world around them" (p.29). Pollard and Rosenberg define child well-being as, "A state of successful performance throughout the life course integrating physical, cognitive, and socio-emotional function that results in productive activities deemed significant by one's cultural community, fulfilling social relationships, and the ability to transcend moderate psychosocial and environmental problems" (Pollard & Rosenberg, 2003, p. 14). While these definitions point to the significance of the integrity between the internal and external world, they also suggest a reliance on society's acknowledgement of childhood as a valid structural feature of society. In other words, making sense of child well-being is futile unless there is an acceptance of childhood in both everyday common sense discourse as well as human rights discourse (Savahl et al., 2014b). The near universal ratification of the UNCRC is testament to, that at least in terms of the latter, substantial progress has been made in the past few decades.

While the UNCRC has been criticised for demonstrating more Western perspectives than others, it nonetheless affords a good starting point for conceptualising child well-being (Nieuwenhuys, 1998). Presenting a normative framework for understanding children's rights

and well-being, the UNCRC is often regarded as the genesis of the child indicator movement, and along with the theoretical and methodological assertions of the 'new sociology of childhood' have been significant in driving the notion that children are valid social actors and constructors of knowledge, propagating for child centred research and the need for child specific data. As Lundy poignantly notes:

Its relevance for child well-being is clear: children's ability to influence their own lives should be looked at in its own right as a core aspect of well-being, and secondly, any process purporting to measure outcomes from a child rights perspective should comply with it by engaging with children from start to end in a meaningful way (Lundy, 2014, p. 2444).

Within the child indicator movement, what followed was the trend toward participatory techniques, a focus on children as the unit of analysis and investigating subjective well-being (Ben-Arieh, 2008).
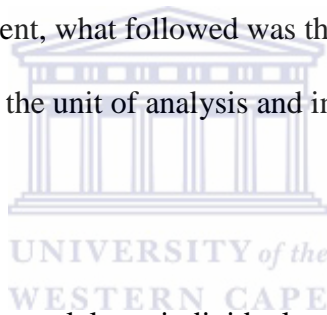
It is ostensible that well-being is not solely an individual property, but also a social property (Ben-Arieh, 2009). This brings to the fore three salient motivations as to why the well-being of children necessitates particular attention (Fernandes, Mendes, & Texeira, 2012). Firstly, the concern of child well-being is not limited to the present lives of children as it has corollaries for their future. Secondly, within South Africa, children remain affected by a range of adversities; and finally, despite burgeoning amount of research and theorisation on children's well-being there is still a lack of child-specific information and data.

SUBJECTIVE CHILD WELL-BEING

Subjective well-being is generally defined as an umbrella concept that includes the cognitive and affective evaluations that people make regarding their lives, the events affecting their

lives and the circumstances in which they live (Diener, 2006; Diener, Lucas, & Oishi, 2005). The cognitive element refers to one's perceptions of global and domain specific life satisfaction, while the affective element refers to both positive and negative affect (Savahl et al., 2014b). Diener (2009) conceptualises these components as fitting on a hierarchical structure. The four components are moderately correlated and conceptually related, with each making a unique contribution towards subjective well-being.

Global life satisfaction is defined generally as an individual's overall evaluation of life. While it is well established in the literature that people use a range of cognitive shortcuts when assigning life satisfaction judgements, it appears to have high levels of temporal stability and on average most information that is used when making life satisfaction evaluations is based on information that is easily accessible and important to the individual (Diener, 2009). Domain specific life satisfaction is concerned with specific aspects or domains of their life that they deem significant. Of course the critical issue when considering domain satisfaction, is the subjective assignation of exactly which domains are important to people and which are not. Diener (2009), for example, notes that different domains may be significant for various population groups; how people weight various domains therefore has an impact on their overall level of life satisfaction.
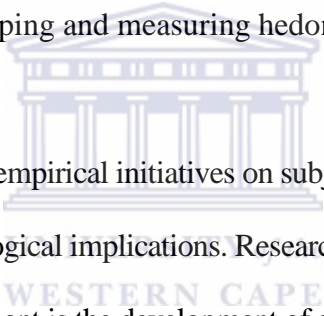
Affective experiences, which include positive and negative affect, takes the form of emotions and mood. Emotions are generally regarded as short-term affective states related to specific external stimuli and have both a meaning and appraisal component; while moods are thought to show more temporal stability.

Early emergence of the concept of subjective well-being can be located in Wilson's (1967) *Correlates of avowed happiness* (as cited in Diener, Suh, Lucas, & Smith, 1999), Bradburn's (1969) *The structure of psychological well-being*, and is later evident in the work of Campbell, Converse and Rodgers (1976) and Andrews and Withey (1976) (Savahl et al., 2014b). Over the years there has been a progressive increase in studies focussing on subjective well-being, with the last three decades in particular, showing a dramatic increase (Diener, 2013). Diener, Suh, Lucas, Smith (1999) contend that advancement in the field "reflects larger societal trends concerning the value of the individual, the importance of subjective views in evaluating life, and the recognition that well-being necessarily includes positive elements that transcend economic prosperity" (p. 276). Studies in subjective well-being work from the premise that objective indicators only provide a partial explanation of quality of life, and what people think and feel about their lives are of critical importance (Savahl et al., 2014b). Recent trends in well-being research point to the importance of including both objective and subjective measures. As Forgeard et al. (2011) argue: "Researchers should therefore concentrate their efforts on the methods needed to collect and combine both objective and subjective data, rather than striving to establish the superiority of one type over the other" (p. 99).

Contemporary quantitative and qualitative studies on subjective child well-being suggest that the concept is often differentiated into a number of dimensions (see e.g. Land, Lamb, Meadows, & Taylor, 2007; Fattore, Mason, & Watson, 2007; Pollard & Davidson, 2001; Pollard & Lee, 2003; September & Savahl, 2009; Thornton, 2001; Zaff, Smith, Rogers, Leavitt, Halle, & Bornstein, 2003). Land et al. (2007) points out that the domains identified in these studies generally align to those identified in systematic reviews conducted by Cummins (1996, 1997). Cummins concluded that the domains revealed in the reviewed studies can be

grouped into seven broad categories: emotional well-being, economic and material well-being, health, safety, productive activity, place in community and intimacy.

Ryan and Deci (2001) point to two divergent interpretations of well-being; that is the hedonic and eudaimonic perspectives. Hedonic perspectives of well-being focus on subjective well-being or happiness and are frequently denoted in relation to *life satisfaction and satisfaction with various domains of their life*; whereas eudaimonic perspectives focus on psychological well-being which is more broadly denoted as encompassing dynamic processes and the degree to which an individual is fully functioning in society and refers to concepts such as *meaning of life*, *life goals*, and *self-actualisation* (Casas, 2011). Most measures of subjective well-being are focussed on developing and measuring hedonic trends in well-being.

With a constantly growing body of empirical initiatives on subjective well-being, it becomes important to consider the methodological implications. Researchers have proceeded in two directions. The first and most dominant is the development of standardised scales and measures, often adapted from adult versions. Of these, the Personal Well-Being Index-School (Cummins & Lau, 2005), the Student Life Satisfaction Scale (Huebner, 1991), the Multidimensional Student Life Satisfaction Scale (Huebner, 1994) and the Brief Multidimensional Student Life Satisfaction Scale (Seligson, Huebner, & Valois, 2003) are the most widely used and have shown good cross cultural adaptation with children aged between 8-18 across a range of contexts (see e.g. Casas, Tiliouine, & Figuer, 2014; Jones, 2011) (see also Proctor, Linley, & Maltby, 2009, for a review of life satisfaction measures developed for use with children and youth).

The Personal Well-Being Index was developed by Cummins et al. (2003) as part of the Australian Unity Well-being Index and was originally designed for an adult population. It was later adapted

to be used with child and adolescent populations. It initially consisted of seven scales but has been adapted to assess more measures deemed suitable for the population it addressed. The 'School Children' adaption was specifically formulated to address this specific population (Cummins & Lau, 2005). These measures have been tested and show good validity across cultures and groups in developed countries.

While the area of life satisfaction has been comprehensively explored with adults, it was only later expanded to concentrate on children and adolescents. In an effort to address this, Huebner (1991) sought to examine the correlates of global life satisfaction with children. He developed the Student Life Satisfaction Scale (SLSS) which is a seven item self-report scale to assess global life satisfaction. The SLSS measures the child and adolescent's perception of life as a whole as opposed to compartmentalising different sections. The results revealed that the students experienced a high degree of overall life satisfaction and that their life satisfaction was more affected by personality characteristics than demographic variables. The students' life satisfaction was strongly influenced by their perception of their lives rather than their objective circumstances. The results also found that students' life satisfaction was also more influenced by family relationships which correlate with adult findings. The findings further support the construct validity of the SLSS but these findings should be utilised with caution as this study was specifically conducted with a sample from a high income country.

