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TESTING THREE MEASURES OF SUBJECTIVE WELL-BEING AMONGST A SAMPLE OF 8-YEAR-OLD CHILDREN

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A thesis submitted in fulfilment of the degree Master of Arts (Psychology) in the Department of Psychology, University of the Western Cape, Bellville

2021

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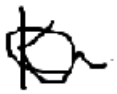
Keywords: Children's subjective well-being; Brief Multidimensional Students' Life Satisfaction Scale; Students' Life Satisfaction Scale; Personal Well-Being Index–School Children; Theory of Model Fit; confirmatory factor analysis; structural equation modelling

Declaration

I declare that this thesis "Testing three measures of subjective well-being amongst a sample of 8-year-old children." is my own work. This thesis has not been submitted, in full or part, for the award of any other degree and all sources used or quoted in this thesis have been fully referenced.

Signature:  **Date:** August 2021

Acknowledgements

Foremost, I am grateful to my creator, the Almighty who has guided and enabled me to embark upon this journey. I would not be where I am today without my creator.

To my supervisors, Professor Shazly Savahl and Dr. Sabirah Adams, the level of your commitment and humility is amazing, I am truly appreciative to you for your unending support, ongoing guidance, encouragement, wisdom, invaluable insights and great contributions to this thesis. Without you, I would not have been able to complete this thesis and be proud of the outcome. I have learnt so much from you and I am truly grateful for the pivotal role you have had in my academic development.

To my beloved husband Irshaad, my solace, you have been there for me in the toughest times. I am forever grateful for your love, support and patience throughout this journey. Your continuous positivity, encouragement, and uplifting spirit have been my pillar of strength these past years. Thank you for understanding and being there for me when I needed it the most.

A special thanks to my darling kids, Mohammed Siddiq, Uthmaan and Hajar Zohha, who have been so encouraging and supportive. You are my source of strength and my motivation to want to explore children in the South African context. You are my inspiration.

To my parents and siblings, thank you for your unending love and support throughout my life and academic endeavours. Your continuous prayers, wisdom and encouragement have helped me tremendously along this journey. Daddy and mommy, I appreciate everything that you have done for me. I am truly blessed to have you as my parents.

Abstract

Research on children's well-being has increased over the past decade, largely driven by advancements in children's rights legislation and the emergence of innovative theoretical and epistemological frameworks. While there has been a notable increase in empirical research on children's objective standards of living, less data has been available in relation to their subjective perceptions and evaluations of their life. The measurement of children's subjective well-being (SWB) has been a particular focus of empirical research especially as it relates to the development of valid scales for use with children across age groups and contexts. An area of concern is the lack of psychometrically sound measurement instruments for use with younger children and especially in low-to-middle income contexts. The current study aimed to contribute in this regard, by testing three measures of SWB with a sample of 8-year-old children. The study used secondary data from the second wave of the Children's Worlds Study, with a sample of 1032 children, selected from 29 schools located in the Western Cape Province, South Africa. Children's SWB was assessed using the Students' Life Satisfaction Scale, the Brief Multidimensional Students' Life Satisfaction Scale, and the Personal Well-Being Index–School Children. The study is embedded in the Theory of Model Fit, with a specific focus on Goodness of Fit Statistics. Data were analysed using confirmatory factor analysis. For the initial model of the SLSS there was a high correlation between "My life is going well" and "My life is just right", however, the model did not improve substantially with the deletion of either item. In light of this, the decision was made to keep both items and include an error covariance. Another noteworthy finding of the study is that the BMSLSS presented with a perfect fit. For the PWI-SC an excellent fit was also obtained, however, the item on happiness with 'school satisfaction' presented with a low factor loading, and was deleted. This finding is contradictory to seminal research in the field. For the combined model, that included the three latent constructs, a good fit was obtained. However, it was noted that the PWI-SC and BMSLSS

showed a perfect correlation, which suggests that the two constructs are indistinguishable from one another and likely represent a single construct. In the current study, the fit for the modified combined model slightly improved after combining the PWI-SC and BMSLSS (two latent constructs). The overall model (figure 7) indicates that the combined model with two latent constructs produced an excellent fit and is a valid representation of the SWB of the 8-year old sample of children; with three items deleted ("Happy with Area you Live", "Happy with the Things you Have", and "Happy with Relationship in General"). Finally, convergent validity of the model was confirmed by regressing the model onto the single item OHS, where acceptable regression weights were observed. The final contribution of the current study is confirmation that scales consisting of context-free and domain-based items are valid for use with a sample of 8-year-old children to assess children's SWB. The best fitting overall model contained two latent constructs – one including context-free items and another comprising a combination of domain-based items that depict different levels of abstraction. The findings of the current study are encouraging. It not only provides evidence that the three scales are valid for use with 8-year-old children, but also suggests that young children are able to consider, reflect, and evaluate their overall well-being and various aspects of their lives. Social services practitioners, educators, and policy-makers could harness this information to facilitate the development of practices and policies that could improve children's overall quality of life.

Keywords: Children's subjective well-being; Brief Multidimensional Students' Life Satisfaction Scale; Students' Life Satisfaction Scale; Personal Well-Being Index–School Children; theory of model fit; confirmatory factor analysis; structural equation modelling

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1. Background and Rationale

Children in South Africa have an extensive history of being exposed to political violence, oppression, abuse, and neglect. This is in large part owing to the previous apartheid political regime, a system of institutionalised racism that enacted oppressive and discriminatory laws against the majority of South Africa's population. The unequal allocation of resources across the racial classification system during apartheid resulted in a range of deleterious effects on the developmental trajectory of children (Savahl, Adams, Benninger, et al., 2019). Most children were not afforded quality education, access to health services, or provided with supportive environments, and were forced to reside in poorly resources neighbourhoods with inadequate municipal and social services. The impact of these historical antecedents has unfortunately carried over into contemporary South Africa, with children's lives now characterised by multiple vulnerabilities of poverty, deprivation, exposure to violence, and poor developmental outcomes (Savahl, Adams, Benninger, et al., 2019).

Following the establishment of democracy in 1994, the new South African government enacted a series of legal commitments to make South Africa a better place for children (Savahl, Malcolm, et al., 2015). South Africa's ratification of the United Nations Convention on the Rights of the Child (UNCRC) on 16 June 1995 was a key milestone in this regard. The UNCRC is guided by four principles. The first, 'non-discrimination/equity', ensures that all children are entitled to the same rights as adults without discrimination. The second principle, 'best interest of the child' safeguards that all actions concerning children consider children's 'best interests'. The third, outlines children's right to 'survival and development' and the State's responsibility to ensure that all children are able to reach their potential. Finally, the fourth principle refers to 'participation/ inclusion' and children's right to express their own views in all matters

pertaining to children, and that these opinions are given due consideration as it relates to their maturity.

Savahl, Malcolm, et al. (2015) contend that South Africa's ratification of the UNCRC provided the impetus that resulted in the development of further child-specific legislation. This is specifically evident in governmental development strategies, guaranteeing a child's socio-economic rights and protection from abuse, exploitation, and neglect (Savahl, Malcolm, et al. 2015). These legislations include the Children's Act (No. 38 of 2005), the associated Children's Amendment Act (No. 41 of 2007), and the Child Justice Act (2008). The National Programme of Action (NPAC), co-ordinated by the Office on the Rights of the Child (ORC), was put in place to provide "a holistic framework for the integration of all policies and plans which was developed by the government departments as well as civil society to promote the well-being of children" (2012, p. 9). The well-being of children 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 fundamental function of improving the management of policies and monitoring mechanisms for children (Savahl, Malcolm, et al., 2015).

An important factor when considering the well-being of children in South Africa, is acknowledging the diversity of the childhood experience. This is linked to the socio-political history of the country that has resulted in high levels of social inequality and varying socio-economic status (SES) communities and contexts. An examination of the impact of SES and social inequality on children's well-being in South Africa is incomplete without reference to the oppressive regime of apartheid. The apartheid legislative framework was based on a racist philosophy of segregation and social exclusion, and characterised the socio-political landscape

of South Africa for nearly fifty years. It resulted in a significant proportion of the population being disenfranchised, denied access to resources, land, education opportunities, and basic human rights (Savahl, Adams, et al, 2015). Since the ushering in of democracy in 1994, the government has made significant progress in developing strategies that monitors the well-being of children. These initiatives highlight the development and collection of objective indicators, referring to observable measures that assess a range of pre-determined objective standards of living. However, researchers have noted concerns at the exclusive use of objective indicators as the measure of determining child well-being (Casas, et al. 2013). This has resulted in an increased focus on children's subjective well-being (SWB) and evaluations of their life.

Subjective well-being is a concept that includes the cognitive and affective evaluations that individuals make about their lives, the circumstances influencing their lives, and the conditions in which they live (Diener, 2005; 2006). The cognitive element refers to perceptions of global and domain-specific life satisfaction, while the affective element refers to the experiences of positive and negative affect. According to Diener (2009), these elements can be seen as fitting on a hierarchical structure that is conceptually linked and moderately correlated, each making a unique contribution towards SWB. Thus, when we ask children about their SWB, we are essentially asking them to appraise the extent to which they are satisfied with their life in general, with various aspects of their life, and how they feel about their life (Savahl, Casas, & Adams, 2017).

While the tripartite structure is the most widely used conceptualisation of SWB, Savahl, Casas, and Adams (2021) have recently presented a model based on an hierarchical structural configuration. Using data from the third wave of the Children's Worlds Study, which included a large sample of children from 35 countries, they demonstrated the viability of a hierarchical

conceptualisation of children's SWB. They put forward a quadripartite model consisting of context-free and domain-based life satisfaction, positive affect, and negative affect. Alternative conceptualisations that offer a less structural approach and more aligned to the discursive tradition or post-structural turn (Fattore, 2020) in the social sciences is also evident in the literature (Savahl, Adams, & Benninger, 2021). Savahl, Malcolm, et al. (2015) put forward the idea that SWB should be understood in relation to the dominant discourse of childhood in society. They perceive childhood as an ideologically configured construction – subsequently, how children assign meaning to their position in society, how they make sense of their role as a child, and their social identity implicates how they perceive, experience and evaluate their lives in general and various aspects of their lives. From this perspective, SWB is by no means fixed or static but open and constantly shifting - there is a constant shaping, reshaping, contesting, and negotiating of the meanings assigned to childhood, with SWB conceived of as an intersubjectively negotiated construct. A more detailed and well-considered narrative of the discursive position is provided by Fattore (2020) in his delineation of the praxeological shift in well-being research with children. He argues that well-being is less about "a state that is achieved, but emotional experiences that are expressions of social practices, through which a subject position associated with a sense of well-being emerges" (Fattore, 2020, p. 152).

The importance of obtaining an understanding of children's subjective perceptions of well-being is crucial, and underscores the need to employ measures and instruments that can be validly used to collect data on their SWB (Savahl, Adams, Benninger, et al, 2019). In order to do so, it is important to determine the state of existing measures, as well as to establish the extent to which these measures may be used cross-culturally. Researchers have used both qualitative and quantitative approaches in the measurement of SWB. Qualitative approaches have been used to gain children's guidance on ways of improving well-being measures (Casas,

Sarriera, Abs, et al., 2012; Montserrat et al., 2021), to determine children's subjective perceptions of their well-being, the various domains of well-being, and how they make sense of and assign meaning to well-being (Fattore et al., 2007; Fattore et al., 2012; September & Savahl, 2009; Savahl, Malcolm, et al., 2015). Quantitative approaches have focused on the development of standardised scales, often adapted from adult versions. Here it is important to note the lack of psychometrically sound instruments measuring SWB in children in developing countries like South Africa. More specifically, the lack of brief measures that can be used in large-scale national or cross-national surveys is evident (Huebner & Hills, 2007). The first step in the process of ascertaining the state of international measures is to determine the extent to which these can be used in the South African context.

Within the international literature, a number of instruments have been identified that have shown good validity across a range of cultural contexts. Previously, the only psychometric scale used in assessing well-being was the single-item scale 'Cantril Ladder' (Casas et al. 2013). However, it is now widely accepted that SWB cannot be measured solely by a single-item measure. While there have been conceptual, theoretical, and methodological advancements in SWB research with children (Savahl, Adams, Benninger, et al. 2019), the development of psychometrically sound instruments to measure children's well-being has been constrained. Casas (2016) contends that science has not sufficiently advanced to a level where it is able to confidently measure children's SWB. The main concern noted is that instruments have been adapted from adult versions and not developed specifically for children (Casas, 2016). Further to that, Casas (2016) and others have also pointed to the importance of conducting cross-cultural validation studies of existing instruments. This is especially relevant for younger children and children in African and Eastern contexts. Recent evidence suggests that the use of multi-item measures of SWB are more consistent than single-item measures

(Casas et al. 2013), as it reduces the risk of measurement error, and increases the reliability of the measure. Multi-item measures include the Personal Well-Being Index-School Children, the Students' Life Satisfaction Scale, the Brief Multidimensional Students' 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, however, less information is available with regard to its cross-cultural adaptability in developing countries. The current study intends to make a contribution in this regard, by testing three measures of SWB amongst a sample of 8-year-old children. Considering the nascent nature of research into children's SWB (Savahl, Casas & Adams, 2021), it is important for more investment in empirical research. While the challenges related to cross-cultural measurement is heightened in the multicultural context of South Africa, Savahl, Adams, and Benninger (2021) recommend large-scale surveys with representative samples of children across different age groups (especially younger children). They believe that this would generate much needed standardised data, which would make valuable contributions to understanding the measurement of children's SWB. The current study finds particular relevance in contributing to this gap in the literature

1.1. Aims and Objectives

The aim of the study is to test the validation of the Students' Life Satisfaction Scale (SLSS), the Personal Well-Being Index-School Children (PWI-SC), and the Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS), amongst a sample of 8-year-old children. The following objectives were developed to guide the process:

1. To test the fit structure of the SLSS, PWI-SC, and the BMSLSS
2. To test an overall model of subjective well-being including the three scales
3. To test the measurement invariance of the three scales across gender
4. To test the convergent validity of the overall model

2. Scales Measuring Children's Subjective Well-Being

The early development of the concept of SWB can be located in Wilson's (1967) *Correlates of avowed happiness* (as cited in Diener et al., 1999), Bradburn's (1969) *The structure of psychological well-being*, and is later evident in the work of Campbell, et al. (1976), and Andrews and Withey (1976) (Savahl, Adams, et al., 2015). The last three decades in particular have shown a significant increase in studies focusing on SWB (Diener, 2013).

