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**PSYCHOLOGICAL, EMOTIONAL AND SOCIAL WELL-BEING OF ADOLESCENTS  
IN URBAN AND SEMI-URBAN COMMUNITIES OF CENTURION, GAUTENG**

**BY**

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**(202005011)**



**A MINI-DISSERTATION SUBMITTED TO THE FACULTY OF HEALTH  
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**FACULTY OF HEALTH SCIENCES  
UNIVERSITY OF FORT HARE**

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**12 March 2025**

## DECLARATION

I, Alucia Nkateko Matukane, declare that this thesis, “**PSYCHOLOGICAL, EMOTIONAL, AND SOCIAL WELLBEING OF ADOLESCENTS IN URBAN AND SEMI-URBAN COMMUNITIES OF CENTURION, GAUTENG.**” is my original research work. The reported research has not been previously accepted or simultaneously submitted to any other university for any degree awards or examination purposes.



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This mini-dissertation, entitled, “**PSYCHOLOGICAL, EMOTIONAL, AND SOCIAL WELLBEING OF ADOLESCENTS IN URBAN AND SEMI-URBAN COMMUNITIES OF CENTURION, GAUTENG,**” complies with the University of Fort Hare’s regulations for the awarding of a Master’s degree in Public Health, and is approved for its contribution to educational practices and to the body of knowledge.

  
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Dr J Wagner  
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12 March 2025  
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Date

## DEDICATION

I dedicate this thesis to God Almighty for making it possible to complete this thesis. To my children, Njabulo and Mbalenhle, for their immeasurable support, commitment, perseverance, and love throughout this programme. Thanks for believing in your mama.

To my niece Kulani “Charmy”, for her full support and patience while I was busy with this thesis. You were my pillar of strength.



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My thanks to the National Health Laboratory Service-Learning Academy for their financial assistance in funding my studies and allowing me time off during this mini-dissertation.



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## LIST OF ACRONYMS AND ABBREVIATIONS

|          |                                                        |
|----------|--------------------------------------------------------|
| EWB      | Emotional Wellbeing                                    |
| MHC-SF   | MENTAL HEALTH CONTINUUM SHORT FORM                     |
| MHC-LF   | MENTAL HEALTH CONTINUUM LONG FORM                      |
| SPSS     | Statistical Package for the Social Sciences            |
| Stats SA | Statistics South Africa                                |
| SWB      | Social Wellbeing                                       |
| PWB      | Psychological Wellbeing                                |
| UNFPA    | United Nations Population Fund                         |
| UNICEF   | United Nations International Children's Emergency Fund |
| WHO      | World Health Organization                              |

## DEFINITION OF TERMS

|                       |                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Adolescent:</b>    | Someone who is aged between 10 to 19 years.                                                                                                                                              |
| <b>Wellbeing:</b>     | Consists of three components of psychological, emotional, and social wellness of an individual's positive functioning.                                                                   |
| <b>Mental health:</b> | A state of health in which a person is aware of their own strengths, able to handle everyday stress, able to work effectively and efficiently, and able to give back to their community. |
| <b>Urban:</b>         | Structured and organised communities that exist in formal settings with efficient services of water and power supply, garbage collection, formal housing plans, and road maintenance.    |
| <b>Semi-urban:</b>    | A settlement that combines formal and informal housing and is located on the outskirts of the urban community.                                                                           |

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## ABSTRACT

**Background:** Adolescents in developing countries seem to be experiencing significant behavioural changes, with mental health being the leading cause. This study aims to describe and compare the psychological, emotional, and social wellbeing of adolescents living in urban and semi-urban areas.

**Methods:** A cross-sectional study was conducted among 414 adolescents (aged between 10 to 19 years), using Keyes's MENTAL HEALTH CONTINUUM SHORT FORM in both urban and semi-urban communities. Descriptive and inferential statistical analysis were used to compare the differences with significance set at  $p < 0.05$ .

**Results:** Based on Keyes (2009) Mental Health Continuum model, the descriptive statistics using Pivot Tables more than two-thirds of the participants were classified as being moderately mentally health (185,58%) with the remainder being classified along the continuum as flourishing (98,31%) and languishing (37,11%).

Two samples t-test analysis results have shown a high significance level on emotional wellbeing ( $p = 0.0000$ ), a low significance level on social wellbeing ( $p = 0.0570$ ) and no significance in the psychological wellbeing ( $p = 9949$ ) of the adolescents from the two communities. Further analysis using the Chi-square test revealed a statistically significant difference in five of the MHC-SF 14 items. Items 1 to 3 ( $p < 0.001$ ) and items 4 - 5 ( $p = 0.015$ ,  $p = 0.003$ ). There was no statistically significant difference in items 6 to 14 of MHC-SF.

**Conclusion:** The majority of the adolescents who took part in this study had moderate mental health, followed by those who were flourishing, as evidenced by positive functioning symptoms. Adolescent mental health problems are linked to their general wellbeing. Interventions for mental health issues vary depending on what is causing them. This study can be used to determine the need for policies and programs that can support adolescents' mental health resilience in changing social determinants of health situations, as adolescent mental health becomes a more important issue