The Brief Multi-dimensional Student Life Satisfaction Scale (BMSLSS) was developed to assess, monitor and promote positive well-being and life satisfaction for students aged 8-18 years (Huebner, Suldo, & Gilman, 2006). While there are a few scales that measure life satisfaction, the BMSLSS was developed to allow for a larger scale sample and can be used with groups (Huebner et al, 2006). Based on the theoretical model of the Multi-dimensional Life Satisfaction Scale, the

BMSLSS has 5 items based on specific domains that incorporate one question under each domain. These domains include; friends, family, self, living environment and school. Responses are rated on a 7 point scale with 1 being terrible and 7 delighted. These scores are then added to arrive at an overall life satisfaction score. It also includes an additional and optional question to assess global life satisfaction. The BMSLSS also serves as a valuable measure of assessing group comparisons in multiple contexts (Huebner, Suldo, Valois, Drane, & Zullig, 2004). Seligson, Huebner and Valois (2005) examined the psychometric properties of the BMSLSS with 518 elementary school children in America. The results of this study revealed acceptable internal consistency, construct validity and concurrent validity. Siyez & Kaya (2008) tested the reliability and validity of the BMSLSS with a sample of 394 Turkish students from grade 4 to 8. The results indicated that the BMSLSS has strong psychometric properties demonstrating acceptable internal consistency reliability, criterion-related validity and construct validity (Siyez & Kaya, 2008).
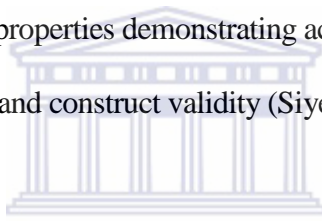
Secondly, and consistent with a qualitative focus, a developing trend in child research is the acknowledgement of children as valid informants and participants in the research process, and the subsequent shift towards soliciting their knowledge, opinions, attitudes and perceptions on matters that affect them. Often termed child participation research, this increasing cognisance of the need to seek children's perspectives, has been fuelled by the growing emphasis on affording children their participation rights as enshrined in Article 12 of the UNCRC.
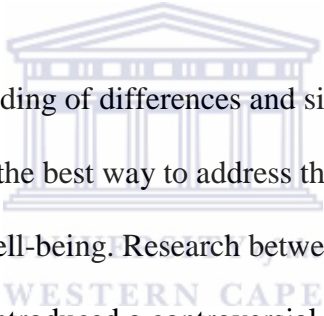
> **"States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child."**

This methodological framework has been used both to solicit children's advice on improving subjective measures of well-being (see e.g. Casas, González, Navarro, & Aligué, 2012), as well as determining children's perceptions of subjective well-being, the nature of well-being domains and how they make sense of and assign meaning to well-being (see e.g. Fattore et al, 2007, 2012; Savahl et al., 2014b; September & Savahl, 2009). Casas (2011) further points to the importance of qualitative research which he believes will allow for a more comprehensive understanding of child and adolescent well-being.

As previously stated, earlier research occurred primarily in western cultures and when examining the factors that predict life satisfaction it was found that there was a marked distinction in how this was understood cross-culturally. This was highlighted in a cross-cultural study by Park and Huebner (2005) where American adolescents reported higher life satisfaction than Korean adolescents. It was found that life satisfaction judgments differed cross-culturally and reflected the values of a particular culture (Oishi, Diener, Lucas, & Suh, 1999). Oishi et al. (1999) sought to address this by using the value- as-a-moderator model of subjective well-being. "The fundamental postulate of this model is that when making life satisfaction judgments, individuals weigh value-congruent domain satisfactions more heavily than value-incongruent domain satisfactions" (Oishi et al, 1999, p 981). Evidence to support this claim was found in some studies by Diener & Diener (1995) which found differences in life satisfaction in collectivist and individualistic societies.

Bradshaw, Martorano, Natali & de Neubourg (2013) used the Health and Human Behaviour Scale to assess the subjective well-being of children in most of the Organisation for Economic Co-operation and Development (OECD) countries. When reviewing comparative international studies of subjective well-being with children, they found a paucity of research linking indicators of subjective well-being and other indicators of well-being. The study

focused on the subjective well-being of children in rich countries and concluded that, while it was an aspect of well-being, it needs to be researched as a separate entity. Children living in environments of adversity may have a different sense of well-being than children in richer countries. Bradshaw et al. (2013) found that there was a strong relationship between subjective well-being and material well-being, housing and the environment. They also found that children from countries with greater material wealth and better education, health and housing tended to be happier children (Bradshaw et al., 2013). While it cannot be postulated that material wealth results in higher levels of subjective well-being, we cannot ignore the impact of a country's economic prosperity on poverty, health, education, behaviour and housing (Bradshaw et al., 2013).

In order to have a better understanding of differences and similarities between countries, some researchers have found that the best way to address this is to look at the relationship between income and subjective well-being. Research between these two constructs first emerged in 1974 when Easterlin introduced a controversial notion hypothesising that an increase in average income does not result in higher levels of well-being. This became known as the 'Easterlin Paradox'. Researchers in the area of income and well-being ascertain that economic indicators like the GDP are a component in assessing the well-being of people and cannot be used to determine their overall well-being. More developed countries with growing economies do not necessarily result in higher feeling of well-being. Recent years have witnessed an exponential growth in the research area of income and subjective well-being (Biwas-Diener & Diener, 2003; Bradshaw et al., 2013; Cousins, 2013; Diener & Biwas-Diener, 2002; Diener & Tay, 2013; Easterlin, 1974; Martorano, Natali, de Neubourg, & Bradshaw, 2013; Sacks, Stevenson, & Wolfers, 2010; Veenhoven, 1991) and studies have found that there is a definitive relationship between income and well-being (Sacks et al.,

2010) with confirmation that this interaction is bi-directional (Diener & Biwas-Diener, 2002). Some researchers have also claimed that after basic needs are met, there is a satiation point where income no longer influences subjective well-being (Frey & Stutzer, 2002). Stevenson and Wolfers (2013) refuted this claim as the results of their study demonstrated no evidence of this hypothesis. They investigated data obtained from the Gallup World Poll, from 155 countries, which is 95% of the world population over a 5 year period. The results indicate that the well-being–income relationship is congruent in rich and poor countries.

Diener et al. (2013) sought to advance previous research addressing the correlation between income and subjective well-being globally by looking at GDP and the mean income of households using the Gallup World Poll. This was done by looking at the difference between more economically prosperous and less economically successful countries. They specifically sought to explore psychological factors that affected the relationship between subjective well-being and income. They also speculated that in order for income to lead to an increase in subjective well-being it must be accompanied by an increase in the material quality of life for individuals. Sacks et al (2010) studied the data of 140 countries and found that average life satisfaction is increased in countries with greater GDP per capita. They also found that an increase in economic growth of a country lead to increased life satisfaction and that wealthier individuals reported higher life satisfaction (Sacks et al., 2010). The results of their study show that growth in subjective well-being and material wealth occurs concomitantly. Another factor that could impact on this association is an increase in life style aspirations that are not inconsistent with an increase in income, in that they may aspire to have higher aspirations than their rising income allows and this may negatively affect their subjective well-being. Optimism and a belief in a more secure future, especially a financial one, may increase their current life satisfaction (Diener et al., 2013). The results of the study found that while the

effect of an individual's increased income was accompanied by an increase in subjective well-being, a rise in income in poorer nations did not necessarily result in a change in subjective well-being (Diener et al., 2013).

THEORETICAL FRAMEWORKS

There are several frameworks that address subjective well-being. For the purpose of this study Brofenbrenner's (1979, 1986, 1995, 2005) bio-ecological systems theory, Durayappah's (2010) 3P model, Cummins' (2003) subjective well-being homeostasis theory and Minkkinen's (2013) structural model of child well-being will be considered.

Brofenbrenner (1979, 1986, 1995, & 2005) looks at the role of biology and the environment in the child's development. The ecological systems theory sees individuals as having their own intrinsic biology and that it is in this capacity that they interact with their environment. It is through this process that learning and development occurs. Ecological systems theory proposes that there are four different systems which constitute different levels of interactions between the child and the environment. The most influential system is the child's immediate environment and is called the Microsystem. The level of interaction here refers to a child's relationship with family, peers, school and his community. It is through interaction within this system that social learning, modelling and reinforcement occur. This system also provides the child with a socio cultural frame of reference and provides information about socio cultural norms. This system, furthermore, influences development positively if it is found to be supportive and nurturing (Bronfenbrenner, 1979). The second system is the mesosystem and it refers to the interactions between the elements in the microsystem. The more positive the interaction between these elements the better support received by the child (Bronfenbrenner, 1979). The community and social setting forms the third system, which is

called the Exosystem. While the child is not an active participant of this system, it affects the systems that they interact with i.e. the microsystem and as a result, this would affect them. The final system is the cultural environment in which the child lives and is called the Macrosystem (Bronfenbrenner, 1979). The Macrosystem comprises of the culture, availability of resources and the nature of the government. This system does not directly interact with the child but it has powerful influence on the development of the child.

The abovementioned theory reflects Brofenbrenner's earliest work and the theory evolved in the 1990s to include proximal processes as an essential component of development as well as the inclusion on Process-Person-Context-Time (PPCT) model that became the core of his theory (Tudge, Mokrova, Hatfield, & Karnik, 2009). He sought to understand the process of human development with his later theory and his full theory focused on the interactions between the PPCT. I begin with an exposition of the defining properties of the model, which involves four principal components and the dynamic, interactive relationships among them. The first of these, which constitutes the core of the model, is Process. More specifically, this construct encompasses particular forms of interaction between organism and environment, called proximal processes, that operate over time and are posited as the primary mechanisms producing human development. However, the power of such processes to influence development is presumed, and shown, to vary substantially as a function of the characteristics of the developing Person, of the immediate and more remote environmental Contexts, and the Time periods, in which the proximal processes take place. Contexts refer to the environment, which include 4 inter-related systems, which are the microsystem, mesosystem, exosystem and the macrosystem. The interaction and definitions of these systems are referred to in his earlier work. The fourth component of the PPCT model is Time, which refers to an essential element of this model (Tudge et al, 2009). Brofenbrenner and Morris (1998) further elaborated on their fourth component to explain the way in which people and their
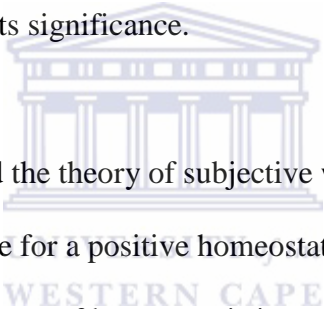
environment change over time. Time, according to PPCT model occurs at 3 stages: micro, meso and macro time. Micro time pertains to what is happening during exact times of proximal processes. Meso time refers to the extent to which the processes occur in the individual's environment and macro time (or the chronosytem) "refers to the fact that developmental processes are likely to vary according to the specific historical events that are occurring as the developing individuals are at one age or another" (Tudge et al, p. 201, 2009).