In the literature, a distinction is made between global and domain-specific life satisfaction. Global life satisfaction is defined generally as an individual's overall evaluation of life, which requires respondents to evaluate their level of life satisfaction on items that are domain-free or context-free, therefore reflecting an overall assessment of life as a whole, and generating a single global life satisfaction score. The general and global measures are often categorised as unidimensional scales (Proctor et al., 2009).

Domain-specific life satisfaction is concerned with specific aspects or domains of life that are considered significant. Affective experiences, which include positive and negative affect, takes the form of emotions and mood. Emotions are regarded as short-term affective conditions related to specific external stimuli and have both a meaning and appraisal component; while moods are thought to show more temporal stability (Diener, 2009).

It becomes important to consider the methodological implications of the continuing initiatives on SWB, as well as the development of standardised scales and measures often adapted from adult versions for the use of children's SWB. The most widely used measures includes the PWI-SC (Cummins & Lau, 2005), the SLSS (Huebner, 1991), MSLSS (Huebner, 1994), and BMSLSS (Seligson et al., 2003). These measures have shown good cross-cultural adaptation

with children aged between 8-years and 18-years-old across a range of contexts (Savahl, Casas, & Adams, 2017). These scales have also been translated into various languages and have been adapted across a range of contexts. The scales have, however, predominantly been adapted and validated in developed countries, which limited cross-cultural comparisons. In a recent study, Casas and Rees (2015) emphasised the significance of conducting cross-cultural and comparative studies on children's SWB. They specifically note the importance of ascertaining whether cross-cultural comparisons can be conducted across countries from low-and middle-income countries (LMICs) and high-income countries (HICs).

It is important to note that there have been few international studies that explore the comparability and validity of SWB scales among children. The work of Casas and Rees (2015) and Casas (2017) have contributed significantly to the understanding of SWB instruments. Using data from the first wave of the Children's Worlds Study, Casas and Rees (2015) conducted a cross-national study with children in three age groups (8, 10, and 12-year olds) across 14 countries. They measured the extent to which the different multi-item psychometric scales measuring children's SWB are suitable for international comparison. They found that a few of the items on the SLSS were problematic and required further clarification (such as 'My life is better than most kids'), and children had difficulty understanding items with reverse scoring (namely, 'I would like to change things in my life' and 'I wish I had a different kind of life'). Notably, when the problematic items were removed the model indicated good statistical reliability, $\alpha = .823$ (Casas & Rees, 2015). They found that correlations and regressions can be compared across most countries, however, the comparison of mean scores is not endorsed (Casas & Rees, 2015). Casas (2017) used data from Wave 2 of the Children's Worlds Study using three multi-item scales (SLSS, BMSLSS, and the PWI-SC) with a sample of 34 000 children from 15 countries aged 10- and 12-years-old. The results from the study demonstrate

that both the PWI-SC and the SLSS are comparable across the different countries. The SLSS is the only scale amongst the three scales that is comparable by correlations, regressions, and mean scores across the 15 countries (Casas, 2017). Further, the results illustrated that only two items on the BMSLSS are comparable by mean scores (Casas, 2017).

Previously, Casas, Sarriera, Abs, et al. (2012) highlighted the need for additional comparative studies using multi-item scales across cultures, languages, and countries. Cross-cultural comparative studies between Spanish, Chilean, Brazilian, and Argentinian adolescents (Casas, Sarriera, Abs, et al., 2012; Casas, Sarriera, Alfaro, et al., 2012), Spanish and Romanian adolescents (Casas et al., 2013), and Spanish and Algerian children (Casas et al., 2014) demonstrated appropriate structural validity and cross-cultural comparability of various SWB instruments across diverse groups. The above studies have also suggested that the scores on these instruments can be compared across children in various contexts. It was found that the instruments are measuring the same construct and the items have the same meaning across diverse groups. Recently, Savahl, Tiliouine, et al. (2017) conducted a cross-cultural study on children's SWB in three African countries (Algerian, Ethiopia, and South Africa) amongst a sample of 12-year old children. Using the SLSS and PWI-SC, they have found acceptable structural validity of the instruments and confirmed metric and partial scalar invariance. They concluded that the instruments can be used for cross-cultural comparisons amongst the sampled countries and that the scores on SWB could be compared across correlations, regressions, and means. While there has been increasing empirical research in recent years in relation to cross-cultural adaptability in developed and developing contexts (Casas, 2016; Casas & Rees, 2015; Savahl, Tiliouine et al., 2017) there is still concern in relation to the validity and applicability of using these measures with younger children. The current study builds on this trend through

the validation of SWB scales for children, with a specific focus on validating the BMSLSS, the SLSS, and the PWI-SC amongst a sample of 8-year-old children.

The BMSLSS is a five-item self-report life satisfaction measure developed by Huebner and colleagues for use with children and adolescents aged 8 to 18-years old (Seligson et al., 2003). It was developed to assess, monitor, and promote positive well-being and life satisfaction amongst children (Huebner, Suldo et al., 2006). The BMSLSS contains five key single-item domains of children's lives, including family, friends, school, self, and living environment (Seligson et al. 2003). The scale has been tested and validated in the United States of America (USA) with children and young people aged 8- to 18-years old (Huebner et al. 2006, 2011). The response options for the original version of the BMSLSS was on a seven-point scale from "Terrible" to "Delighted", as suggested by Andrews and Withey (1976). In the Children's Worlds study, all domain satisfaction items were measured on a n 11-point scale from "0 - Completely dissatisfied' to "10 -Completely satisfied". Five of the domain items align to the domains proposed in the BMSLSS. These were 'People I live with', 'Friends', 'The school I go to', 'Myself', and 'The area I live in'. We use these items with an 11-point response scale as a modified version of the BMSLSS for testing purposes. These scores are then added to calculate an overall life satisfaction score. Seligson et al. (2005) examined the psychometric properties of the BMSLSS with 518 elementary school children in USA. The results of this study indicated acceptable internal consistency, construct validity, and concurrent validity. Siyez and Kaya (2008) tested the reliability and validity of the BMSLSS with a sample of 394 Turkish students in grade 4 to 8. The results showed that the BMSLSS has strong psychometric properties demonstrating acceptable internal consistency reliability, criterion-related validity, and construct validity (Siyez & Kaya, 2008).

The SLSS was developed in the USA by Scott Huebner (1991) to examine the correlates of global, context-free, life satisfaction with children. The original scale consists of seven items, and respondents asked to agree or disagree. The initial version used a four-point frequency response scale, however, a six-point agreement scale was subsequently recommended by Huebner (1991). The scale has been shown to have good reliability and validity with general samples of young people in the USA and has also been used in a number of other countries (Casas, 2017). Owing to the well-known optimistic bias effect, particularly important among children, a revised 11-point scale from 'Do not agree at all' to 'Totally agree' is used in the Children's Worlds Study in order to make the instrument more sensitive and capture more variance. This has already been adopted by some authors with similar scales when administered to adolescents (e.g. in Diener et al.'s Satisfaction With Life Scale [SWLS]). During the piloting of the scale in different countries, and in different languages, it was decided that only four of the original items would be used, therefore none of the reversed items were included, and one more item was added namely "The things in my life are excellent", adapted from the SWLS (Diener et al., 1985) in order to improve the scale's reliability.

Cummins and Lau (2005) adapted the adult version of the PWI for use with children, namely the PWI-SC. Both versions of the PWI consist of seven items, with a response scale from "0" to "10". The PWI–SC was developed in Australia (Tomyn & Cummins, 2011). The original scale used an 11-point bipolar response scale. However, the latest manual of the PWI recommends using unipolar scales, and therefore labels ranging from "Not at all satisfied" to "Totally satisfied" were included (Tomyn & Cummins, 2011). During the piloting of this scale in different countries for the Children's Worlds Study, it was decided that slightly different wordings be used to assess the fourth domain of the original scale in order to increase understanding and comparability among different languages. The items used here were

satisfaction with: “All the things you have”, “Your health’”, “The things you want to be good at”, “Your relationships with people in general”, “How safe you feel”, “Doing things away from home”, and “What may happen to you later in your life”.

These measures have been used both to solicit children’s advice on improving subjective measures of well-being (see e.g. Casas, González et al., 2012), as well as to determine children’s perceptions of SWB, 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, Malcom, et al., 2015; September & Savahl, 2009). Casas (2011) further emphasises the importance of qualitative research, which he believes will allow for a more comprehensive understanding of child and adolescent well-being.

A multinational comparative study was conducted by Savahl, Tiliouine, et al. (2017) across three African countries (Algeria, Ethiopia, and South Africa) to measure children’s SWB. The study included a randomly selected sample of N = 3394 children between the ages 11-12-years old from Algeria (Provinces of El Bayedh, Oran, and Tlemcen), Ethiopia, and South Africa (Western Cape Province). The study examined the structural validity of the SLSS and PWI-SC, by assessing the measurement invariance of the instruments across the three groups, and determined the overall level of SWB of children across the three African countries. The structural validity of both scale was acceptable, with scores on the SLSS ($\alpha = 0.872$) higher than the PWI-SC ($\alpha = 0.672$). The measures were therefore found to be valid for use across the three countries. In addition, Algeria scoring significantly higher than Ethiopia and South Africa on the SWB measures (Savahl, Tiliouine, et al., 2017). It should be noted that in multinational studies, certain items may be closely related while others are understood differently. Children from individualistic and collectivist countries hold different perspectives when responding to

SWB questions. High levels of validity are observed across the different countries with a reasonably high degree of metric invariance, however, scalar invariance was not always tenable. Most importantly, researchers should note that even though a measure may be comparable and valid for use in different countries that children are not a homogenous group and should not be seen in this regard (Savahl, Tiliouine, et al., 2017).

2.1. Psychological Testing in South Africa

Given that the current study focuses on validating three SWB scales for children in South Africa, it is necessary to consider the role of psychological testing and adaptation in this context. Foxcroft (2004) argues that it is important to address cultural bias from the initial planning and development stage when conducting tests in a multi-cultural setting. South Africa has a large diversity of cultures and languages and given this, it is crucial for appropriate testing to be done that considers these diversities. In order to conduct valid, fair, and ethical testing in a multicultural setting, it is vital for the researcher to be knowledgeable of cultural norms, language, education, and socio-economic nature of the culture (Foxcroft, 2011); advancing the use of an emic rather than an etic approach. For this to be achieved, 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 and adaptation of the test/measure needs to then be assessed. Tests are adapted this way so that it is culturally-specific. Therefore, as constructs may be perceived distinctly according to varied cultural understandings and meanings attached to it, it is crucial that these meanings are considered before the tests are planned (Foxcroft, 2004). It is important to consider how different languages may affect the adaptation of western-oriented tests, and therefore a key ethics consideration is that participants should have the option of completing a test/measure 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 that is, construct bias, method bias, and item bias. They thus note that "When a psychological instrument developed in one society is applied in a different cultural context, invariance of psychometric properties cannot be merely assumed, but has to be empirically demonstrated" (Van de Vijer & Poortinga, 1997, p. 29). A key bias concern for the tests/measures that are adapted is the difficulty with language translation, test development, and the administration of the test. In South Africa, the factors that were found to impact on construct and item comparability were race, education, language, and specifically, understanding English (Meiring et al., 2005). In cases where instruments are used across different cultures, constructs could possibly have different meanings. While item bias is often utilised, construct and method bias are underutilised. For this reason, it is advanced that a consideration of all three biases is most useful to make the most valid cross cultural comparisons (Van de Vijer & Poortinga, 1997).

3. Theory of Model Fit: Goodness of Fit

The study is located within the Theory of Model Fit, with a focus on 'Goodness of Fit' (GOF) and fit statistics. This theoretical framework has been used in previous measurement and validation studies on SWB instruments in South Africa (see Savahl, 2020; Savahl, Casas, & Adams, 2017; Savahl, Tiliouine, et al., 2017).