Durayappah's (2013) 3 P model is a theory of general subjective well-being. She refers to this model as "a parsimonious, unifying theory, which accounts for, as well as unites, disparate theories and measurements" (Durayappah, 2010, p.1). This model looks at present, past and prospect as temporal states which together comprise the subjective well-being. It recognises that time and temporal states are essential to understanding Subjective well-being as all individuals have past, present and future. Busby and Suddendorf (2005) postulated that temporal aspects like past and futures develop over time. While each state functions separately they interact with each other and influence the global understanding of subjective well-being. The prospect state was highlighted as being especially significant in relation to subjective well-being as it determines future goals and aspirations. Evidence of the importance of goals was highlighted by Diener and Fujita (1995) who found that "factors such as income, intelligence, and social skills predicted subjective well-being only if they related to the person's goals". Their experience of subjective well-being is thus dependent of the situation and circumstances of the time it is occurring. This may be especially true for children who undergo great developmental changes over a constant passage of time. Their cognitive, emotional, linguistic, physical and social understanding and development would have a significant impact on their subjective well-being. Past experiences and understanding may yield different understanding in present. Depending on their developmental stage the

concept of 'future' may be difficult for certain age groups to comprehend. When doing research with children it is imperative to have a realistic understanding of their developmental understanding of time.

Previous research in this area has looked at how time relates to separate elements of subjective well-being while Durayappah (2013) sought to develop a theory that displayed a unified temporal construct, which is done by incorporating existing theories and research to develop a more compendious framework. The identified purposes of this model are to amalgamate existing understandings of subjective well-being, to clarify differences at different periods and finally it seeks to incorporate temporal states in our understanding of subjective well-being to increase its significance.

Cummins (1995, 2010) introduced the theory of subjective well-being homeostasis. This theory proposes that children strive for a positive homeostatic state which in controlled internally by personality. The purpose of homeostasis is to maintain a positive and stable internal mood. Cummins (2010) coined the term Homeostatically Protected Mood (HPMood) and proposed that this process is defended by internal and external buffers. The primary system is the internal genetic buffers that include personality, traits and beliefs. When the internal state is challenged, homeostasis allows protective buffers to stabilise and maintain positive levels of SWB. The external buffers refer to the resources available to the individual that protect the HPMood. The internal buffers refer to the internal cognitive process that the individual uses to protect HPMood (Cummins, 2010). Literature and research has previously established that individuals and populations have a set-point of subjective well-being that is relatively stable over time (Headey and Wearing, 1989). However, it was later found that set point can change over time (Headey, 2010). Cummins sought to clarify the changes in set

point with the theory of SWB homeostasis. He ascribed the changes in set point to a process of homeostatic defeat (Cummins, 2010). The stability of the subjective well-being set point is usually maintained by internal homeostatic devices and when these devices are unable to work due to adverse conditions, homeostatic defeat may occur. As a result of this the set-point shifts below the homeostatic norm. If the influence of the outer environment is adverse enough, then the protective effect of the above mentioned determinants can be reduced, and so, well-being would be experienced at an inferior level. What it is more frequent, however, is that this adverse influence is compensated through both outer and inner mechanisms. The system thus tries to counteract experiences of adversity.

The structural model of child-well-being (SMCW) (Minkkinen, 2013) incorporates bio-ecological systems theory (Brofenbrenner, 1979), Vygotsky's (1962) socio-cultural approach, social support theory (Cobb, 1976) and the definition of health by the WHO (WHO, 1946). It uses components of the aforementioned theories to create an exposition of subjective well-being. This model is based on the child in the capacity of a social actor and the interaction with the environment. SMCW acknowledges childhood as a dynamic state and that their continuous development changes the nature of interaction with the external environment. It looks at how the physical, mental, social and material comprises well-being and at the various levels of interactions with the social-cultural environment (Minkkinen, 2013). SMCW also recognises the interaction between the physical, mental, social and material and how this interaction affects well-being.

Physical well-being is described as the absence of ill health and adequate physical functioning. It sees genetics and history of health as predetermining influences on physical well-being. It interacts with the other dimensions in a bi-directional relationship. For

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example, material well-being could affect access to medical resources, which could as a result affect physical well-being. Internal influences like the child's choices of healthy nutrition and non-engagement with risky behaviour as well as external influences like the familial and school relationship could have a substantial impact on physical well-being.

Mental well-being incorporates both emotional and cognitive well-being. Mental well-being has a significant impact on well-being as the cognitive process that defines happiness and life satisfaction, and thus on subjective well-being. Mental well-being may also be supported by social well-being, as the more positive the social relationships the better the subjective well-being. In the reciprocal relationship the actions and choices based on the cognitive and emotional relationships may have an impact on social well-being. Social well-being refers to the child's interactions with family, peers, teachers and friends. A positive and supportive social environment would have a positive effect on subjective well-being. Material well-being refers to the nature of economic conditions of the child. Physical, mental, social and material make up the dimensions of subjective well-being and all occurs within the framework of a circle of care, the structures of society and culture. Subjective action is the process that describes the internal and external activities that result in well-being for the child. Internal activities refer to the cognitive process that occurs while external activities refer to the actions that these internal activities produce. Within the SMCW framework, circle of care incorporates substantial aspects of Bronfenbrenner's bio-ecological systems theory. SMCW differs from the theory in that it adds the addition of subjective action as a mediating element between the systems.

SMCW aims to serve as a tool for researching well-being by providing indicators of the areas that are in need of analysis. SMCW also aims to act as a "basis for quantitative research into

the importance of the different levels of the societal frame for well-being, for instance with multilevel modelling, or research into the connections between the different elements in the model via structural equation modelling" (Minkkinen, 2013, 557). SMCW also allows for possibilities of forming more precise research frames.

PSYCHOLOGICAL TESTING IN SOUTH AFRICA

Foxcroft (2004) asserts that when conducting tests in multi-cultural settings, it is essential that issues of cultural bias are addressed from the initial planning and development stage. In South Africa there is a large diversity of cultures and languages and the appropriateness of tests need to be assessed considering this diversity.

Foxcroft (2011) maintains that in order to conduct valid, fair and ethical testing in a multi-cultural setting, it is vital for the researcher to be knowledgeable of cultural norms, language, education and socio-economic nature of the culture. She specifies that this process should be completed before research is undertaken to assess whether the testing is suitable. Foxcroft (2011) encourages an emic rather than an etic approach. As a way to achieve this, community and family genograms should be used as well to experience the lived world of the culture.

Once it has been found that the testing is appropriate for a particular culture, the suitability of the test needs to be assessed. Since most tests are Western-orientated, they would need to be adapted to be more culturally specific and test bias and renorming need to be considered. In order to address this, Foxcroft (2011) suggests examining the construct equivalence and ensuring that the test content is culturally appropriate and adapted to suit the culture. Since constructs are perceived differently according to the cultural understanding and meanings attached to it, it is crucial that these meanings are considered before the tests are planned

(Foxcroft, 2004). The linguistic factors are also essential to consider in adapting western orientated tests; ethically participants should take tests in the language of their choice.

Van de Vijer and Poortinga (1997) addressed bias in cross cultural testing and looked at three different kinds of bias specifically; construct bias, method bias and item bias. "When a psychological instrument developed in one society is applied in a different cultural context, invariance of psychometric properties (reliability and validity) cannot be merely assumed, but has to be empirically demonstrated" (Van de Vijer & Poortinga, 1997, p. 29). Bias may also be more prevalent when there are large differences between the culture the test originate from and the culture it is being adapted for. Common problems in these instances are difficulties with translation, test development and administration. In South Africa, the factors that impacted most on construct and item comparability were race, education, language and understanding of English (Meiring, Van de Vijver, Rothmann, & Barrick, 2005). Bias is not necessarily the property of the instrument but a "function of the interpretation of test scores" (Van de Vijer & Poortinga, 1997). That infers that it's not the instrument that is biased, but the inferences made by the results. In areas where instruments are used in vastly different cultures, constructs may have different meanings. It was argued that, as item bias is often mostly utilised, construct and method bias was underutilised. They felt that an integration of all three biases was most useful to make the most valid cross cultural comparisons (Van de Vijer & Poortinga, 1997).

## GOODNESS OF FIT: THEORY OF FIT STATISTICS

The Goodness of Fit theory is a framework that hypothesises on the nature of the relationship between observed and unobserved variables. The essence of Goodness of Fit is that proposed models (indicating the relationships between variables) are theory driven. Therefore, designation of hypothetical models needs to be based on theoretical relationships between

observed and unobserved variables. Testing and validation of measures using Fit Statistics is often conducted using Confirmatory Factor Analysis (CFA). When using CFA, a hypothesized model is used to "estimate a population covariance matrix that is compared with the observed covariance matrix" (Schreiber, Nora, Stage, Barlow & King, 2006, p. 323). In essence the aim is to minimise the difference between the estimated and observed matrices (Schreiber et al., 2006).

When conducting CFA, a number of technical and non-technical issues are apposite for determining the validity of a model. Jaccard and Wan (1995) recommend that more than one fit index be used to overcome the limitations of using a single index. If a good-fitting model exists the researcher is able to establish if causal paths are significant. Good-fitting models also allow the researcher to examine the discrepancies between variables. Recommendations put forward by Arbuckle (2010), Byrne (2013) and Schreiber et al. (2006) suggest a number of fit statistics that would indicate model fit. The difference between absolute or incremental fit statistics is usually identified as an important consideration. For example, the chi square, an absolute fit statistic, is often a reasonable measure of fit in samples from 75 to 400 cases. But the fit of chi square may be less significant if larger correlations exist and should be used in conjunction with other fit indexes (Bentler, 1990). The chi-square should theoretically be seen as a badness of fit test, as lower scores indicate a better fit. The author notes that a detailed engagement and discussion of the various fit statistics are beyond the scope of the current study. Following recommendations by Jackson, Gillaspy, & Purc-Stephenson (2009) and Kline (2011) the CFI (comparative fix index), RMSEA (root mean square error of approximation) and SRMR (standardized root mean square residual) was used as fit indexes in the current study. These recommendations have been used in a number of studies on children's well-being by Casas (see e.g. Casas et al. 2012; 2013). In accordance with Casas et

al., 2012; 2013 results higher than .950 were accepted for CFI and results below .05 were regarded as a good fit for RMSEA and SRMR.

To compare CFA between groups, factor invariance is critical. Factor invariance refers to the degree that items in the scale have the same meaning for members of different groups and is a prerequisite for factor comparison. If it is not observed, means or correlation coefficients may be attributed to real distribution differences or to different meanings of the variables (Meredith, 1993). Two kinds of factor invariance should be considered. Firstly, metric factor invariance which is a requisite for comparing variances, covariance or regression coefficients and secondly, scalar factor invariance which is a requisite for comparing means between groups (Casas et al., 2013). Subsequently, multi-group models are tested in three steps. In the first step, the multi-group model fit with no constraints needs to be tested. In the second step, metric factor invariance with constrained standardized factor loadings. And finally, scalar factor invariance by constraining the intercepts of the equation. If metric and scalar factor invariance are found to be tenable, then the items on the scale can be compared across groups by correlations regressions and means. In the current study this would indicate that the items on the scales are understood to have the same meaning for both SES groups.
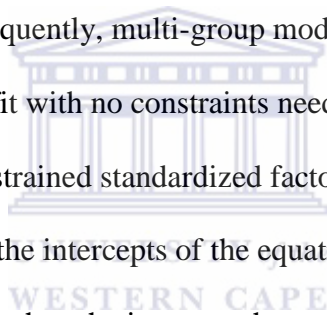
METHOD

The study forms part of the ISCIWeb (Phase 1: Deep Pilot) and follows a cross-sectional survey design. While the International Project targeted three age groups (8, 10, 12), due to the exploratory nature of this phase of the study, the South African study only included the 12 year old cohort.

History of the Project

The project began in 2009 when a group of researchers from the International Society for Child Indicators, held a meeting hosted by UNICEF Geneva to discuss the need for a study that captured information on children's subjective perceptions of well-being. The group agreed that such a study would fill an important gap in knowledge internationally about children's lives. One of the outcomes of the meeting was an early version of a survey questionnaire designed to determine children's subjective perceptions of well-being across a range of life domains. This first draft questionnaire was tested and piloted in 2010 in the following countries: Brazil, England, Germany, Honduras, Israel, Palestine, and Spain. In December 2010, the research group met again to review the pilot, and this led to a second draft version of the questionnaire. This version was then piloted in the first half of 2011. In October 2011, members of the research group reviewed the outcomes of the second pilot and developed a third set of the survey questionnaires (separate versions were developed for children aged 8, 10 and 12). At this time a group of researchers from the University of the Western Cape (South Africa) were invited to participate in the survey. The South African research team embarked on a process of adapting and translating the survey instrument and in 2012 participated in Phase One of the study which essentially consisted of a deep pilot. The main aim of Phase One was the refinement and the cross-cultural validation of scales used in the study. A total sample in excess of 30 000 children participated in the study. The South

African study included 1004 children from the 12 year-old age group. The project is now entering Phase Two which consists of a large-scale survey with a weighted representative sample of children in the three age groups across 15 countries. The South African study will include children from all three age groups (see www.isciweb.org). The current study reports on the fit indexes of two of the measures used in Phase One of the larger project.

Research Context

Decades of systematic racial oppression resulted in the context of social and economic inequality and impoverishment amongst majority of South Africa's population. With a gini co-efficient of .63 (Bosch et al., 2010), South Africa is characterised by high levels of social inequality which has resulted in the stark disparities between the rich and poor. This has culminated in the segregation of communities and neighbourhoods into privileged or high socio-economic communities characterised by high income, high educational attainment, high levels of employment, and low incidence of violence; and disadvantaged communities characterised by low educational attainment and income, high rates of substance abuse, unemployment, and crime and violence. A key indicator of a disadvantaged and poverty-stricken community is household subsistence level, with the most recent available statistics indicating that 35.70% of households in Cape Town live in poverty, with an income level of below R3500 per month (City Statistics - City of Cape Town, 2012). The current study was conducted in the Western Cape Metropole, which is a typical urban environment with a population of approximately 5.8 million. Participants were selected from both low and medium SES communities.

The current study was conducted in the Western Cape Province which is one of the nine provincial regions in South Africa. With an area size of 129 370 km² it is situated on the

south-western tip of the African continent and is comprised of urban, semi-urban and rural areas. The Province is divided into one metropolitan area (City of Cape Town), and 5 district municipalities, namely West Coast, Central Karoo, Overberg, Eden, and Cape Winelands. In terms of educational districts, the province is further divided into eight Education Management District Councils (EMDC) - four urban districts located in the City Metropole: Metro North, Metro South, Metro East and Metro Central; and four rural districts: West Coast, Cape Winelands, Eden and Central Karoo, and Overberg. Participants were selected from both low and medium socio-economic status communities within the four Metropole regions of the Western Cape Education Department (WCED) School Districts.

Sampling

The sampling frame for the study included children attending primary schools within the four EMDC's of the WCED Metropole. A two stage stratified random sampling protocol was followed, ensuring that children from various cultural, SES, and geographical groups were selected. In the first stage schools were stratified according to their location within the EMDC's. Thereafter, schools were stratified by SES level (low and medium) and randomly selected from these strata. While it was envisaged to obtain an equal number of schools from low and medium SES communities, the final sample consisted of eight schools from low and seven from medium SES communities. All the twelve year old children in the schools were selected to participate. A total of 1048 children participated in the study. After the data were cleaned, damaged and incomplete questionnaires were discarded. The final sample consisted of 1004 participants. Of these 58.6 % were from the low SES and 41.4% from the medium SES group. Girls comprised 53.9% whilst boys comprised 46.1% of the sample.

Instrumentation

The original survey instruments developed by the core research group were in English and Spanish. For the purposes of the South African study, the English version of the questionnaire was adapted to the South African context. This process included the cognitive testing, translation into Afrikaans and piloting of the 12 year old questionnaire. The cognitive testing process involved two focus groups with 10 children each. The participants of the focus groups were purposively selected from primary schools within the sampling frame. The responses of the participants of the focus groups assisted in the phrasing, refining and modification of items on the questionnaire. Thereafter, the revised questionnaire was translated into Afrikaans by two independent Afrikaans first-language reviewers using the backward translation method. Following the translation, both questionnaires (English and Afrikaans) were piloted with a sample of 100 twelve year old children, randomly selected from low and middle income schools located in the sampling frame. This process focused on gathering pertinent information relating to how the test-takers responded to the stimulus material, the ordering or sequencing of the items, and the length of the questionnaires. Information gathered during the pilot was used to revise and finalise the questionnaires. A number of internationally validated scales were included in the questionnaire. These included the Student Life Satisfaction Scale (Huebner, 1991), the Personal Well-Being Index-School Children (Cummins & Lau, 2005), the single-item scale on Overall Life Satisfaction (Cummins & Lau, 2005), and the Children's Hope Scale (Snyder et al., 1997). This study reports on some of the findings of the SLSS, PWI-SC, and the OLS.

Students' Life Satisfaction Scale

The seven-item Student Life Satisfaction Scale (SLSS) was developed to assess children's (ages 8-18 years) global life satisfaction (Huebner, 1991). The scale items are domain-free and require respondents to evaluate their satisfaction on a 5-point Likert scale ranging from "very much disagree" to "very much agree". The initial version of the scale comprised 10 items and was later reduced to 7-items owing to further item analysis as well as data and reliability estimates (Huebner, Suldo, & Valois, 2003). The scale has been shown to display acceptable internal consistency, with alpha coefficients of 0.82 (Huebner, 1991; Huebner et al. 2004), and 0.86 (Dew & Huebner, 1994). The SLSS has also evinced convergent validity by correlating well with other life satisfaction measures (Dew & Huebner 1994; Huebner 1991) and overall life satisfaction (Casas et al., 2013). The scale has also been shown to display good criterion (Huebner et al., 2003), discriminant (Huebner & Alderman 1993), and predictive validity (Suldo & Huebner, 2004).To date, empirical guidelines for 'cut-points' that might classify children into optimal, adequate or low levels of life satisfaction have not been established. Furthermore normative scores from South African populations have not been established. To assist with comparison between scales, the SLSS has been transformed into a 100-point scale.

Personal Well-Being Index-School Children and Adolescents

Based on the original adult version, the Personal Well-Being Index-School Children (PWI-SC) was designed by Cummins and Lau (2005) to assess children's subjective well-being. The scale evaluates a number of life satisfaction domains, namely standard of living, health, achieving in life, relationships, safety, community-connectedness and future security. The scale consists of 7 items, representing the aforementioned domains, and is intended to display a "first level deconstruction of satisfaction with 'life as a whole' " (Tomyn & Cummins,

2011, p. 408). The original seven item scale is often adapted to include items on religion/spirituality and school experience. In the current study, the item on school experience has been included. Response options for the PWI-SC use an end-labelled 0-10 point scale, with 10, indicating complete satisfaction and 0, complete dissatisfaction. The PWI-SC generates a composite variable which is determined by calculating the mean for the items. The PWI-SC has shown an acceptable alpha coefficient of 0.82 (Tomyn & Cummins, 2011). To assist with comparison between scales, the PWI-SC has been transformed into a 100 point scale.

Single Item on Overall Life Satisfaction

An item assessing Overall Life Satisfaction (OLS) (Cummins & Lau, 2005) on an end-labelled 0-10 scale was also included, "How satisfied are you with your life as a whole?" The importance of including a single item on life satisfaction was identified by Campbell et al. (1976) and further corroborated by Cummins and Lau (2005) and Casas et al. (2013).