The GOF theory is a framework that hypothesises on the nature of the relationship between observed and unobserved variables. The essence of GOF is that proposed models (indicating the relationships between variables) are theory-driven. Therefore, designation of hypothetical models need 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 hypothesised model is used to "estimate a population covariance matrix that is compared with the observed covariance matrix" (Schreiber et al., 2006, p. 323). The Theory of Model Fit falls within the broad fields of Structural Equation Modelling (SEM) and CFA. Structural Equation Modelling is a general data modelling strategy that essentially draws on a combination of factor, path, and regression analyses (Hox & Bechger, 1998). It represents a series of a priori hypotheses about how the observed and unobserved latent factors are related (Hu & Bentler, 1999). Key to this process is the designation of specified models, which needs to be based on theoretical relationships between observed and unobserved variables. Overall, GOF is focused on the extent to which theoretically hypothesised models fit the observed data (Savahl, Casas, & Adams, 2017). The assessment of model fit is critical given that inferences drawn from a model has significant implications when conducting applied research. It is important to note that specified theoretical models are merely approximations of real-life phenomena, and invariably involves subjective judgements (Maydeu-Olivares & Garcia-Forero, 2010). Any model will be rejected using GOF statistics if the sample size is large and the model presents with a high degree of complexity (Maydeu-Olivares & Garcia-Forero, 2010). Structural Equation Modelling consists of two components, namely a measurement model and a structural model. The measurement model represents the confirmatory factor model and determines the extent to which the observed constructs contribute toward the latent factor (the BMSLSS, SLSS, and PWI-SC in the current study); while the structural model assesses the interrelationships between two or more latent factors. Confirmatory Factor Analysis is seen as the analytic method of choice for developing and refining measurement instruments and scales, by assessing construct validity and determining measurement invariance across groups. In the current study, CFA is used to determine the structural validity of the BMSLSS, SLSS, and PWI-SC.

When conducting CFA, the assessment of model fit of the hypothesised models and the estimation of parameters are the two goals of CFA (Hu & Bentler, 1999). Within SEM, the most widely used procedures to determine model fit are GOFStatistics and Approximate Fit Indexes (Kline, 2010). 'Goodness of Fit' statistics, of which the chi-Square goodness-of-fit statistic is the most popular, determines the degree to which the model covariance matrix significantly differs from the observed covariance matrix. Lower chi-square values resulting in non-significant differences indicate a higher degree of correspondence between the specified models and the data (Kline, 2011), and would represent a good fit of the hypothesised model to the observed data. However, the chi-square is overly sensitive to sample size and generally tends to increase with larger samples, leading to significant values (Hu & Bentler, 1999). Based on this characteristic of the chi-square, researchers recommend that supplementary fit indexes be applied. While there exists a range of fit indexes, the two most widely used fit indexes are absolute and incremental fit indexes. Absolute fit indexes assess how well an hypothesised model fits the sample data in comparison to no baseline model, while incremental fit indexes attempt to fit a hypothesised model to a baseline model wherein the null hypothesis is that the variables in the model are uncorrelated (Savahl et al., 2016). Researchers generally recommend that more than one fit index is used to account for the limitations of using a single index (Casas et al., 2013). If designated models present with a good fit (there is no significant difference between the hypothesised model and the observed data), then the estimates of the path parameters can be considered in relation to the extent to which the latent construct loads onto the scale items. Following recommendations by Jackson et al. (2009) and Kline (2010), the absolute fit index, the comparative fit index (CFI), and incremental fit indexes, Root Mean Square Error of Approximation (RMSEA), and the Standardised Root Mean Square Residual (SRMR), will be used to determine model fit of the scales in the current study. These recommendations have been used in a range of validation studies on child SWB instruments

(see e.g. Casas, 2017; Casas et al., 2013; Casas, Sarriera, et al., 2012; Savahl, et al., 2016), which use cut-scores of: >.950 as acceptable for the CFI; and <.05 regarded as a good fit for RMSEA and SRMR. These cut scores will be applied in the current study.

4. Method

4.1. Design

The current validation study forms part of and uses secondary data from Wave 2 of the Children's Worlds Study (Ethics clearance number: 13/4/26; see appendix A). The use of secondary data has a long history, and is a well-established and accepted methodological tradition in the social sciences (Trzesniewski et al., 2011). The use of secondary data has increased over the past few years largely owing to the technological advances in the field of information systems, and the trend towards data or information sharing. The current study included children aged 8-years old, randomly selected from 29 primary schools in the Western Cape province of South Africa. While the aim of the larger study was to collect substantive data about children's perceptions, understandings, experiences and evaluations of their lives across various domains, the current study aims to provide a structural validation of three of the SWB scales used with the 8-year old cohort.

A central management committee consisting of a range of experts in comparative international surveys was tasked with overseeing the sampling protocol, instrument development, and data analytic plan for each participating country. The use of a central management committee when conducting multinational collaborative studies leads to improved quality and integrity of the data (Casas & Rees, 2015).

4.1.1. History of the Children's Worlds Study

The Children's Worlds: International Survey of Children's Well-Being (ISCWeB) study was conceptualised 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 address an important gap in the international literature regarding children's lives. One of the outcomes of the meeting was an early version of a survey designed to determine children's subjective perceptions and evaluations of well-being across a range of life domains. This first draft questionnaire was tested and piloted in 2010 in seven countries, namely: Brazil, England, Germany, Honduras, Israel, Palestine, and Spain. In December 2010, the research group met again to review the pilot questionnaire, which led to a second version. This second 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 study and developed a third set of the survey questionnaires, with separate versions developed for children aged 8, 10, and 12-years old. The first wave of data collection (Wave 1: Deep pilot) was conducted in 2012-2013 across 21 countries with a sample of children aged 8 to 12-years old (N > 30 000). The objectives of this wave were to ascertain baseline data on child well-being, assess the validity of the measuring instruments, and to assess the comparability of SWB across countries and social contexts. Subsequently in 2015-2016, Wave 2 was conducted with a representative sample of children aged 8, 10, and 12-years old across 15 countries (N > 56 000).

The principal investigator of the Children's Worlds Study: South Africa (Professor Shazly Savahl, University of the Western Cape) joined the Children's Worlds study in 2010. Wave 1 of the study was conducted in the Cape Town metropole in the Western Cape, South Africa, in 2012-2013 by the research team and included a deep pilot with children aged 12-years old (N

= 1004). For Wave 2 (2014 – 2016) of the Children's Worlds study South Africa, data were collected using a stratified random sample of children aged 8, 10, and 12-years old (N = 3284), selected from 29 schools across the Western Cape Province from both urban and rural geographical districts located in low and middle socio-economic status contexts. The current study uses secondary data from Wave 2 of the South African Children's Worlds study, specifically with the 8-year-old age group.

4.2. The Dataset: Context, Sampling, and Participants

The larger study was conducted in the Western Cape Province of South Africa, with a population of 6 621 100, representing 11.5% of the total country population (Statistics South Africa, 2017). The Western Cape Province comprises one metropolitan area (City of Cape Town), and five district municipalities: West Coast; Central Karoo; Overberg; Eden; and the Cape Winelands. The Cape Town Metropole is a typical urban area with peri-urban areas, located approximately 50 to 100km from the city centre. In the Western Cape, the majority of the child population reside in urban areas (94.4%), with a small percentage living in rural (5.6%) areas (Statistics South Africa, 2017).

The population for the larger study included children attending primary schools within the eight Education Management District Councils (EMDC) of the Western Cape Education Department (WCED). The EMDC's comprise four urban and rural districts. The four urban districts are: Metro North, Metro South, Metro East, and Metro Central; and the four rural districts are: West Coast, Cape Winelands, Eden and Central Karoo, and Overberg. Stratified random proportional sampling was employed, with schools stratified and selected based on their location within the eight EMDC's – that is by geographical location (urban or rural), and SES (low or middle). Private schools and schools that were inaccessible (no roads leading to schools or farm schools

with very small class sizes) were excluded. The sampling protocol used a 95% confidence level and a 3% margin of error. The sampling frame included 646 primary schools.

The questionnaire was adapted and translated (using the backward translation method) into the three most widely spoken languages in the province namely, English, Afrikaans, and isiXhosa. The participants had the option to complete the questionnaire in one of the three languages they preferred. The total sample of 8-year olds for the larger study included 1032 children (girls: n = 506, 49%; boys: 526, 51%) from 29 primary schools in the Western Cape. With a sample size of 1032, and noting the number of items (17) on the confirmatory models, the study meets the minimum sample size requirement for model identification (between 10 and 20 cases per parameter) in CFA (Kline, 2011).

4.2. Instrumentation

The original Children's Worlds Survey was developed in English and Spanish and included questions on children's general and domain-based SWB, time use, and children's rights. For the purposes of the South African study, the English version of the questionnaire was adapted to the South African context. This process included cognitive testing. The testing process involved two focus groups with 10 children each. The focus group participants were purposively selected from primary schools that were within the sampling frame. The responses from the participants were used to improve item phrasing, and to refine, and modify items included in the questionnaire. Subsequently, the revised questionnaire was translated into Afrikaans and isiXhosa. All three questionnaires (English, Afrikaans, and isiXhosa) were piloted with a sample of 100 children aged 10-years, who were randomly selected from low and middle income schools located within the sampling frame. The information gathered during the pilot test was used to revise and finalise the questionnaires. The current study used

four instruments included in the questionnaire assessing children's SWB, that is the: SLSS; BMSLSS; and the PWI–SC. The Overall Happiness Scale was used to test the convergent validity of the SWB scales. These scales are discussed in detail below.

4.2.1. Students' Life Satisfaction Scale

The SLSS is a seven-item measure that assesses the global SWB of children between the ages of 8- and 18-years (Huebner, 1991). The items are domain or context-free, with respondents required to indicate their satisfaction on a five-point Likert scale ranging from "0" (Very much disagree) to "4" (Very much agree). For Wave 2 of the Children's Worlds Study, a five-item unipolar response option format was used, ranging from "0" (I do not agree) to "4" (Totally agree). The scale has shown acceptable internal consistency (Huebner 1991), convergent validity (Casas et al. 2013; Huebner 1991), criterion validity (Huebner et al., 2003), discriminant validity (Huebner & Alderman 1993), and predictive validity (Huebner & Hills, 2013; Suldo & Huebner 2004). The scale has been previously validated in the South African context with 12-year olds, with an appropriate fit structure and acceptable reliability coefficient of $\alpha = .75$ (Savahl, Casas, & Adams, 2017).

During the piloting of the scale in different countries with different languages, it was decided that only four of the original items would be used – i.e., none of the reverse-scored items, and one item was added, "The things in my life are excellent", adapted from the SWLS (Diener et al. 1985), in order to improve the scale's reliability. The scale has demonstrated good cross-cultural reliability and validity (Proctor et al., 2009), and has been applied in a variety of contexts. Proctor et al. (2009) indicate that prior to 1990s, there was less research on child well-being owing to the lack of psychometric instruments to measure SWB. Further research is thus required to translate, adapt, and validate the scales into languages that have not received much

focus in empirical research. The SLSS has been validated across an array of contexts (see for e.g. Marques et al., 2007 in Portugal; Galindez & Casas, 2010; Casas, et al., 2013 in Catalonia, Spain; Weber et al., 2012 in Germany; Migliorini et al., 2019 in Italy; Gross-Manos et al., 2014 in Israel; Savahl, Adams, et al., 2015, in South Africa; and Tiliouine et al., 2018 in Algeria). Alfaro et al. (2016) analysed the psychometric properties of the SLSS in a sample of 1096 Chilean children between the ages of 10- to 12-years old. The sample comprised children from public, semi-private, and private schools across Chile. They conducted a reliability analysis to test for internal consistency, an exploratory factor analysis. The results presented with an acceptable Cronbach's alpha (α=.86), while the factor analysis demonstrated a bi-factor structure for the SLSS (Alfaro et al., 2016).

Migliorini et al., (2019) investigated the well-being of children in Italy, as part of the Children's Words Study, using the Italian version of the SLSS. The study included a sample of N = 1145 children aged 8-years-old. The study measured children's level of life satisfaction in relation to their nationality of birth, area of living, school type, and gender. Children born abroad showed the lowest level of SWB on the SLSS-5, while children attending rural schools had a significantly higher level of satisfaction than children attending urban schools. No significant gender differences were found, and children in private schools reported higher levels of well-being than in public schools (Migliorini et al., 2019).

Marques et al. (2007) identified the lack of studies validating the SLSS among children in Portugal. The study examined the psychometric properties of the Portuguese version on the 7-item scale using a 6-point Likert response scale. A total sample of N = 367 children aged between 10- and 15-years old from seven schools in North Portugal. The scale was adapted following guidelines of the American Psychological Association (1993). Discrepancies were

discussed to achieve consensus for lexical and cultural equivalence. The results of the study demonstrate that the scale is a reliable measure, with a Cronbach's alpha of 0.89, thereby establishing internal consistency and reliability (Marques et al., 2007).

A study by Savahl, Adams, et al. (2015) examined children's SWB in the Western Cape region of South Africa using three scales. The study formed part of Wave 1 of the Children's Worlds study, and comprised a sample of N=1004 12-year-old children. The findings show that the composite scores for the three scales (SLSS, PWI-SC and OLS) show a general trend towards high levels of SWB (Savahl, Adams, et al., 2015). The overall model demonstrated tenable scalar factor invariance and good fit structure, however, item 3 ('Like to change things in my life') and item 4 ('Wish I had a different life') on the SLSS loaded lower; these discrepancies are similar to research conducted by Casas and Rees (2015). The study further aimed to determine whether the measures could be used across low and middle socio-economic status groups. A significant difference was found between children in low and middle-income communities (Savahl, Adams, et al., 2015).

Jiang et al. (2018) examined the psychometric properties of the SLSS in China. The study examined the cross-cultural validity of the scale amongst students from Eastern cultures with two specific stages. The first examined the validity of the original version of the SLSS, and the second focused on the 5-item scale without the negatively phrased items. Stage 1 of the study included participants ranging between the ages of 11-15 years, while stage 2 included 11-16 years old. Although the evidence supports the validity of both scales, the 5-item scale demonstrated a stronger correlation. The convergent evidence suggest that the two reverse-worded items hampered the internal consistency of the scale, the dimensionality, and validity.