PROCEDURE AND ETHICS

Once the schools were selected, the research team met with the principals and life skills teachers. An information session was arranged with the 12 year old children in the school where the aim, the nature of their involvement and ethics of the study were discussed. The participants were advised on the ethics principles of informed consent, confidentiality, the right to withdraw and privacy. Those who agreed to participate were requested to provide signed consent as well as obtain signed consent from their parents. Only those who returned the consent forms participated in the study. The questionnaires were administered following a researcher-administered protocol. This means that the items on the questionnaire were read to the participants by members of the research team while they were answering the

questionnaire. This approach assisted participants who may have experienced difficulty in answering some items on the questionnaire and is generally used with young children and vulnerable groups. The average time of completion of the questionnaires was 30 minutes.

DATA ANALYSIS

The Statistical Package for the Social Sciences (version 22) software was used to analyse the data. As per the survey design methodology, the study generated descriptive statistics including means, standard deviations, frequency distributions and cross-tabulations.

To test the validity of the measures in the South African context and across diverse groups, confirmatory factor analysis (CFA) using AMOS version 22 was used. Following recommendations from Casas et al. (2012), all participants with more than two missing values were deleted and missing values substituted by regression. Maximum likelihood estimation was used with kurtosis and departures from normality attended to using the bootstrap method (500 samples).

When conducting a study using CFA, it is often recommend that fit indexes are used as they help to determine if a model is acceptable and able to reproduce data. Jaccard and Wan (1995) recommend that more than one fit index be used to overcome the limitations of using a single index. As previously stated, recommendations by Jackson et al. (2009) and Kline (2011) the CFI (comparative fix index), RMSEA (root mean square error of approximation) and SRMR (standardized root mean square residual) was used as fit indexes. In accordance with Casas et al., 2012, 2013) results higher than .950 were accepted for CFI and results below .05 were regarded as a good fit for RMSEA and SRMR.

To compare CFA between groups factor invariance is critical. Factor invariance refers to the degree that items in the questionnaire have the same meaning for members of different groups and is a prerequisite for factor comparison. If it is not observed, means or correlation coefficients may be attributed to real distribution differences or to different meanings of the variables (Meredith, 1993). Two kinds of factor invariance were considered. Firstly, metric factor invariance which is a requisite for comparing variances, covariance or regression coefficients and secondly, scalar factor invariance which is a requisite for comparing means between groups (Casas et al., 2013). Subsequently, multigroup models were tested in three steps. In the first step, the multi-group model fit with no constraints was tested. In the second step, factor invariance was tested with constrained standardized factor loadings. And finally, factor invariance by constraining the intercepts of the equation was tested.

RESULTS

Descriptive Statistics

Skewness of the items ranged from .680 to -.1222 for the SLSS and -.901 to -2.145 for the PWI-SC; with Kurtosis from 1.116 to -.1377 for the SLSS and -.226 to 4.728 for the PWI-SC. These departures from normality were attended to using the Bootstrap method (500 samples) in AMOS 22. Cronbach Alpha for the SLSS was an acceptable .75 and 0.68 for the PWI-SC– these scores are consistent with other validation studies.

A means analysis showed significant overall mean scores across SES groups for both the PWI-SC and SLSS. Table 1 shows the mean composite scores for the three scales used in the study which is the SLSS, PWI-SC, and the OLS. The composite mean scores for the scales were as follows: for the SLSS it was 65.60 (*sd* = 18.59); PWI-SC, 81.90 (*sd* = 13.60) and for the OLS 85.10 (*sd* = 24.29).

Table 1: Mean composite scores for SLSS, PWI-SC and OLS

	N	Mean	Std. Deviation
SLSS composite	1004	65.60	18.59
PWI-SC composite	1004	81.90	13.60
OLS composite	1004	85.10	24.29

The item scores are presented in Table 2 and Table 3 and reflect the range across SES.

Table 2: SLSS Item and Composite Mean Score By Income

	Income	N	Mean	Std. Deviation
My life is going well	Total	1004	3.21	93
	Low	589	3.22	.97
	Medium	415	3.20	.87
My life is just right	Total	1004	3.07	1.02
	Low	589	3.09	1.05
	Medium	415	3.05	.97
*Like to change things in my life	**Total**	**1004**	**1.34**	**1.35**
	Low	**589**	**1.18**	**1.30**
	Medium	**415**	**1.57**	**1.39**
*Wish I had a different Life	**Total**	**1004**	**2.15**	**1.47**
	Low	**589**	**1.85**	**1.43**
	Medium	**415**	**2.58**	**1.41**
I have a good life	Total	1004	3.17	1.04
	Low	589	3.15	1.06
	Medium	415	3.19	1.01
I have what I want in life	Total	1004	2.75	1.18
	Low	589	2.77	1.19
	Medium	415	2.72	1.17
My life is better than most kids	Total	1004	2.67	1.20
	Low	589	2.69	1.21
	Medium	415	2.65	1.18
*SLSS_Mean Composite Income(negatively phrased items– recoded)	Low	589	64.13	18.48
	Medium	415	67.70	18.58

Table 2 displays the item and composite mean scores of the SLSS for the low and middle

income groups. The results show that the composite mean score for the low-income group

was 64.13 (*sd* = 18.48) and 67.70 (*sd* = 18.58) for the middle-income group. Independent

sample t-tests revealed a significant difference between the income groups for item three ("I would like to change many things in my life") and item four ("I wish I had a different kind of life"); with the middle income group scoring higher than the low income group on both items.

Table 3: PWI-SC Item and Composite Mean Score by SES

	Income Group	N	Mean	Std. Deviation
Satisfied with things I have	Total	1004	8.58	2.18
	Low	589	8.58	2.27
	Medium	415	8.59	2.04
*Satisfied with relationships in general	**Total**	**1004**	**8.17**	**2.36**
	Low	**589**	**8.04**	**2.57**
	Medium	**415**	**8.36**	**2.02**
Satisfied with school experience	Total	1004	8.34	2.23
	Low	589	8.38	2.26
	Medium	415	8.28	2.19
Satisfied with health	Total	1004	8.76	2.10
	Low	589	8.84	2.09
	Medium	415	8.64	2.11
Satisfied with safety	Total	1004	8.39	2.40
	Low	589	8.46	2.48
	Medium	415	8.30	2.23
Satisfied with things I'm good at	Total	1004	8.73	2.10
	Low	589	8.78	2.11
	Medium	415	8.67	1.98
*Satisfied with things away from home	**Total**	**1004**	**6.93**	**3.14**
	Low	**589**	**6.56**	**3.41**
	Medium	**415**	**7.45**	**2.64**
*Satisfied with future security	**Total**	**1004**	**7.62**	**2.90**
	Low	**589**	**7.43**	**3.08**
	Medium	**415**	**7.89**	**2.56**
PWI_MeanComposite/SES	Low	589	81.33	13.40
	Medium	415	82.73	13.90

Table 3 displays the item and mean composite scores of the PWI-SC, as well as the cross-tabulation between the items on the PWI-SC and income level. The results show a mean composite score of 81.33 (*sd*= 13.40) for the low income group and 82.73 (*sd* = 13.90) for the middle income group. Using independent sample t-tests, significant differences were found

between the two SES groups for item two ("Satisfied with relationships in general), item seven ("Satisfied with things away from home") and item eight ("Satisfied with future security"); with the medium SES scoring higher than the low SES group on the three items.

Table 4: Overall Life Satisfaction Mean Scores by Income and Gender

		N	Mean	Std. Deviation
Satisfaction with life as a whole	Total	1004	85.10	24.29
Satisfaction with life as a whole	Low	589	86.00	24.76
	Middle	415	83.90	23.59
Satisfaction with life as a whole	Boy	462	84.90	24.40
	Girl	542	85.40	24.22

Table 4 presents the mean scores for the single item on life satisfaction. An overall mean score of 85.10 (*sd* = 24.29) was obtained. No significant differences were observed across income or gender.

Confirmatory Factor Analysis

In order to assess the validity of the factorial structure of the scales, confirmatory factor analysis was used to test the fit statistics of various models (presented in Table 5). Initial models for the SLSS and PWI-SC did not show adequate fit statistics (Model 1 and Model 2). However, modified models with three error co-variances (items 1 to item 2; item 3 to item 4; item 6 to item 7) for the SLSS (Model 3); and two co-variances (items 4 – item 5; item 7 to item 8) for the PWI-SC (Model 5) produced an adequate fit (see figure 1 and 2). Standardised factor loadings for the two scales ranged from 0.19 to 0.81 and are presented in Table 6. Factor loadings for items 3 and 4 presented with low scores of 0.19 and 0.29 respectively. These two negatively phrased items also showed a high correlation (0.44) with one another. When a model (Model 4) was tested without item 3 and 4, the fit statistics improved substantially.

Table 5: Fit statistics for the overall pooled data and multi-group constrained models by SES

Model		X2	df	p-value	CFI	RMSEA	SRMR
1	SLSS Initial Model	299.63	14	0.00	0.862	0.144 (0.129 – 0.157)	0.086
2	PWI-SC Initial Model	124.09	20	0.00	0.890	0.072 (0.060 – 0.084)	0.048
3	SLSS Modified Model with 3 error co-variances	18.42	11	0.07	0.996	0.026 (0.000 – 0.046)	0.020
4	SLSS Modified Model with 2 error co-variances (excl. item 3 & 4)	4.12	3	0.24	0.999	0.060 (0.000 – 0.058)	0.008
5	PWI-SC Modified Model with 2 error co-variances	53.01	18	0.00	0.963	0.044 (0.031 – 0.058)	0.029
6	PWI-SC/SLSS (SEM) (Pooled Sample) Initial model (excl. item 3 & 4 on SLSS)	258.07	64	0.00	0.936	0.055 (0.048 – 0.062)	0.039
7	PWI-SC/SLSS (SEM) (Pooled sample) Modified model (excl. item 3&4 on SLSS, with 8 error co-variances)	94.87	56	0.00	0.987	0.026 (0.017 – 0.035)	0.024
8	PWI-SC/SLSS (SEM) (Multi-group) SES (Unconstrained)	175.40	112	0.00	0.980	0.024 (0.017 – 0.030)	0.027
9	PWI-SC/SLSS (SEM) (Multi-group) SES (Constrained Factor Loadings)	185.50	123	0.00	0.980	0.024 (0.016– 0.029)	0.032
10	PWI-SC/SLSS (SEM) (Multi-group) SES (Constrained Factor Loadings & Intercepts)	229.79	134	0.00	0.970 (0.021 – 0.032)	0.027	0.032
11	PWI-SC/SLSS (SEM) (Pooled sample) with 8 error co-variances) regressed onto OLS	119.98	67	0.00	0.984	0.028 (0.020 – 0.036)	0.025

Figure 1: SLSS (Modified Model with 3 error co-variances)

Figure 2: SLSS (Modified Model with 2 error co-variances: excluding item 3 & 4)
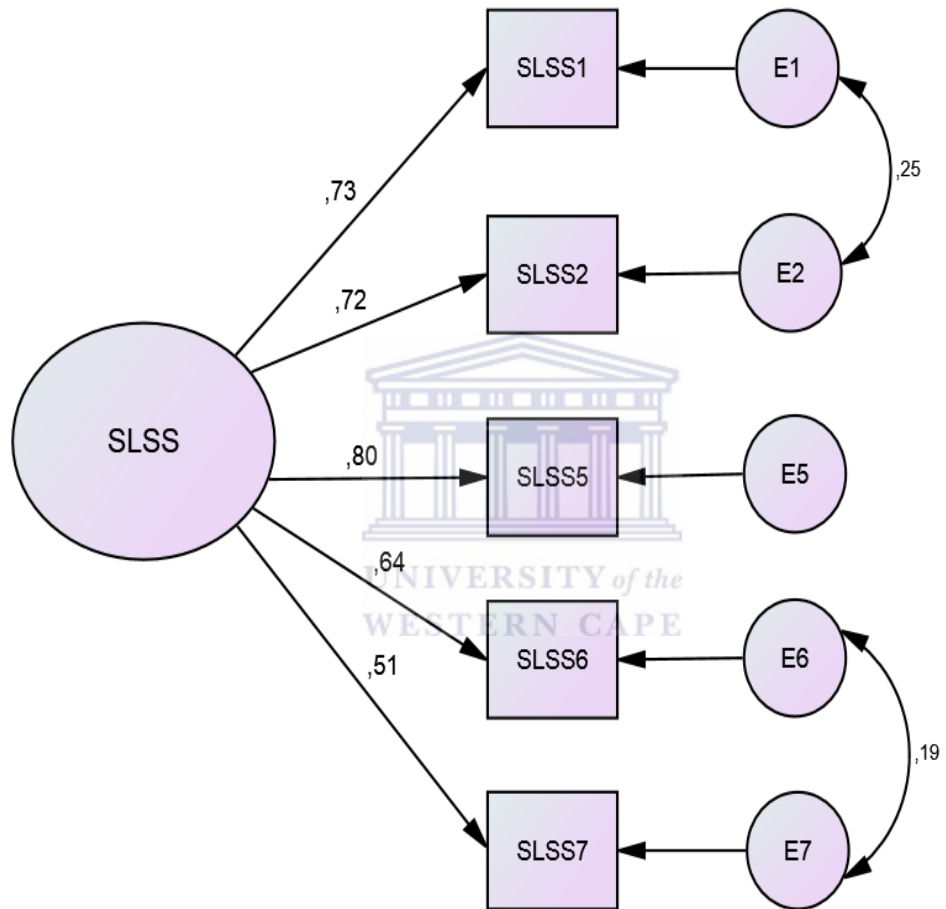
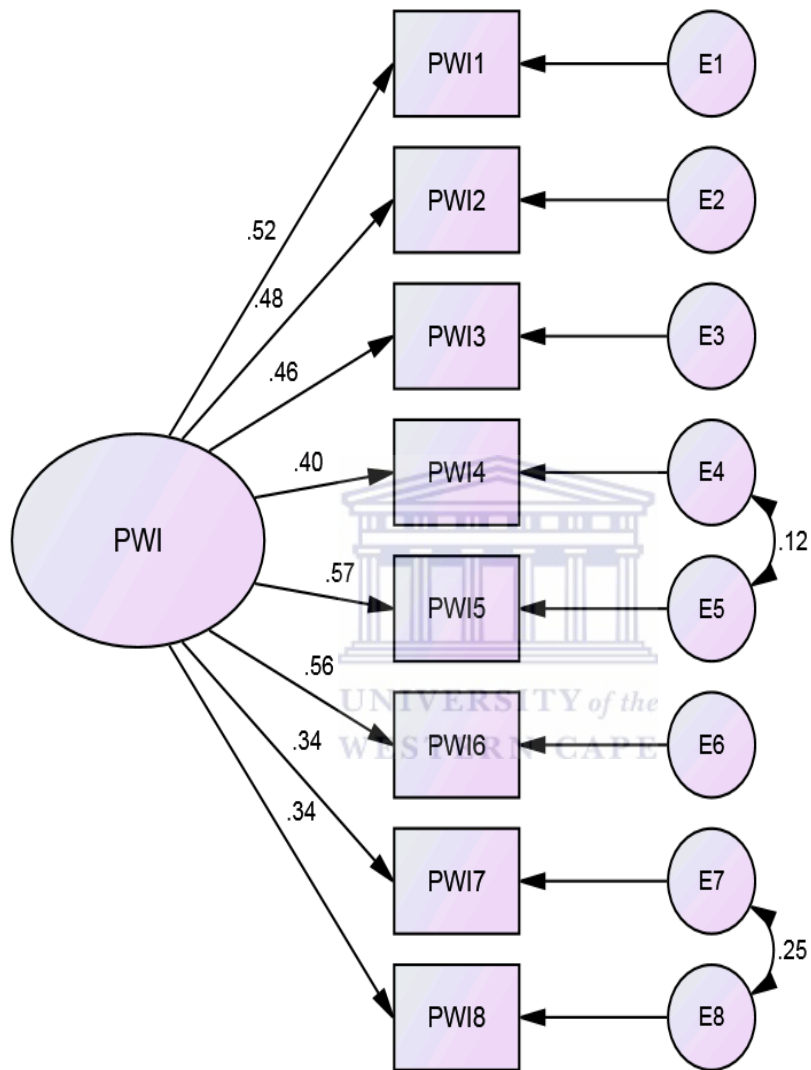**Figure 3: PWI-SC (Modified Model with 2 error co-variances)**

Table 6: Standardised Regression Weights for items on the SLSS & PWI-SC

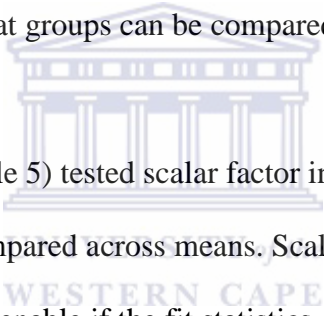| Bootstrap ML, 95% confidence intervals. Resamples = 500			Estimate	Lower	Upper	Sig
SLSS						
Life going well	←	SLSS	.73	.67	.78	<.05
Life just right	←	SLSS	.72	.66	.78	<.05
Have good life	←	SLSS	.80	.75	.86	<.05
Have what I want in life	←	SLSS	.64	.57	.69	<.05
Life better than most	←	SLSS	.51	.43	.56	<.05
PWI-SC						
SatisfiedThingsHave	←	PWI-SC	.52	.45	.60	<.05
SatisfiedRelationships	←	PWI-SC	.48	.40	.55	<.05
SatisfiedSchoolExp	←	PWI-SC	.46	.36	.53	<.05
SatisfiedHealth	←	PWI-SC	.40	.31	.49	<.05
SatisfiedSafety	←	PWI-SC	.57	.49	.64	<.05
SatisfiedThingsGoodAt	←	PWI-SC	.56	.47	.62	<.05
SatisfiedAwayHome	←	PWI-SC	.34	.27	.41	<.05
SatisfiedLaterInLife	←	PWI-SC	.34	.25	.42	<.05

In the next step, an overall model using the two scales, with correlated latent variables was tested. Whilst the initial model (Model 6 in Table 5) presented an adequate fit, a modified model (Model 7 in Table 5) with eight error co-variances presented with an improved fit (Figure 4). A correlation coefficient of 0.71 suggests that the two variables are conceptually related.