The five-item scale demonstrated good psychometric properties and had a higher validity than the seven-item version of the scale (Jiang et al., 2018).

In a recent study by Tiliouine et al. (2019) investigated the overall well-being of children, employing a two-year longitudinal study with 443 children from Algeria aged 12- to 14-years old. Data were collected in a developing conservative Islamic country, examining the stability of children's ratings of well-being over time and the differential patterns in well-being ratings over time according to gender using the SLSS, among other SWB scales. The results demonstrated a significant decrease in measures of children's overall well-being, with mean scores decreasing from 90.2 to 82.4 (on a 100-point scale). However, there was no evidence of significant gender and age differences at either time point for girls and boys (Tiliouine et al., 2019).

Overall, the above studies delineate that the SLSS is reliable, valid, is internally consistent, and has excellent psychometric properties across various geographical contexts. Regarding gender and age, no significant differences were observed, while children in urban areas reported higher levels of SWB.

4.2.2. Brief Multidimensional Students' Life Satisfaction Scale

The BMSLSS is a five-item self-report instrument that evaluates domain-specific life satisfaction across five domains namely, family, friends, school, self, and living environments. The instrument was developed for children aged 8 to 18-years of age (Seligson et al., 2003). The BMSLSS items were developed to represent the conceptual model underlying the extended Multidimensional Students' Life Satisfaction Scale (MSLSS, Huebner, 1994). The original scale used a six-point Likert scale, however, following the Children's Worlds Study protocols,

a 5-point emoticon scale was used with younger age cohorts (8-year olds), ranging from 0-4, with "0" =  (Most unhappy face) and "4" =  (Most happy face). The scale has displayed acceptable psychometric properties across various countries: Algeria (α = .53, 10-years olds; .66, 12-year olds) (Tiliouine, 2015); Italy (α = .64, Migliorini et al., 2019); Brazil (α = .69, Schütz et al., 2018); Poland (α = 0.64 to 0.76, Strozik et al., 2016); India (α = 0.82, $\bar{x}$ age = 16.05 years; Hashim & Areepattamannil 2017); USA (Time 1, α = .79; Time 2, α = .83; Ng, Huebner, Maydeu-Olivares et al., 2017); Canada (α = 0.73, McDougall et al., 2013), and cross-country comparative studies, α = .618 in Spain, South Africa, Algeria, and Israel (Gonzalez, Casas, Ben-Arieh, et al., 2018), and across 23 countries (α = .69 to .94; Abubakr et al. 2015).

Outside the USA, the BMSLSS has been utilised in studies in Turkey (Siyez & Kaya 2008) and China (Kwan & Ip 2009). In the Children's Worlds Study, all domain satisfaction items were measured on a scale from "0" to "10", with "0" = "Completely dissatisfied' and "10" = "Completely satisfied". Five of the domain items approximate to the domains proposed in the BMSLSS. These were 'People I live with', 'Friends', 'The school I go to', 'Myself' and 'The area I live in'. We have used these items with the 11-point response scale as a modified version of the BMSLSS for testing purposes; we refer to this as the modified BMSLSS.

Emtanuos (2010) conducted a study using the BMSLSS to assess the SWB of students in Syria. The study aimed to develop an Arabic version of the scale and investigated its psychometric properties with secondary students and university students. Using a sample of N = 1604, several methods were used to estimate the reliability and validity of the measure. The results showed satisfactory test-retest reliability and internal consistency coefficients. The results also provided evidence of convergent and divergent validity. Further evidence for the construct

validity of the instrument was provided by studying the inter-correlations of its five subscales, as well as the correlations of these subscales with the entire instrument. At the same time, validity was supported by the correlations of the five subscales. The study demonstrated that the psychometric properties obtained using this version of the SLSS was acceptable. A key recommendation of the study was to conduct further psychometric studies using the Arabic version of the BMSLSS and to test this across various cross- cultural contexts (Emtanuos, 2010).

Hashim and Areepattamannil (2017) tested the reliability, validity, and gender invariance of the BMSLSS amongst a sample of students in India. The study examined the internal consistency reliability; factorial, convergent, discriminant, and predictive validity; and gender invariance of the BMSLSS (Seligson et al., 2003). The sample consisted of 464 adolescents from Kerala, India with 226 (51%) females and 219 (49%) males. Confirmatory factor analysis verified the factorial validity of the BMSLSS. The Cronbach's alpha coefficient suggested that the BMSLSS was reliable. Bivariate correlational analyses provided support for the convergent, discriminant, and predictive validity of the BMSLSS. Lastly, the multi-group confirmatory factor analysis provided support from the gender invariance of the BMSLSS. It should be noted that only a small body of research has examined the psychometric properties of the BMSLSS amongst adolescents (Abubakr et al., 2015) and children in other cultures. Further research in other contexts and cultures is warranted in order to establish the cross-cultural equivalence of item and scale meaning (Hashim & Areepattamannil, 2017). The current study aims to make a contribution in this regard by examining the SWB of children.

4.2.3. Personal Well-Being Index- School Children

The PWI-SC is a seven-item domain-specific measure developed by Cummins and Lau (2005) to evaluate children's SWB across seven life domains namely, standard of living, health, achievement in life, relationships, personal safety, community-connectedness, and future security. The scale domains present a "first level deconstruction of satisfaction with 'life as a whole'" (Tomyn & Cummins, 2011, p. 408). The scale is often adapted to include items on school experience, and religion and spirituality. In the South African Children's worlds study, the item on school experience was included as item 8. However, for the 8-year olds a four-item version of the PWI-SC was employed, including the following items, asking children about their satisfaction with: "All the things you have?"; "Your health?"; "Your relationships with people in general?" (Adapted item); and "How safe you feel?". Response options were presented on a five-point Likert scale, ranging from "0" (Most unhappy face) to "4" (Most happy face). The PWI–SC is scored by calculating the composite mean of the domain scores. Cummins (1995) points to a normative range that is between 70 and 80% for western populations, and 10% less for non-western populations. The PWI–SC has shown satisfactory internal consistency of α = .82 (Tomyn & Cummins 2011), and has been validated in the South African context previously with 12-year olds, with an acceptable reliability coefficient of α = .68 (Savahl et al., 2017).

Tomyn and Cummins (2011) conducted a study to test SWB amongst adolescents in Australia. The aim of the study was to describe the characteristics of SWB amongst Australian adolescents, investigate the psychometric properties of the PWI-SC, to determine the domains that are most important to secondary school students, and to determine whether 'school satisfaction' meets the criterion for a new domain within the PWI–SC. Data were collected with 351 adolescents, 119 males (34%) and 234 females (66%) students, for two independent

studies that formed part of the broader study. The participants attended secondary schools located in the Melbourne metropolitan region (76%), Geelong (19%), and Victoria (4%). The ages of the participants ranged from 12 to 20, with a mean age of 15.70 years (SD = 1.75 years) (Tomyn & Cummins, 2011). Using the combined data, the results indicate good psychometric properties for the PWI–SC. They also found that females have higher SWB, with both genders demonstrating a decreasing-with-age tendency in SWB from early to middle adolescence. An important finding of the study was that 'school satisfaction' meets the criteria for a new domain for the PWI–SC, and should be considered for inclusion in a future revision of the scale. The use of the PWI–SC in schools can provide important information for the development of educational policy. The PWI–SC has shown an acceptable Cronbach's alpha coefficient of .82 (Tomyn & Cummins, 2011). To assist with comparison between scales, the PWI-SC was transformed to a 100-point scale. Psychometric analyses support the PWI–SC as a valid and reliable tool for assessing SWB in an Australian adolescent sample. The analyses also suggest that a new domain of 'school satisfaction' should be included in a future revision of the PWI-SC. Lastly, the finding that 16-year olds have the lowest levels of SWB supports research conducted in Spain (Casas, 2016). A major implication is that parents, teachers, and the wider community need to be aware of the unique and changing needs of adolescents so that support can be offered and programmes developed that enhance well-being (Tomyn & Cummins, 2011).

Savahl, Casas, and Adams (2017) conducted a study amongst a sample of children in the Western Cape region of South Africa. The aim of the current study was to test two measures of SWB, namely the SLSS and the PWI–SC. The study further aimed to determine the extent to which the measures are comparable across the different socio-economic status groups. The study formed part of and used data from the first wave of the Children's World Survey, and

included a sample of 1004 12-year-old children randomly selected from 15 schools within the Cape Town Metropole. Located within the goodness of fit theoretical framework, Confirmatory Factor Analysis (CFA) and structural Equation Modelling (SEM) were used to test the overall fit structure, and multi-group factor analysis used to test measurement invariance across SES groups. The results demonstrated appropriate fit structure for the overall model, with metric and scalar factor invariance acceptable across SES groups. The overall findings of the study suggested that the SLSS and the PWI–SC are appropriate for use with children from low and middle SES groups in the Western Cape province of South Africa, and that the two groups can be compared by correlations, regressions, and means. The authors advance further translation and cross-cultural testing of other SWB instruments in the South African context (Savahl, Casas, & Adams, 2017).

4.2.4. Overall Happiness Scale

The single-item of Overall Happiness Scale (OHS) (Cummins & Lau 2005) was used to test the convergent validity of the other SWB measures, as identified by key authors in the field (Casas et al., 2013; Casas & Rees, 2015; Cummins & Lau, 2005). The OHS was scored on a five-point emoticon Likert scale (0 = 'Most unhappy face', to 4 = 'Most happy face'), asking children: "How happy are you with your life as a whole?" The OHS is regarded as the most abstract and least deconstructed measure of SWB. Measures of SWB should show a high level of contribution when regressed onto the OHS. The extent of the contribution represents the level of convergent validity.

4.3. Procedure and Ethics

Ethics clearance for the larger study was obtained from the Senate Research Committee (13/4/26, Appendix A) of the University of the Western Cape, as well as the Western Cape

Education Department. The research team then liaised and met with the school principals and life skills teachers at the selected schools to discuss the study particulars. Prior to the administration of the questionnaire, the researchers informed the participants of the details of the study such as the aims of the study, what their participation necessitated, as well as the key ethics principles of informed consent, confidentiality, their right to withdraw, and privacy. The participants were also informed about the dissemination procedure of the study. The learners who chose to participate in the study were required to provide signed consent, and acquire informed consent from their parent/guardian. Only those children that returned signed consent forms participated in the study. The questionnaires were researcher-administered within the classroom context during the administration period at the commencement of the school day. Data were captured using the double-entry method by the research team. The final captured database was then sent to the international organising committee for validity checks. This process encompassed scrutinising the accuracy of the data capturing procedure, an analysis of missing data, and extreme scores. Cases with a missing data percentage of more than 33% were excluded from the dataset. This process represented an oversight function and has been shown to increase the quality of data (Casas & Rees, 2015).

4.4. Data Analysis

The Statistical Package for the Social Sciences (version 25) software was used to generate descriptive statistics. The structural validity of the three scales was tested using CFA in Analysis of Moment Structures (AMOS) (version 25). It is important to note that quality of life data (with children and adults) generally present as negatively skewed. It is for that reason that Maximum likelihood estimation will be used, with kurtosis and departures from normality attended to using the Bootstrap method (500 samples) as specified in AMOS 25. For the current study, missing items were found to be 'missing completely at random'. Cases with two or less

missing values on the CHS were substituted by regression imputation, as per the recommendations of Casas (2017). As previously stated, the CFI, RMSEA, and SRMR were used as fit indexes (see Jackson et al., 2009 and Kline, 2010). Results higher than .950 are accepted for the CFI and results below .05 are regarded as a good fit for the RMSEA and SRMR. Improvement of model fit was achieved by excluding items with excessively low factor loadings (< .2) (Kline, 2010), the application of modification indices (error covariance constraints), and if required the application of partial measurement constraints (Savahl, Casas, Adams, 2017).

To compare the results of the scores across gender, measurement invariance, which refers to the extent to which items in the scale have the same meaning between groups, was applied (Meredith, 1993). If the measures are found to be non-invariant, then group comparisons on the measured variables would have ambiguous and unreliable interpretations (Millsap & Olivera-Aguilar, 2012). Cheung and Rensvold (2002) and Chen (2007) conceptualise measurement invariance on a hierarchical structure assessed through the application of incrementally restrictive measurement constraints. Measurement invariance is tenable if the model fit does not worsen by more than .010 on the CFI (Cheung & Rensvold, 2002) and by .015 on the RMSEA, and SRMR (Chen, 2007). Following these recommendations, the current study tested the measurement invariance of the multi-group models (across gender) through the application of three sequential steps. In the first step, configural invariance, which assesses an unconstrained multi-group model wherein the parameters are freely estimated, was tested. Thereafter, metric invariance, which is a requisite for comparing covariance, correlations or regression coefficients, was tested by constraining the factor loadings of the configural model. Finally, scalar invariance, which is a requisite for comparing means between boys and girls, was tested by constraining the factor loadings and intercepts. Finally, SEM was used to assess

the convergent validity by the inclusion of the observed variable, 'Overall Happiness', in the structural model. This item represents the most abstract form of SWB, and measures of SWB should show a high level of association when regressed onto it (Casas, 2017).

5. Results

5.1. Descriptive Statistics

The sample consisted of 1032 8-year-old primary school children, with a gender composition of 51% boys and 49% girls, selected from 29 schools across the Western Cape province of South Africa.

The skewness of the items on the SLSS ranged from -2.156 to -1.298, with kurtosis from .131 to 3.295. For the BMSLSS items, skewness ranged from -2.863 to -1.738 with kurtosis from 1.884 to 5.875. The skewness of the items of PWI–SC ranged from -2.812 to -1.495 with kurtosis from .972 to 9.007. For the OLS the skewness was -2.053 and kurtosis was 3.706. These departures from normality were attended to using the bootstrap method (500 samples) implemented in the AMOS (version 25).

The reliability coefficients for the three scales were acceptable: α= .76 for the SLSS*;* α = .60 for the BMSLSS; and α = .60 for the PWI-SC.

Table 1

SLSS Item and Total Mean Scores

	N	Mean	SD
My life is going well	1032	3.74	.587
My life is just right	1032	3.74	.595
I have a good life	1032	3.70	.631
I have what I want in life	1032	3.57	.740
My life is better than most kids	1032	3.56	.724
The things in my life are excellent	1032	3.66	.660
SLSS total	1032	3.66	.442

The SLSS presented with an overall mean score of 3.66 (SD = .44), with item mean scores ranging from 3.66 (SD = .66; *The things in my life are excellent)* to 3.74 (SD = .59; *My life is going well*) (see Table 1).

Table 2

BMSLSS Item and Total Mean Scores

	N	Mean	SD
Happy with: Your family life	1032	3.55	.920
Happy with: Your friends	1032	3.56	.903
Happy with: Your school experience	1032	3.45	1.017
Happy with: Your own body	1032	3.65	.830
Happy with: The area you live in general	1032	3.33	1.170
BMSLSS total	1032	3.51	.59

For the BMSLSS the overall mean score was 3.51 (SD = .59) with item means scores ranging from 3.33 (SD = 1.17; *Satisfaction with: The area you live in general*) to 3.65 (SD =.83; *Satisfaction with your own body*) (see Table 2).

Table 3

PWI-SC Item and Total Mean Scores

	N	Mean	SD
Happy with: All the things you have	1032	3.64	.761
Happy with: Your health	1032	3.46	1.060
Happy with: Your relationships with people in general	1032	3.22	1.235
Happy with: Your self-confidence	1032	3.24	1.233
Happy with: What you do in your free time	1032	3.55	.946
Happy with: school	1032	3.42	1.154
PWI-SC total	1032	3.42	.609

For the PWI-SC, the overall mean score was 3.42 (SD = .61) with item mean scores ranging from 3.22 (SD =1.24; *Satisfaction with: your relationships with people in general*) to 3.64 (SD = .76; *Satisfaction with: All the things you have*) (see Table 3). Casas (2017) recommends that the scores on SWB instruments be transformed into a 100-point scale for ease of comparison. Table 4 illustrates the means and standard deviations of the three multiple item scales and the single-item OHS transformed into a 100-point scale. The scores are comparable with those obtained in previous research conducted with children in Western Cape Province (see Savahl, Casas, & Adams, 2017), and with a samples of children from the North-West, Free-State, and Limpopo provinces (see Mpilo, 2019).

Table 4

Scale Composite Mean Scores (on a 100-point scale)

Scale	Mean	SD
SLSS	91.52	11.06
BMSLSS	87.66	14.76
PWI-SC	85.56	15.35
OHS (Happy with: Your life as a) whole	90.60	20.16

5.2. Confirmatory Factor Analysis

Confirmatory Factor Analysis (maximum likelihood estimation) was used to test the validity of the factorial structure and model fit of the three scales using AMOS (version 25).

Table 5

Fit Indexes for Confirmatory Factor Models

Model	Chi-square	df	p-value	CFI	RMSEA	SRMR
1. Initial SLSS	87.015	9	.000	.936	.092 (.075 - .110)	.0422
2. Modified SLSS With 1 ECV	14.258	8	.075	.995	.028 (.000 -.050)	.0170
3. Initial BMSLSS	2.497	5	.777	1.000	.000 (.000 - .029)	.0099
4. Initial PWI-SC	18.289	9	.032	.981	.032 (.009 - .052)	.0281
5. Modified PWI-SC	5.178	5	.395	1.000	.006 (.000 - .044)	.0143
6. Initial Combined Model	205.868	100	.000	.959	.032 (.026 - .038)	.0341
7. Modified Combined Model: 2 Latent Constucts	90.486	62	.011	.986	.021 (.025 - .038)	.0291
8. Modified Combined Model: Configural	192.309	124	0.00	.968	.023 (.016 - .029)	.0454
9. Modified Combined Model: Metric	199.100	135	0.00	.970	0.21 (.015 - .028)	.0460
10. Modified Combined Model: Scalar	211.048	146	0.00	.969	.021 (.014 - .027)	.0460
11. SEM Overall Happiness Scale	159,581	74	0.00	.961	.033 (.026 - .041)	.0530

5.3. Confirmatory Factor Analysis: SLSS

The initial model presented with an inadequate fit (see Model 1 in Table 5; Figure 1). A modified version with the addition of one error-covariance (between “My life is going well”

and “My life is just right”) resulted in a good fit (see Model 2 in Table 5; Figure 2). The improvement of model fit with the addition of the error co-variance (ECV) is likely due to the semantic overlap in the content of the items. The standardised regression weights for the overall model ranged between .501 and .619 with all values significant at the .001 level (see Table 6).

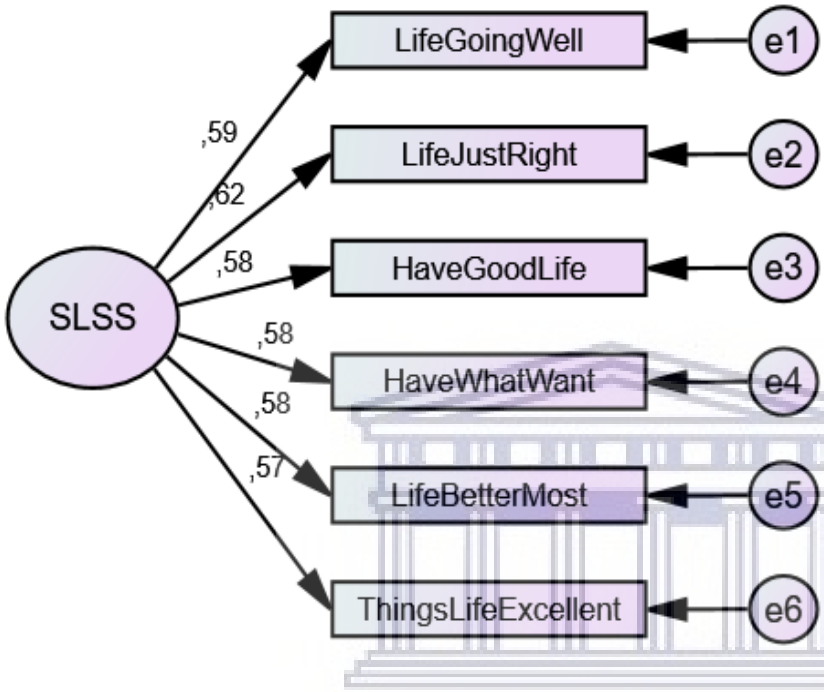

Figure 1. **Initial SLSS Model**

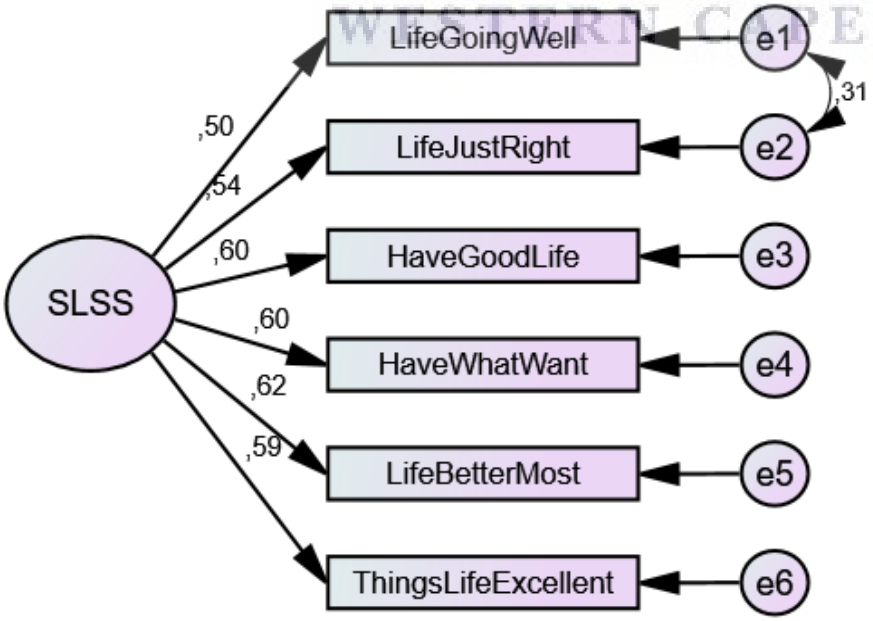

Figure 2. **Modified SLSS Model (1 error co-variance)**

Table 6

Standardised Regression Weights (Modified SLSS)

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			Estimate	Lower	Upper
LifeGoingWell	<---	SLSS	.501	.422	.573
LifeJustRight	<---	SLSS	.540	.464	.613
HaveGoodLife	<---	SLSS	.602	.527	.667
HaveWhatWant	<---	SLSS	.599	.531	.664
LifeBetterMost	<---	SLSS	.619	.556	.682
ThingsLifeExcellent	<---	SLSS	.586	.507	.648

All values significant at < .001

5.4. Confirmatory Factor Analysis: BMSLSS

The initial model presented with an appropriate model fit (see Model 3 in Table 5; Figure 3). The standardised regression weights for the overall model ranged between .398 and .517 with all values significant at the .001 level (see Table 7).

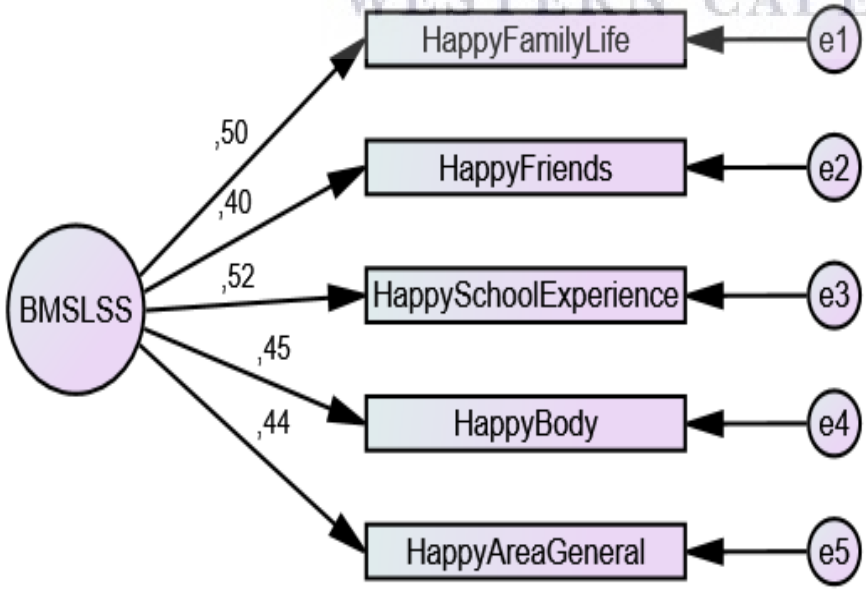

Figure 3. **Initial BMSLSS Model**

Table 7

Standardised Regression Weights (Initial BMSLSS)

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			Estimate	Lower	Upper
HappyFamilyLife	<---	BMSLSS	.498	.394	.597
HappyFriends	<---	BMSLSS	.398	.306	.499
HappySchoolExperience	<---	BMSLSS	.517	.413	.608
HappyBody	<---	BMSLSS	.453	.340	.559
HappyAreaGeneral	<---	BMSLSS	.436	.334	.529

All values significant at < .001

5.5. Confirmatory Factor Analysis: PWI–SC

The initial model presented with an inadequate fit (see Model 4 in Table 5), which improved with the deletion of one item (Happy with School) (see Model 5 in Table 5; Figure 4). The item that was deleted presented with a low factor loading – the deletion of the item improved the fit indexes of the model by >.01. The standardised regression weights for the overall model ranged between .368 and .581 with all values significant at the .001 level (see Table 8).