Figure 4: SEM with 8 error co-variance
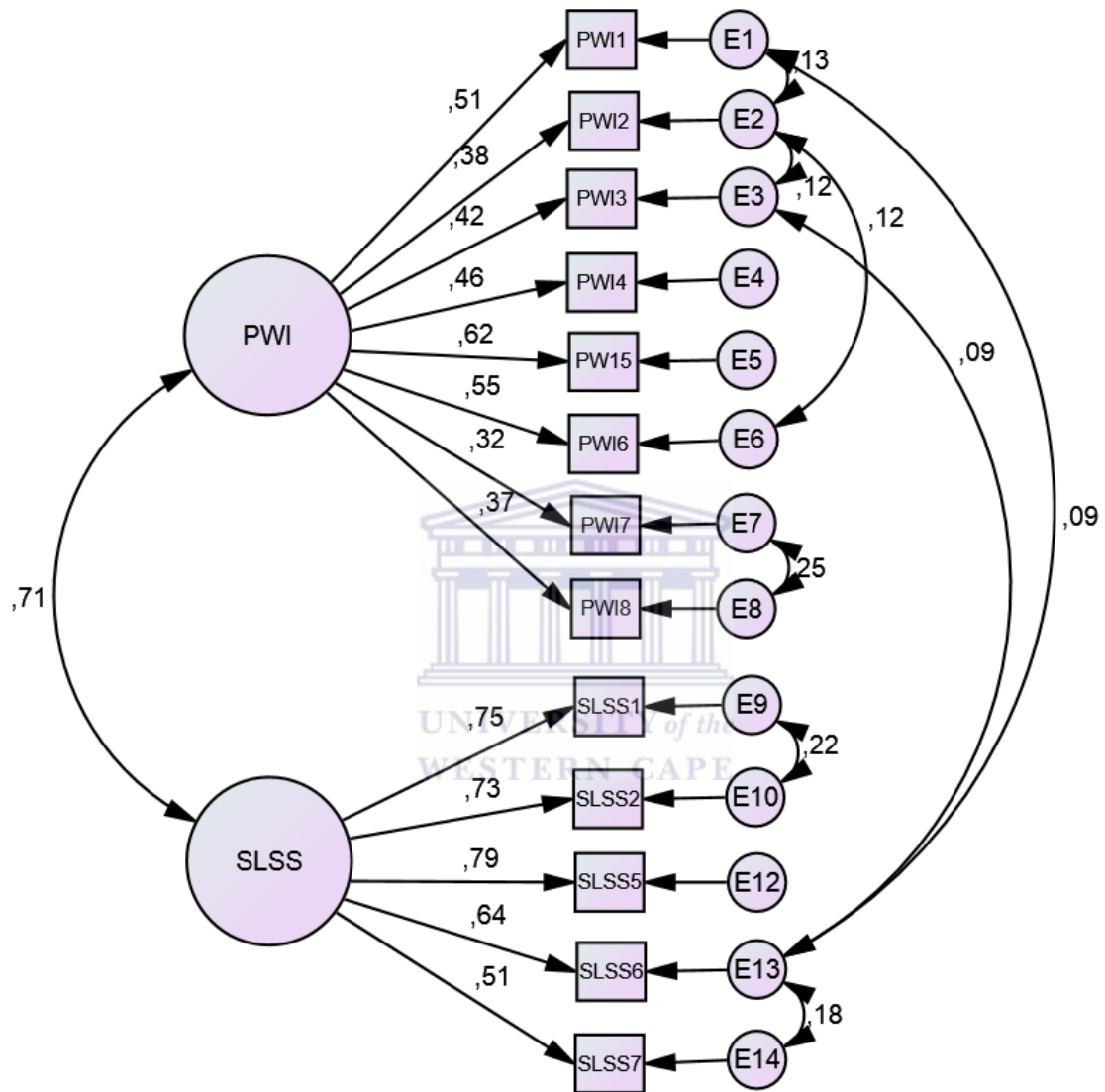
As previously indicated, to compare coefficients across SES groups, factor invariance was

tested using three steps. To compare coefficients across SES groups, metric factor invariance

needs to be tenable. Factor invariance refers to the extent to which scale items are understood

to have the same meaning for members of different groups and is a mandatory condition for group comparison. If this is not met, then group differences in means or regression coefficients can be accounted for by true differences in group distributions or to a different understanding of the items (Casas et al., 2012). The first step when testing metric factor invariance is to fit an unconstrained multi-group model. If this model shows adequate fit structure, then constrained factor loadings needs to be tested. If the constrained model does not show a significantly worse fit than the unconstrained, then metric factor variance is tenable (Brannick, 1995; Cheung & Rensvold, 2002). Findings from the current study show adequate fit statistics for the unconstrained multi-group model (Model 8 in Table 5) as well as the model with constrained factor loadings (Model 9 in Table 5). This means that metric factor invariance is tenable and that groups can be compared by regressions and correlations.

The next model (Model 10 in Table 5) tested scalar factor invariance which assesses the extent to which groups can be compared across means. Scalar factor invariance is tested by constraining the intercepts and is tenable if the fit statistics of the model is not significantly worse than the subsequent model. In the current study scalar factor invariance was tenable; this means that the overall model can be compared across regressions, correlations and means.

In the final model (Model 11 in Table 5), the two latent variables (SLSS & PWI-SC) were regressed onto the observed variable Overall Life Satisfaction (OLS). Figure 5 shows the standardised estimates of the overall model and Table 7 the SES specific standardised regression weights. Standardised estimates show adequate loadings for all items across SES groups. The regression weights also show adequate loadings of the latent variables onto OLS.

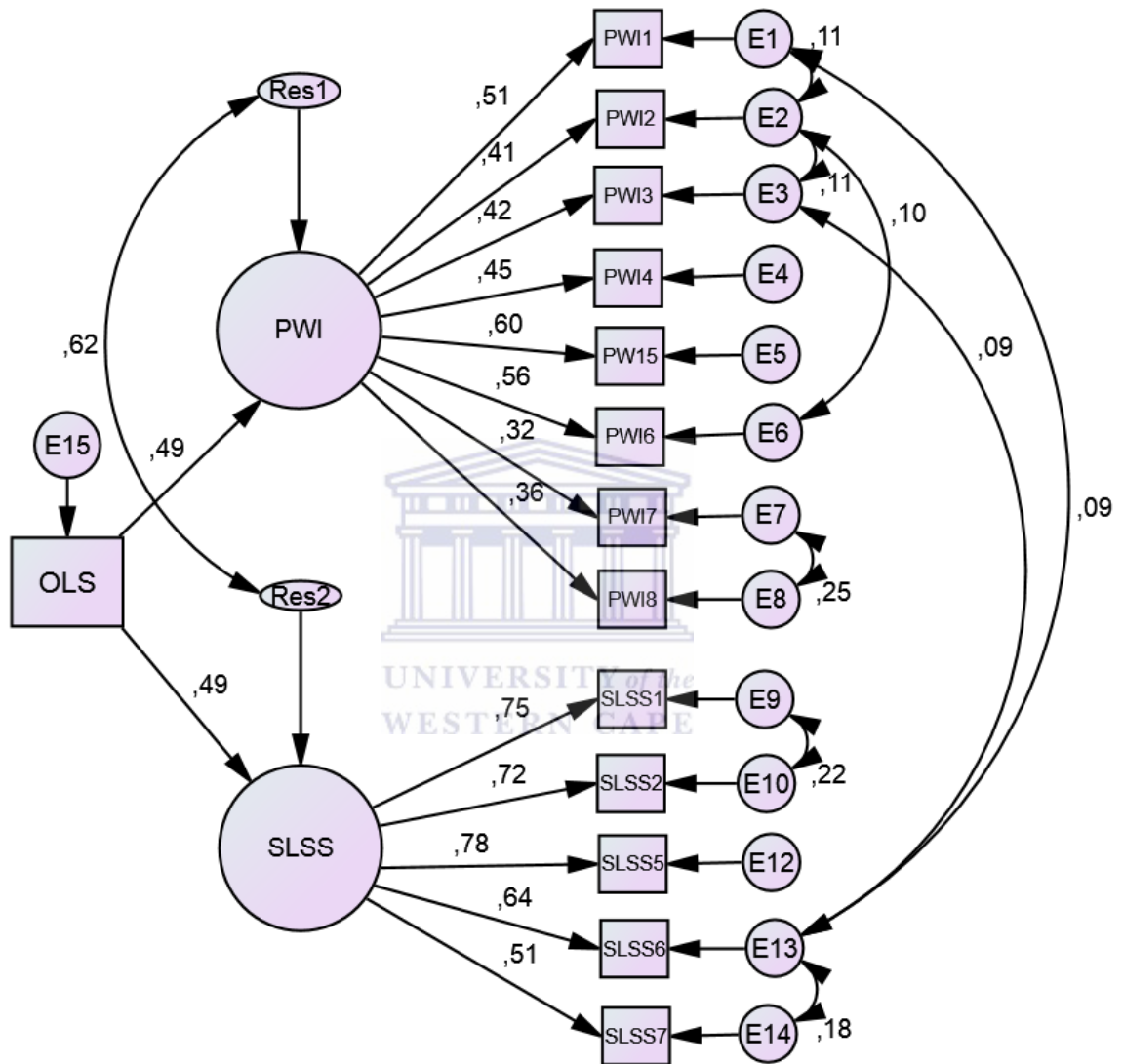**Figure 5: SEM with 8 error co-variances regressed onto OLS**

Table 7: Standardised Regression Weights for items on the overall SEM (OLS) across SES groups

| Bootstrap ML, 95% confidence interval. Resamples = 500			Estimate	Lower	Upper	Sig
LOW SES						
SLSS	<---	**OLS**	.493	.384	.595	<.05
PWI	<---	**OLS**	.466	.359	.563	<.05
SatisfiedThingsHave	<---	PWI	.455	.372	.547	<.05
SatisfiedRelationshipsGeneral	<---	PWI	.345	.277	.418	<.05
SatisfiedSchoolExperience	<---	PWI	.388	.303	.459	<.05
SatisfiedHealth	<---	PWI	.432	.344	.510	<.05
SatisfiedSafety	<---	PWI	.558	.484	.638	<.05
SatisfiedThingsGoodAt	<---	PWI	.510	.442	.577	<.05
SatisfiedThingsAwayFromHome	<---	PWI	.287	.228	.347	<.05
SatisfiedLaterInLife	<---	PWI	.331	.257	.412	<.05
LifeGoingWell	<---	SLSS	.755	.694	.812	<.05
LifeJustRight	<---	SLSS	.731	.672	.786	<.05
HaveGoodLife	<---	SLSS	.803	.749	.846	<.05
HaveWhatWant	<---	SLSS	.654	.587	.706	<.05
MEDIUM SES						
SLSS	<---	**OLS**	.494	.375	.598	<.05
PWI	<---	**OLS**	.529	.412	.626	<.05
SatisfiedThingsHave	<---	PWI	.560	.479	.636	<.05
SatisfiedRelationshipsGeneral	<---	PWI	.510	.406	.621	<.05
SatisfiedSchoolExperience	<---	PWI	.467	.350	.567	<.05
SatisfiedHealth	<---	PWI	.474	.370	.585	<.05
SatisfiedSafety	<---	PWI	.706	.610	.800	<.05
SatisfiedThingsGoodAt	<---	PWI	.625	.537	.715	<.05
SatisfiedThingsAwayFromHome	<---	PWI	.435	.334	.527	<.05
SatisfiedLaterInLife	<---	PWI	.464	.371	.573	<.05
LifeGoingWell	<---	SLSS	.740	.681	.799	<.05
LifeJustRight	<---	SLSS	.724	.659	.786	<.05
HaveGoodLife	<---	SLSS	.754	.673	.832	<.05
HaveWhatWant	<---	SLSS	.603	.525	.679	<.05
LifeBetterThanMost	<---	SLSS	.479	.407	.553	<.05

Standardised regression weights for the PWI-SC to the OLS were for 0.49 for both the Low SES group and the Medium SES group. For the SLSS the regression weights to the OLS was 0.47 for the Low SES group and 0.53 for the Medium SES. Furthermore, for the Low SES group, standardized regression weights for the individual items of the SEM model ranged from 0.29 for item 7 (*Satisfied with things I do away from home*) on the PWI-SC to 0.80 on

item 5 (I have a good life) on the SLSS. Standardised regression weights for the Medium SES group ranged from 0.31 for the negatively phrased item on the SLSS (*I wish I had a different life*) to 0.76 for item 7 (*I have a good life*) on the SLSS.