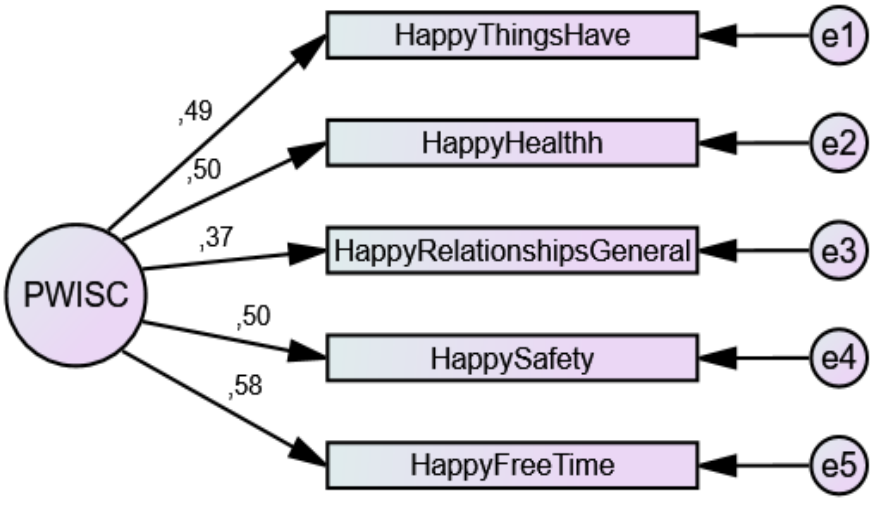

Figure 4. **Modified PWI-SC Model**

Table 8

Standardised Regression Weights (PWI-SC Initial Model)

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			Estimate	Lower	Upper
HappyThingsHave	<---	PWISC	.489	.378	.588
HappyHealth	<---	PWISC	.502	.400	.591
HappyRelationshipsGeneral	<---	PWISC	.368	.287	.462
HappySafety	<---	PWISC	.498	.402	.580
HappyFreeTime	<---	PWISC	.581	.487	.679

All values significant at < .001

5.6. Confirmatory Factor Analysis: Combined Model

Confirmatory Factor Analysis was utilised to test the fit of the combined model. The initial model presented with an adequate fit (see Model 6 in Table 5). However, the correlation between the BMSLSS latent variable and the PWI-SC latent variable was substantially high (see Table 9; Figure 5), which calls into the question the delineation of two separate latent constructs. As a result, another model was tested, combining the two latent constructs (PWI-SC and the BMSLSS). However, the initial combined model (with two latent constructs) did not meet the requirements for model fit. It was therefore necessary to conduct further model modification. A modified combined modified model with the items "Happy with Life in General", "Happy about the Things you Have" and "Happy with Relationships in General" removed presented with a good fit (see Model 7 in Table 5; Figure 6). These deleted items presented with low factor loadings and high standardized residual covariances. The justification for the deletion of these items is that they improved the fit indexes of the model by more than .01 (Savahl, Adams, Florence, et al., 2019). The standardised regression weights

for this modified model ranged from .355 to .615, with all values significant at the .001 level (see Table 10).

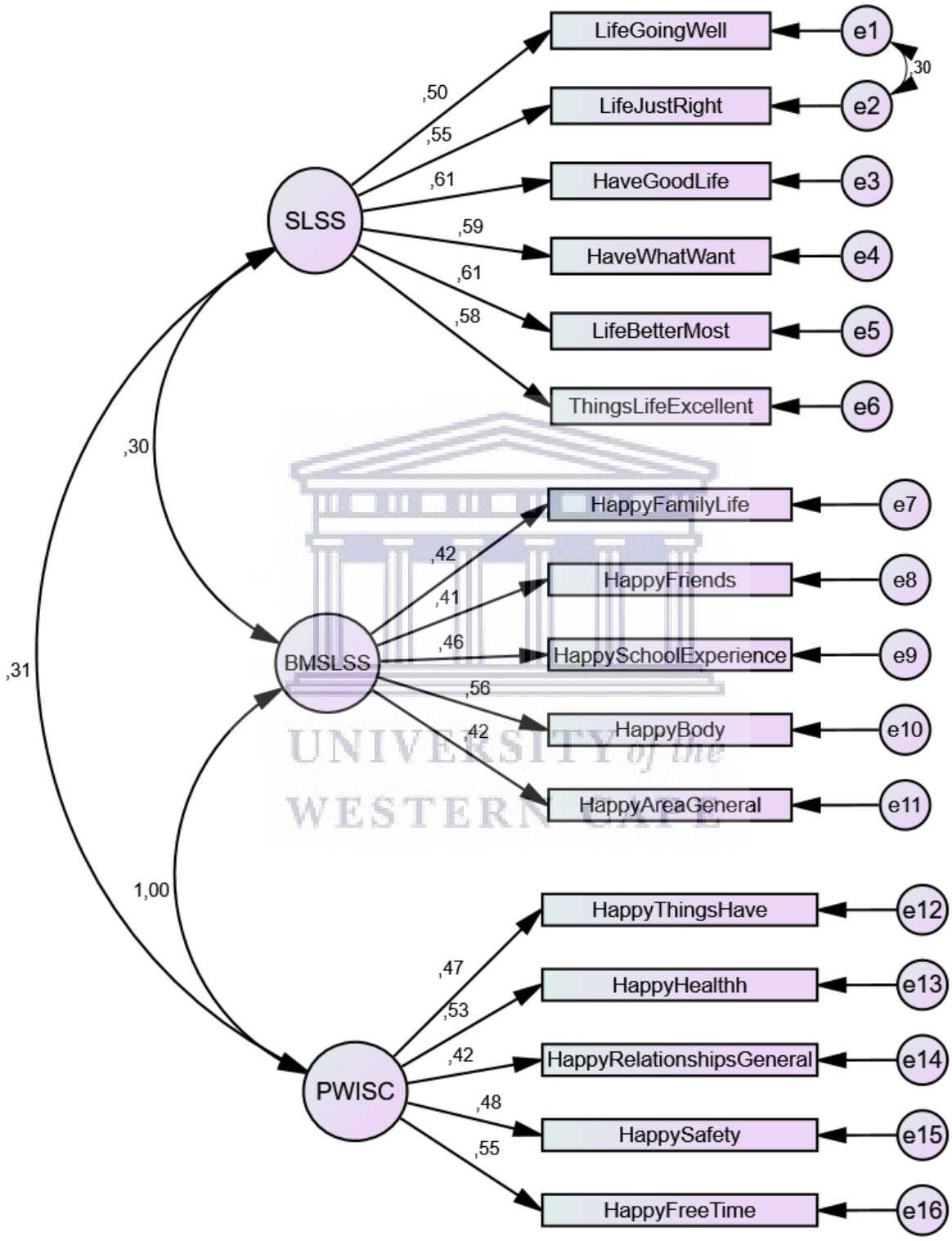

Figure 5. **Initial Combined Model**

Table 9

Standardised Regression Weights (Initial Combined Model)

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			Estimate	Lower	Upper
LifeGoingWell	<---	SLSS	.503	.424	.574
LifeJustRight	<---	SLSS	.550	.473	.619
HaveGoodLife	<---	SLSS	.606	.532	.671
HaveWhatWant	<---	SLSS	.595	.530	.657
LifeBetterMost	<---	SLSS	.615	.551	.681
ThingsLifeExcellent	<---	SLSS	.581	.503	.645
HappyFamilyLife	<---	BMSLSS/PWI-SC	.420	.330	.507
HappyFriends	<---	BMSLSS/PWI-SC	.408	.325	.492
HappySchoolExperience	<---	BMSLSS/PWI-SC	.457	.367	.537
HappyBody	<---	BMSLSS/PWI-SC	.564	.470	.650
HappyAreaGeneral	<---	BMSLSS/PWI-SC	.421	.333	.490
HappyThingsHave	<---	BMSLSS/PWI-SC	.466	.373	.557
HappyHealth	<---	BMSLSS/PWI-SC	.530	.447	.603
HappyRelationshipsGeneral	<---	BMSLSS/PWI-SC	.421	.346	.495
HappySafety	<---	BMSLSS/PWI-SC	.475	.402	.552
HappyFreeTime	<---	BMSLSS/PWI-SC	.552	.463	.643

All values significant at < .001

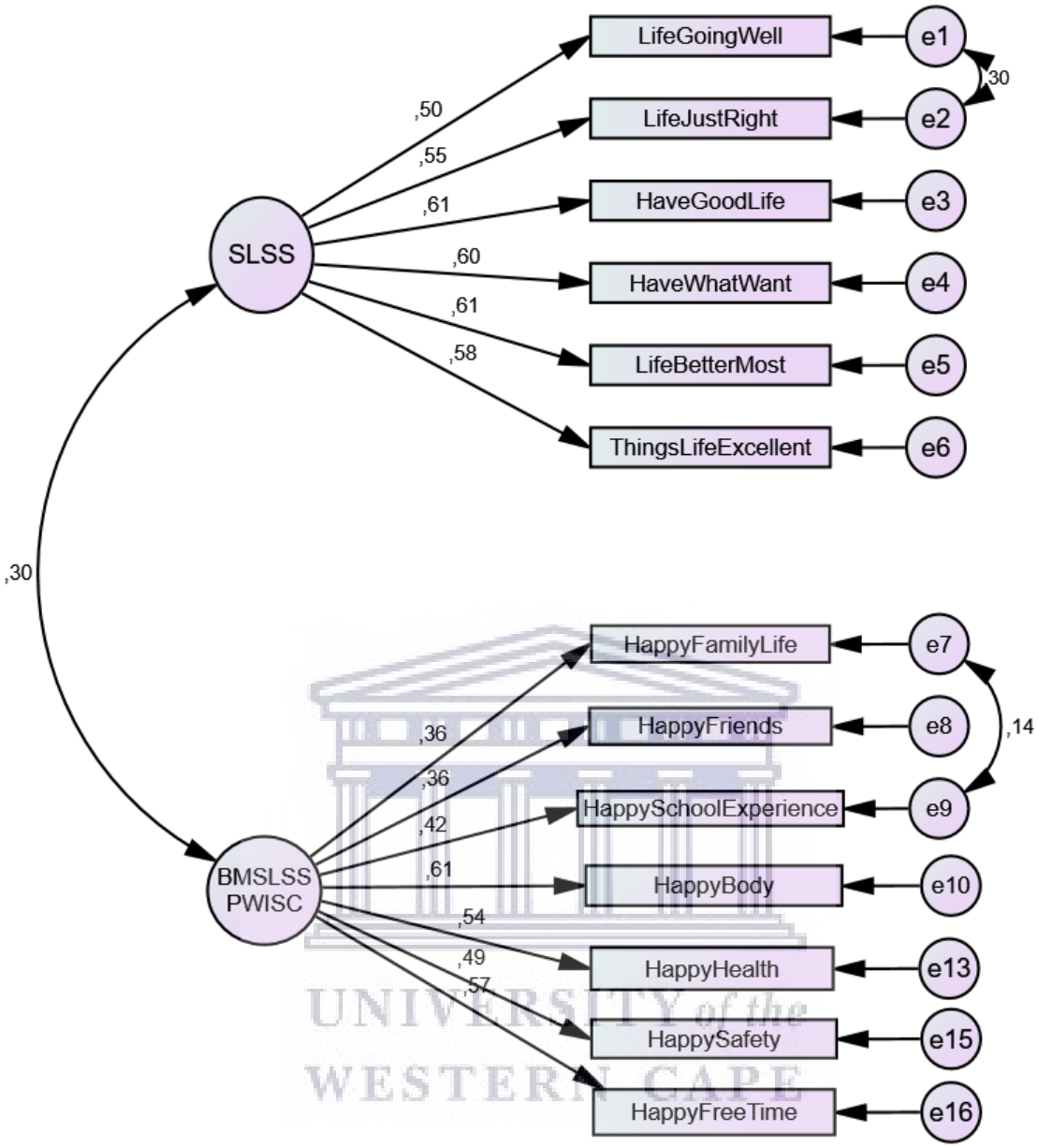

Figure 6. **Modified Combined Model: 2 Latent Constructs**

Table 10

Standardised Regression Weights (Modified Combined Model with Two Latent Constructs)

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			Estimate	Lower	Upper
LifeGoingWell	<---	SLSS	.501	.421	.573
LifeJustRight	<---	SLSS	.548	.472	.617
HaveGoodLife	<---	SLSS	.606	.532	.672
HaveWhatWant	<---	SLSS	.595	.529	.658
LifeBetterMost	<---	SLSS	.615	.551	.681
ThingsLifeExcellent	<---	SLSS	.584	.506	.648
HappyFamilyLife	<---	BMSLSS/PWI-SC	.357	.267	.446
HappyFriends	<---	BMSLSS/PWI-SC	.355	.269	.448
HappySchoolExperience	<---	BMSLSS/PWI-SC	.428	.333	.505
HappyBody	<---	BMSLSS/PWI-SC	.610	.516	.701
HappyHealth	<---	BMSLSS/PWI-SC	.535	.448	.619
HappySafety	<---	BMSLSS/PWI-SC	.490	.410	.571
HappyFreeTime	<---	BMSLSS/PWI-SC	.573	.472	.664

All values significant at < .001

5.7. Multigroup Confirmatory Factor Analysis

The measurement invariance of the final model across gender was tested by means of Multigroup CFA (MGCFA). As previously noted, this process followed three sequential steps. In the first step a configural model was tested by allowing all the parameters to be freely estimated. This was followed by testing a metric invariance model wherein the factor loadings were constrained. Finally, a scalar invariance model was tested by constraining the factor loadings and measurement intercepts. Each subsequent model was deemed acceptable

(invariant) if the fit indices did not worsen by more than .01 on the CFI (Cheung & Rensvold, 2002) and by .015 on the RMSEA and SRMR (Chen, 2007). Configural, metric, and scalar invariance (Models 8 to 10 in Table 5; Figures 7 – 9) was found to be tenable. The findings suggest that girls and boys understood the scale items in a similar way, which means that the items can be meaningfully compared by correlations, regression coefficients, and mean scores.

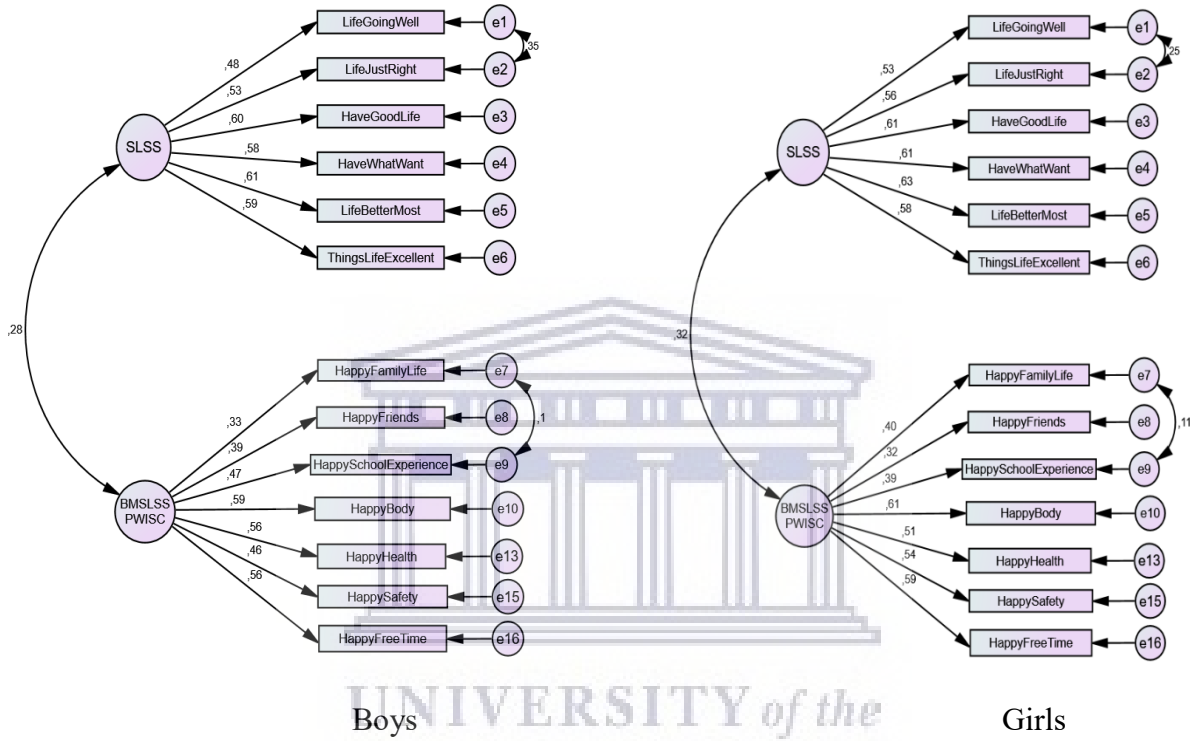

***Figure 7*: Multigroup Model (Configural) Unconstrained across Gender**

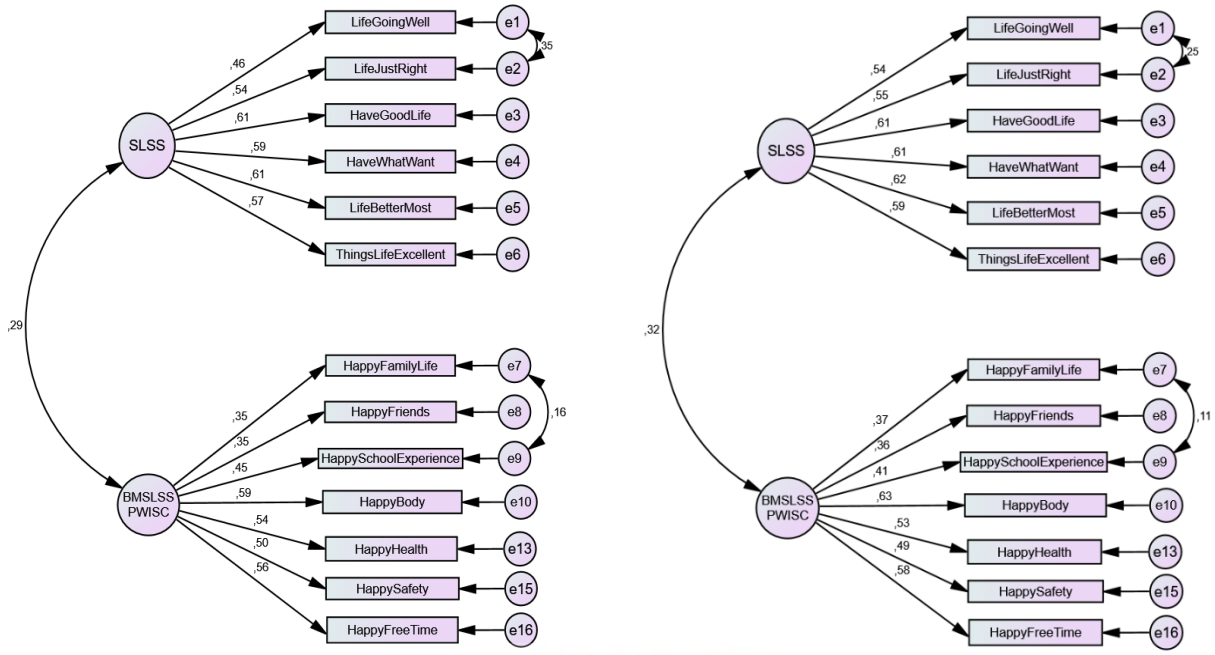

***Figure 8*: Multigroup Model (Metric) Constrained Loadings across Gender**

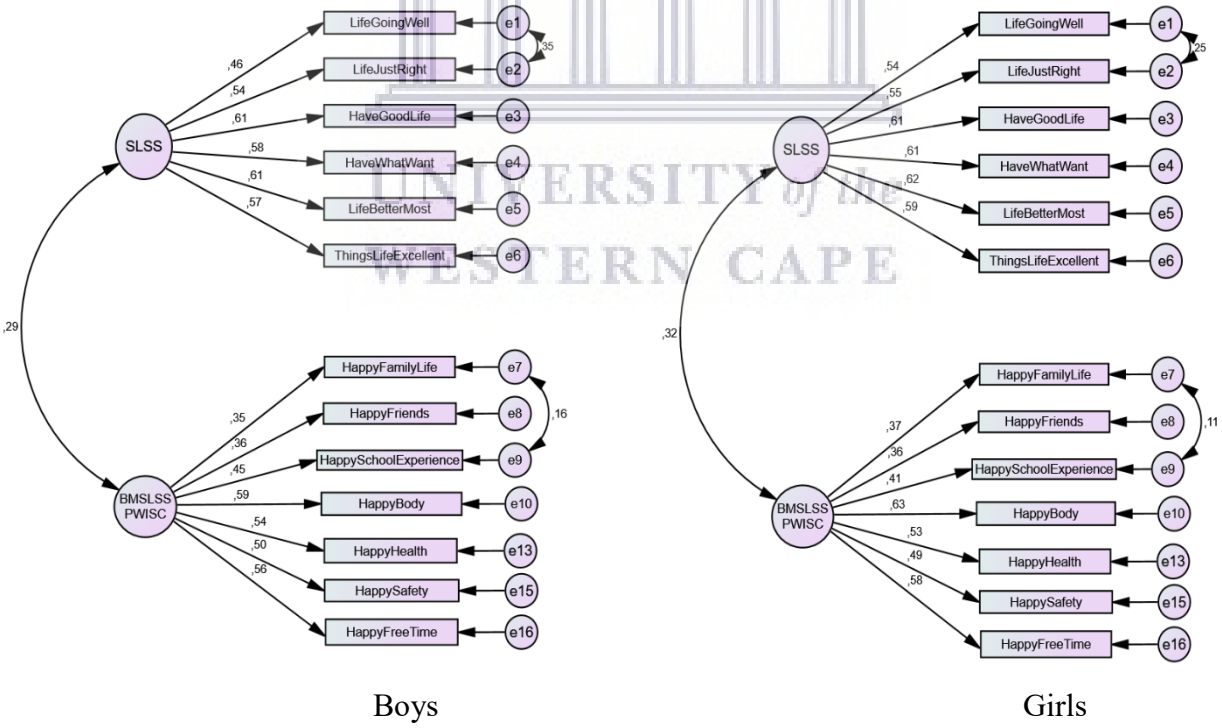

***Figure 9*: Multigroup Model (Scalar) Constrained Loadings and Intercepts across Gender**

5.8. Structural Equation Modelling

The observed variable OHS was included in a SEM with the overall pooled data to test the convergent validity of the scales. The OHS represents the most abstract form of SWB, and measures of SWB should show a high level of association with the OHS (Casas, 2017; Savahl, Casas, & Adams, 2017). Figure 10 below (see Model 11 in Table 5), shows the OHS with the pooled sample – a moderate regression (.30 for the SLSS and .24 for the BMSLSS/PWI-SC, $p < .001$) confirms convergent validity (See Figure 10 and Table 11).

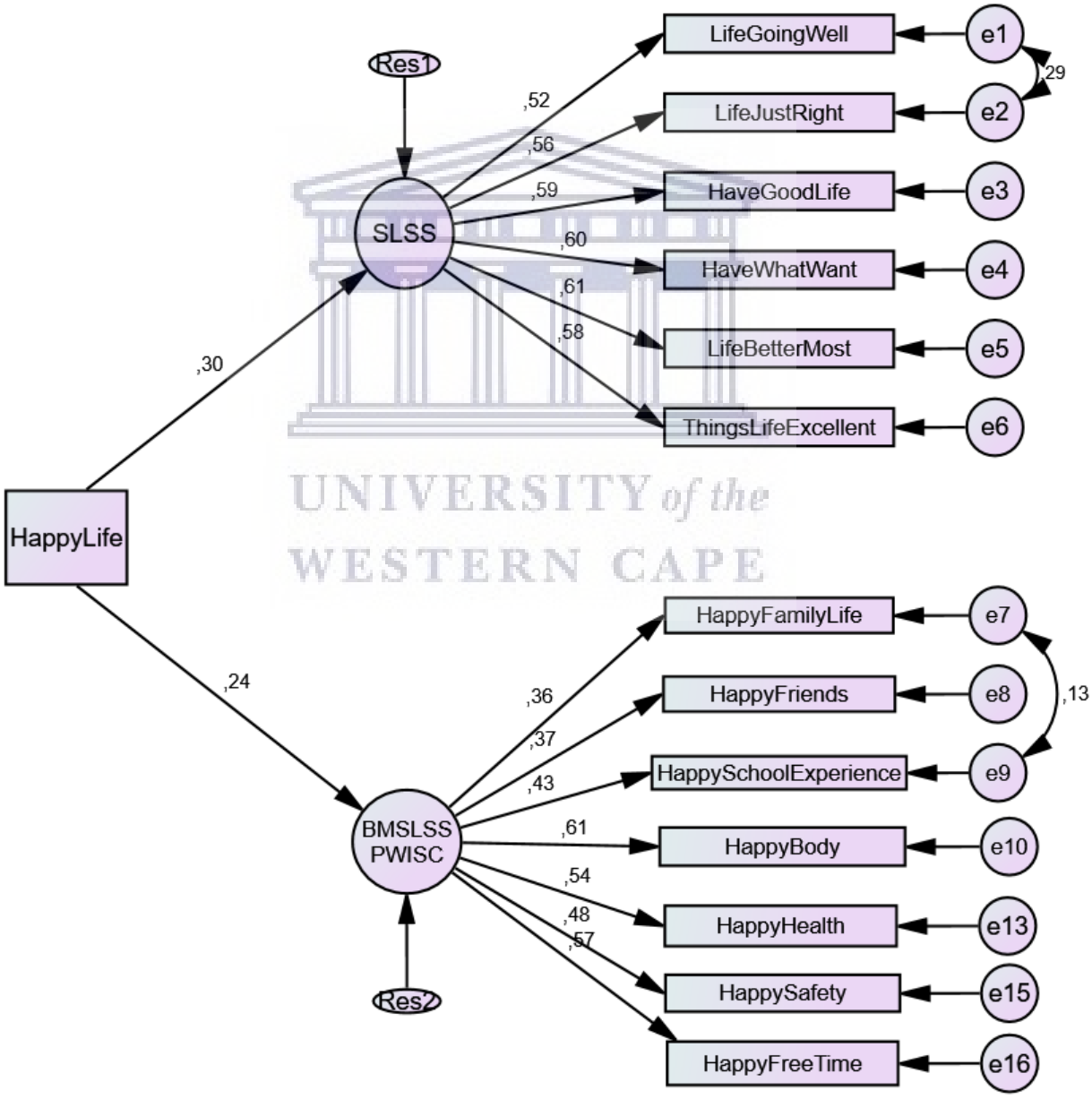

***Figure 10*: Structural Equation Model: OHS Regressed on SLSS and BMSLSS/PWI-SC**

Table 11

Standardized Regression Weights: Structural Equation Model

Parameter Bootstrap, ML, 95% Confidence Intervals, Resamples = 500			**Estimate**	**Lower**	**Upper**
SLSS	<---	HappyLife	,300	,221	,384
BMSLSS	<---	HappyLife	,235	,151	,329
LifeGoingWell	<---	SLSS	,516	,438	,585
LifeJustRight	<---	SLSS	,557	,480	,628
HaveGoodLife	<---	SLSS	,594	,517	,662
HaveWhatWant	<---	SLSS	,598	,531	,662
LifeBetterMost	<---	SLSS	,609	,549	,671
ThingsLifeExcellent	<---	SLSS	,583	,506	,645
HappyFamilyLife	<---	BMSLSS	,363	,274	,454
HappyFriends	<---	BMSLSS	,371	,286	,464
HappySchoolExperience	<---	BMSLSS	,425	,330	,506
HappyBody	<---	BMSLSS	,608	,512	,698
HappyHealth	<---	BMSLSS	,537	,445	,623
HappySafety	<---	BMSLSS	,476	,396	,551
HappyFreeTime	<---	BMSLSS	,573	,471	,663

All values significant at < .001

6. Discussion

The study aimed to conduct a preliminary structural validation of the SLSS, PWI–SC, and the BMSLSS amongst a sample of 8-year-old children in. The study further aimed to test an overall model of SWB including the three scales. Within this process, the study aimed to use MGCFA, with metric and scalar invariance, to compare the measurement invariance across gender.