DISCUSSION

The study aims to determine the subjective well-being of children in the Western Cape region of South Africa, specifically children's perceptions of life satisfaction and personal well-being. While children in South Africa face countless risks and burdens in their daily lives which affects their overall well-being, it is poignant to note that the composite scores for the three scales show a general trend towards high levels of subjective well-being. However, these scores are incongruent to objective indicators of well-being which point to a range of adverse childhood realities. The absence of normative scores for South African child populations adds complexity to the interpretation.
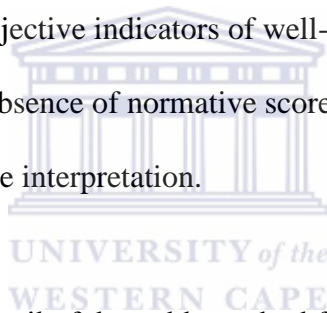
Cummins (1995b), while 'on the trail of the gold standard for subjective well-being", noted the tendency for scores on subjective well-being measures to be negatively skewed. Indeed this 'life optimism bias' presents consistently within the literature. Early studies by Goldings (1969) for example, explained this phenomenon as being related to socially acceptable perceptions of happiness (as cited in Cummins, 1995b). If happiness is positively regarded in a specific culture, then individuals are more inclined to respond in a positive way. Others such as Boucher and Osgood (1969) put forward the 'Pollyanna' hypothesis to explain individuals' preference to select items on the positive spectrum; while Heady and Wearing (1988, 1992) suggest that it may be linked to the need to maintain the integrity of the self (as cited in Cummins, 1995b). Cummins (1995b) concludes that the negative skew in subjective quality of life data is ubiquitous; that a variety of psychological mechanisms could explain

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this phenomenon; and that the consistency of this phenomenon across a diverse range of studies is evident of a psychological set-point for subjective well-being. Empirical research conducted with child well-being scales generally reporting composite mean scores that have been transformed into 100 point scales. Casas et al. (2013), for example, report mean composite scores of between 70 – 80 for child populations of western countries on the Personal Well-Being Index.

While similar results are found in the current study, a degree of caution is required with its interpretation. This point is significant if one notes the contention of Dawes et al's (1989, p. 631–632):

> **the past emphasis on children's vulnerability will be replaced with an overemphasis on children's resilience […] leading us to underestimate the very real instances of psychological distress that occur in contexts of violence.**
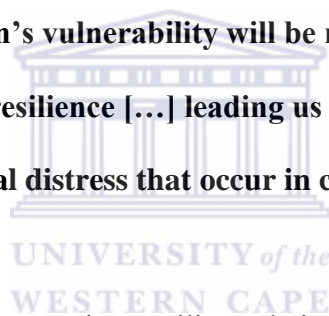
Dawes et al is essentially cautioning against resilience being regarded as the panacea for childhood adversity in South Africa. Recent qualitative studies such as Isaacs and Savahl (2014) and Savahl et al. (2014b) point to the concept of desensitisation as another explanation. They argue that consistent exposure to a range of adverse experiences in impoverished communities in Cape Town often results in desensitisation. Following Sen (1999) who makes reference to subjective well-being amongst people living in poverty, this desensitisation might lead to a normalisation of adverse life experiences, where children and adolescents 'learn to be satisfied' with their life conditions.

An important finding of the study was the significant difference in the composite mean scores on the SLSS between children from low and medium SES communities. This finding is

similar to that of Klocke, Clair and Bradshaw (2013) as well as findings from national surveys from OECD countries, indicating that subjective well-being varies in terms of parental income and SES. Additionally, for the two negatively phrased items on the SLSS, significant differences were found between the two SES groups. Of particular interest was the large range between the minimum and maximum composite scores for the SLSS and PWI-SC. This may be representative of the different status of children's lives in the sample and the diversity of the childhood experience, which may not only be due to income, but other social, political, historical and cultural factors.

The PWI-SC, however, which is domain specific, showed no overall significant differences between mean composite scores across income groups. There were, however, significant differences on three domains related to:

- relationships in general (item 2)

- things away from home (item 7)

- future security (item 8)

Another interesting finding is the difference between mean composite scores on the SLSS (65.60) and the PWI-SC (81.90). The different nature of the scales as being either 'context or domain free' (SLSS) or 'domain specific' (PWI-SC) is one of the possible explanations for this finding. It then follows that when the participants respond to questions regarding specific domains that they are optimistic about the nature of their well-being. Biwas-Diener and Diener (2001) found that individuals living in adverse circumstances report lower overall levels of life satisfaction and higher levels of life satisfaction with regard to specific life domains. Further support for this contention is found in qualitative work conducted by September and Savahl (2009), Savahl (2010) and Savahl et al. (2014b) who found that adolescents generally responded positively to discussions around specific aspects of their

lives. However, deeper probing around general life experiences of children and adolescents reveal contrasting perceptions portraying adverse childhood experiences, trauma and credible threats to well-being. Further explanation can also be located in the 'satisfaction paradox' (Zapf, 1984, as cited in Olson & Schober, 1993), which refers to the state of being satisfied regardless of objectively unsatisfactory living conditions (Neff, 2007).

With regard to the fit structure of the scales, some interesting findings were forthcoming. The findings of the current study confirm appropriate fit structure for both the SLSS and PWI-SC. The SLSS presented with the best fit structure with 2 error co-variances and with item 3 (*I wish I had a different life*) and item 4 (*I would like to change many things in my life*) removed. Given the low factor loadings of these items, especially in relation to the other items on the scale, it is recommended that they be flagged when conducting further research with child populations in the Western Cape. The PWI-SC presented with the best fit structure with three error co-variances.
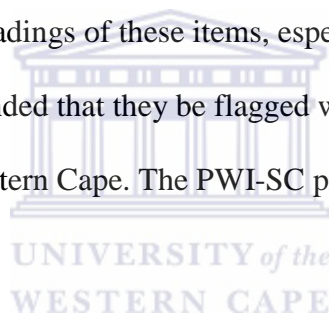
Given the high level of social inequality and disparities between the rich and poor in South Africa it is paramount to consider the diversity of life experiences between various SES groups. Largely aligned to the socio-political history of the country, growing up in South African societies as a child and adolescent is one of diversity of experience, characterised by the polarised 'lifeworld' of opportunity and provision on the one hand, and deprivation on the other. Accurately capturing these experiences and correlates of child and adolescent well-being requires careful consideration of the measures. A multi-group SES model testing how different SES groups responded to the various scale items was conducted.

Appropriate fit statistics was found for the combined multi-group model. Metric and scalar factor invariance was tested by constraining the factor loadings and intercepts – and was

found to be tenable. Therefore, the overall multi-group model has good fit structure and the two SES groups can be compared by correlations, regressions and means. The fact that the multi-group SES model shows good fit statistics with the overall multi-group SEM model is a very encouraging finding. This essentially means that even though the SEM model presents with some limitations, in terms of comparability of scale items, the overall measures are comparable across SES groups.

Convergent validity was tested by regressing the two latent variables onto the single item overall life satisfaction (OLS). Appropriate fit statistics were achieved for the overall pooled sample (SEM). The standardised regression weight of 0.49 for both the SLSS and PWI-SC suggest adequate loadings of the latent variables onto OLS. With a correlation of 0.71 between the two latent variables, the SLSS and PWI-SC are conceptually related yet distinct components of overall life satisfaction. Diener (1999) has speculated that the various scales measuring subjective well-being and positive psychological constructs could possibly belong to the same higher order construct. Casas et al. (2012), however, makes the important point that when first order factors are present, the first and second order models are equivalent and not testable against each other. In the final analysis, the overall SEM model showed appropriate fit structure with metric factor invariance tenable – the overall model is valid for use in the Western Cape and low and medium SES groups can be compared by regression and correlations.

CONCLUSION AND RECOMMENDATIONS

While the socio-political landscape in South Africa is geared toward improving the lives and well-being of children, findings which suggest high levels of subjective well-being are counterintuitive to this agenda and may create a false sense of achievement and negatively affect the impetus of policy initiatives and service delivery. Furthermore, as these findings do not align to the more objective indicators of well-being, there is a risk that the focus on subjective well-being would be downplayed. With subjective well-being being in its infancy in South Africa and the subsequent lack of empirical initiatives, plotting a course forward is an extremely difficult task. Cross-cultural adaptation and translation of internationally validated instruments need to be advanced. The current study has made a valuable contribution in this regard. Further translation and cross-cultural testing of the standardised instruments are recommended along with further development of subjective well-being indexes, such as Casas et al.'s (2013) 'General Index of Children's Subjective Well-Being' and Rees, Goswami and Bradshaw's (2010) 'Short Index of Child Well-Being'. The development of a validated subjective well-being index for children in South Africa would be a substantial achievement. This along with large scale studies using weighted representative samples to develop normative scores would be useful especially considering the diversity of the childhood experience in the South African context. Finally, given the tendency for subjective well-being measures to present with negatively skewed scores, it is recommended that studies aimed at determining subjective well-being include both quantitative and qualitative methodologies. Depth exploration, afforded by qualitative techniques would allow for deeper access to the meanings associated with subjective well-being and would make for a more comprehensive understanding of subjective well-being and quality of life.

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