Finally, the study aimed to determine the convergent validity of the scales by regressing them onto the single-item OHS.

The mean composite scores for the three scales and the OHS showed high values for the pooled sample. The scores on the SWB measures are often transformed and presented on 100-point scales to facilitate comparison. In relation to research on children's SWB, Casas et al. (2013) found scores for children in western populations to range from 70 – 80 (on a 100-point-scale). The results in the current study align with the scores on SWB measures obtained in previous waves of the Children's Worlds Study (Casas, 2017; Casas & Rees, 2015), and are similar to those obtained by Savahl, Casas, and Adams (2017). Regardless, these high levels of SWB are unusual considering the adverse circumstances that children in South Africa are faced with on a daily basis (Adams & Savahl, 2017; Adams, Savahl, & Fattore, 2017), and are incongruent to objective indicators of child well-being that demonstrate a range of childhood adversities (see Hall et al., 2018).

Savahl, Adams, et al. (2015) note that SWB measures generally produce data that are negatively skewed. The essence of their contention is that individuals overestimate their levels of life satisfaction, regardless of the circumstances wherein they find themselves – Casas (2017, noting Zapf, 1984) refers to this as the 'satisfaction paradox' (Casas, 2016). The 'satisfaction paradox' draws on theories of relative income and adaptation to make sense of the process through which individuals lower their aspirations to account for the disadvantaged contexts they live in (Clark, 2009; Sardadvar et al., 2017). This phenomenon is associated with socially and culturally acceptable expressions of happiness (Savahl, Adams, et al., 2015). If overt expressions of happiness are celebrated as part of one's social and cultural behavioural patterns, then it is likely that participants would respond positively to questions on happiness and life

satisfaction (Goldings, 1969 cited in Cummins, 1995). Furthermore, Heady and Wearing (1989) contend that it could be seen as an active attempt to maintain the integrity of the self, while Boucher and Osgood (1969) put forward the concept of the 'Pollyanna Hypothesis' to explain the tendency to select items on a positive spectrum (Savahl, Adams, et al., 2015). 'Cognitive dissonance' theory (Festinger, 1957, as cited in Olsen & Schober, 1993) has also been employed to elucidate this, and advances that individuals cannot withstand persistent low levels of satisfaction (or high levels of dissatisfaction) owing to the cognitive tension that it creates. The individual then minimises this tension in (one of) two ways: changing the situation to align to their standards, or to alter their own standards in order to adapt to the circumstances – what Zapf (1984) refers to as 'adapted people' (Sardadvar et al., 2017). Notwithstanding these explanations, this should not detract from or be used as a motivation to avoid addressing and bettering the living conditions of children living in poverty and deprivation.

For the initial model of the SLSS there was a high correlation between "My life is going well" and "My life is just right", however, the model did not improve substantially with the deletion of either item. Therefore, the high correlation is likely due to semantic overlap in the content of the items. In light of this, the decision was made to keep both items and include an error covariance. Another noteworthy finding of the study is that the BMSLSS presented with a perfect fit.

For the PWI-SC an excellent fit was also obtained, however, the item on happiness with 'school satisfaction' presented with a low factor loading (.21). While the fit for the overall model was excellent, it improved substantially with the deletion of the item "Happy with School". This finding is contradictory to that of a seminal study conducted by Tomyn and Cummins (2011)

who found that the school level item significantly increased the explained variance on the PWI–SC.

There are a number of possible explanations for this finding. Firstly, it may be that school contributes less to the SWB of 8-year-old children. Another explanation is that there may have been a problem in the wording of the question and subsequent understanding by the participants. There is also a possibility that the item is too abstract and does not make reference to a specific aspect of school. Further to this, the item on "Happiness with the School Experience" (as part of the BMSLSS) presented with a stronger factor loading and was maintained in the final model. Satisfaction with school experience has been found to have a substantial impact on children's well-being and overall quality of life (Rees, 2018). Additional support is found in the comparative analysis of the Third Wave of the Children's Worlds Study (Rees et al., 2020) where various aspects relating to school were found to contribute significantly to variations in children's SWB. This finding appears to be universal, although the results indicate that it is especially relevant in low and middle-income contexts.

For the combined model, that included the three latent constructs, a good fit was obtained. However, it was noted that the PWI-SC and BMSLSS showed a perfect correlation, which suggests that the two constructs are indistinguishable from one another and likely represent a single construct. This finding is in line with that of Casas (2017) who indicated that items, with various levels of abstraction as represented on the BMSLSS and PWI–SC, could potentially lead to improved model fit. This is further corroborated by the work of Savahl, Adams, Florence, et al. (2019) who combined the PWI–SC and BMSLSS into a single latent construct in their specification of a quadripartite model of SWB. In the current study, the fit for the modified combined model slightly improved after combining the PWI-SC and BMSLSS (two

latent constructs). The overall model (figure 7) indicates that the combined model with two latent constructs produced an excellent fit and is a valid representation of the SWB of the 8-year old sample of children. However, to obtain an acceptable fit it was necessary to delete three items ("Happy with Area you Live", "Happy with the Things you Have", and "Happy with Relationship in General"). Previous research using multinational samples have shown these items to be significant indicators of children's SWB (Casas, 2017). However, the results from the current study are suggesting that it is likely that these items are less relevant for 8-year-olds in the South African sample.

MGCFA confirmed the evidence of measurement invariance for the overall model across gender. This means that boys and girl understood the questions in the same way, and that the scores across gender can be compared by correlations, regressions, and means. Finally, the convergent validity of the model was confirmed by regressing the model onto the single-item OHS, where acceptable regression weights were observed.

The final contribution of the current study is confirmation that scales consisting of context-free and domain-based items are valid for use with a sample of 8-year-old children to assess children's SWB. The best-fitting overall model contained two latent constructs – one including context-free items and another comprising a combination of domain-based items that depict different levels of abstraction.

6.1. Conclusion, Limitations, and Recommendations

Methodologically, the state of art within children's SWB research has advanced significantly in the last decade. Traditionally, SWB has been measured with a single-item scale; however, empirical evidence has demonstrated that the use of multiple item measures are more stable

than single-items and increase the reliability and validity of the measure. Recently, Casas and Rees (2015), Rees (2017), and Savahl, Casas, & Adams (2017) have advocated for further research on instruments measuring children's SWB. In particular, these authors note the lack of research on scale validation with younger children. Complementing previous validation studies on SWB instruments (see Savahl, Casas, & Adams, 2017), the current study hopes to make further contributions to the international dialogue on the measurement of children's SWB. Its unique contribution is that it focuses on a sample of 8-year-old children and represents the first study that provides a structural validation of multiple scales and the specification of a combined model, measuring SWB with this age group in South Africa.

The study presents with some limitations. First, the sample is limited to English-speaking children in the Western Cape Province of South Africa. Given the heterogeneous nature of childhood and children's experiences in South Africa, characterised by diversity in SES, culture, and language, and a historical socio-political system of social exclusion and oppression, future research should endeavor to include samples of children from various contexts and language groups in South Africa. This would include the complex task of translating the instruments into a range of different languages. The validation of the instruments provides researchers with confidence that the scales are meaningfully assessing SWB. However, the nature of the items only provide limited data on the factors influencing children's lives. Future research should therefore include qualitative research methods to enhance the depth of interpretation. Rees et al. (2020) also point to validation studies as being an important first step in understanding children's SWB. They suggest that a multiple indicator approach be used to facilitate a more comprehensive understanding of children's well-being. This approach includes the use of mean scores, measures of equality, and relative scores.

In the current study there were also a few items on the standardised scales that presented with low-factor loadings, and negatively affected the structural validity of the scales. Further psychometric research is recommended to ascertain why and how these items are impacting on the functioning of the scales and how they can be improved. This may include qualitative research with children to ascertain if there are concerns about the wording of the items, the level of abstraction, the nature of the response options, or the phrasing of the declarative statement. Rees (2017) for example, suggests that the use of anchoring vignettes may be a prudent option to pursue in future research, while Rees et al. (2020) point to further research with the use of emoticons.

The findings of the current study are encouraging. It not only provides evidence that the three scales are valid for use with 8-year-old children, but also suggests that young children are able to consider, reflect on, and evaluate their overall well-being and various aspects of their lives. Social services practitioners, educators, and policy-makers could harness this information to facilitate the development of practices and policies that could improve children's overall quality of life.

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Appendix A (Ethics Clearance)

UNIVERSITY of the WESTERN CAPE

OFFICE OF THE DEAN

DEPARTMENT OF RESEARCH DEVELOPMENT

07 May 2013

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by: Dr S Savahl (Psychology)

Research Project: Children's Worlds: International Survey of Children's Well-Being.

Registration no: 13/4/26

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Appendix B: Comprehensive Ethics Statement

The study follows the ethics guidelines as stipulated by UNICEF's Ethical Research Involving Children Report (2013) with particular cognisance of the key principles of harms and benefits, informed consent, privacy and confidentiality and dissemination of findings. These are discussed below:

i. Harms and benefits

Through participation in the study the child participants shall not be discriminated against based on ethnic or social characteristics. The researchers will ensure that children are not harmed through commission or omission of taking part in the study. It is through the promotion of children's well-being, maintaining the view that children are right-bearing citizens and competent decision makers who are authorities of their own lives and honouring children's right to express their beliefs and opinions either by writing, talking or drawing. Furthermore, the researchers will ensure that children have access to advice and support should they experience any trauma or difficulties relating to the topic. The researchers will ensure that children are not exploited in any way and that their health, safety and educational development are not compromised. Finally, the researcher will be aware and reduce the power relationship between the participants and the researcher.

ii. Informed consent

Children will be informed of the rationale of the study, its subsequent aims and objectives and what the nature of their anticipated role within the research study will be. The researchers will be aware of their role in ensuring that children understand their rights as participants in a language that they understand. Children will be informed of the option of non-participation without discrimination, which is applicable at any time or phase of the study. The views,

experiences, perspectives, dignity and integrity of each child, as well as their specific contexts shall be respected and valued by the researchers. Researchers will therefore obtain written and voluntary informed consent from both children and their parents/guardians in a language that they understand. Children will also be given sufficient time to consider the information of the study, reflect on their decision to participate and have any questions answered before providing their consent.

iii. Privacy, confidentiality and anonymity

Particular consideration to the privacy of children will be ensured pertaining to the divulging of personal information that may cause them to feel anxious or uncomfortable. This further extends to being cognisant of not divulging any information provided by children to family members, friends or others known to the child. The researchers will ensure that the identity of each child is protected as well as the setting in which data collection will take place. Any sensitive information that is required will be limited to a minimum necessary to achieve the aim of the research study.

Confidentiality in terms of the protection of disclosed information and the protection of children's identity will be strictly enforced. Any personal information that each child provides will not be disclosed. Participation within the study will be kept confidential to ensure that individual identities cannot be linked to the results of the study. The information that each participant provides will be kept private. Children will be advised prior to the commencement of the questionnaire administration that disclosure of any current or potential abuse would need to be engaged with and may need to be referred for professional assistance. Furthermore, no personal identification details will be requested on the questionnaires in order to ensure

anonymity of the participants. This will ensure that the information that each participant provides will not be identifiable to a specific participant's identity.

iv. Dissemination of findings

Particular ethical consideration will be given to ensure that the privacy of the research participant's identities which will be maintained through dissemination of the findings. To achieve public confidentiality, the researchers will omit or disguise various identifying information without compromising the integrity of the findings. Consent to disseminate the findings through various conference presentations, journal publications, student theses/dissertations and reports will be obtained from the participants. This will be ensured by securely storing, protecting and disposing of information that has been collected that can only be accessed by the research team. The data will be kept in a locked room with controlled access as well as password-protected computer files. Hard data will be destroyed after five years, while electronic data will form part of a larger longitudinal data set, including Wave 1 and 2 data. Consideration will further be extended to the transporting and storage of data. All identifiers will be destroyed or removed throughout the data collection phase.

Appendix C: Permission letter

Chairperson
Higher Degrees Committee
Faculty of Community and Health Sciences

Dear Chairperson **12/08/2020**

Permission for Khadeeja Abbas

Ms Khadeeja Abbas is a registered student in the M.A Psychology programme. She has submitted her proposal in fulfillment of the thesis component of the degree. Her thesis forms part of a UWC registered project, Children's Worlds: International Survey of Children's Well-Being (13/4/26).

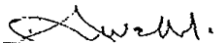
We, the undersigned, hereby grant permission for her to access and use the data of the above-mentioned project as part of her requirements for the degree.

Sincerely,

Sabirah Adams

Principal Investigator
Children's Worlds: International Survey on Children's Well-Being
Senior Lecturer
Centre for Higher Education Development
University of Cape Town

Shazly Savahl



Principal Investigator
Children's Worlds: International Survey on Children's Well-Being
Associate Professor
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