**Keywords:** adolescents, MENTAL HEALTH CONTINUUM SHORT FORM, urban, semi-urban.

| Table of Contents                                                            | Pages       |
|------------------------------------------------------------------------------|-------------|
| <b>DECLARATION .....</b>                                                     | <b>ii</b>   |
| <b>DECLARATION ON PLAGIARISM.....</b>                                        | <b>iii</b>  |
| <b>DECLARATION ON RESEARCH ETHICS CLEARANCE .....</b>                        | <b>iv</b>   |
| <b>CERTIFICATION.....</b>                                                    | <b>v</b>    |
| <b>DEDICATION .....</b>                                                      | <b>vi</b>   |
| <b>ACKNOWLEDGEMENT.....</b>                                                  | <b>vii</b>  |
| <b>LIST OF ACRONYMS AND ABBREVIATIONS.....</b>                               | <b>viii</b> |
| <b>ABSTRACT .....</b>                                                        | <b>x</b>    |
| <b>LIST OF TABLES .....</b>                                                  | <b>xv</b>   |
| <b>LIST OF APPENDICES .....</b>                                              | <b>xvi</b>  |
| <b>CHAPTER 1: INTRODUCTION AND BACKGROUND.....</b>                           | <b>1</b>    |
| 1.1. Introduction .....                                                      | 1           |
| 1.2. Background of the study .....                                           | 1           |
| 1.3. Problem statement.....                                                  | 1           |
| 1.4. Aim of the study .....                                                  | 2           |
| 1.5. Objectives of the study.....                                            | 2           |
| 1.6. Research Questions .....                                                | 2           |
| 1.7. Significance of the study .....                                         | 2           |
| 1.8. Delimitations of the study .....                                        | 3           |
| 1.8.1. Mini-dissertation Outline .....                                       | 3           |
| <b>1.9.1 Chapter Summary .....</b>                                           | <b>3</b>    |
| <b>CHAPTER: LITERATURE REVIEW .....</b>                                      | <b>4</b>    |
| 2.1 Introduction .....                                                       | 4           |
| 2.2 Mental Health.....                                                       | 4           |
| 2.3 Mental health and adolescents .....                                      | 4           |
| 2.4 Mental health and mental well-being of adolescents in South Africa ..... | 5           |
| 2.5 Prevalence of mental health disorders among adolescents.....             | 5           |

|                                                  |                                                                                |           |
|--------------------------------------------------|--------------------------------------------------------------------------------|-----------|
| 2.6                                              | Factors that are associated with mental health among adolescents .....         | 6         |
| 2.7                                              | The Mental Health Continuum Model.....                                         | 6         |
| 2.8                                              | Mental Health continuum model and MENTAL HEALTH CONTINUUM –<br>SHORT FORM..... | 7         |
| 2.8.1                                            | MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) .....                              | 8         |
| 2.8.1.1                                          | Emotional wellbeing .....                                                      | 9         |
| 2.8.1.2                                          | Social wellbeing .....                                                         | 9         |
| 2.8.1.3                                          | Psychological wellbeing.....                                                   | 10        |
| 2.9                                              | Chapter Summary.....                                                           | 11        |
| <b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b> |                                                                                | <b>12</b> |
| 3.1                                              | Introduction .....                                                             | 12        |
| 3.2                                              | Research design .....                                                          | 12        |
| 3.3                                              | Research Setting .....                                                         | 12        |
| 3.4                                              | Sampling .....                                                                 | 13        |
| 3.4.1                                            | Population.....                                                                | 13        |
| 3.4.2                                            | Recruitment Process.....                                                       | 13        |
| 3.4.3                                            | Inclusion and Exclusion criteria.....                                          | 13        |
| 3.5                                              | Research Instrument.....                                                       | 14        |
| 3.5.1                                            | Keyes' MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) .....                       | 14        |
| 3.5.2                                            | Categorical Diagnosis .....                                                    | 15        |
| 3.5.3                                            | Validity and Reliability .....                                                 | 15        |
| 3.6                                              | Data Collection.....                                                           | 16        |
| 3.7                                              | Data Analysis .....                                                            | 16        |
| 3.8                                              | Ethical Considerations .....                                                   | 16        |
| 3.8.1                                            | Permission from UFH-HREC .....                                                 | 16        |
| 3.8.2.                                           | Permission from local authorities .....                                        | 16        |
| 3.8.3.                                           | Voluntary participation and harmlessness .....                                 | 17        |
| 3.8.4                                            | Informed Consent Forms .....                                                   | 17        |



|                                                   |                                                                        |           |
|---------------------------------------------------|------------------------------------------------------------------------|-----------|
| 3.8.5                                             | Disclosure .....                                                       | 17        |
| 3.8.6                                             | Anonymity and Confidentiality .....                                    | 18        |
| 3.9                                               | Chapter Summary .....                                                  | 18        |
| <b>CHAPTER FOUR: RESULTS .....</b>                |                                                                        | <b>19</b> |
| 4.1                                               | Introduction .....                                                     | 19        |
| 4.2                                               | Background .....                                                       | 19        |
| 4.3                                               | Approach to data analysis .....                                        | 20        |
| 4.4                                               | Results .....                                                          | 20        |
| 4.4.1                                             | Demographics characteristics .....                                     | 20        |
| 4.4.1.1                                           | Socio-demographical differences .....                                  | 24        |
| 4.4.2.                                            | Reliability of MHC-SF questionnaire for the study .....                | 24        |
| 4.4.3                                             | MHC – SF Analysis .....                                                | 24        |
| 4.4.3.1                                           | Research Objective one .....                                           | 25        |
| 4.4.3.2                                           | Research Objective two .....                                           | 26        |
| 4.4.4.                                            | Emotional wellbeing .....                                              | 30        |
| 4.4.5.                                            | Social wellbeing .....                                                 | 31        |
| 4.4.6.                                            | Psychological wellbeing .....                                          | 31        |
| 4.5                                               | Chapter summary .....                                                  | 31        |
| <b>CHAPTER 5: DISCUSSION AND CONCLUSION .....</b> |                                                                        | <b>33</b> |
| 5.1                                               | Introduction .....                                                     | 33        |
| 5.2                                               | Prevalence of mental health in adolescents .....                       | 33        |
| 5.3                                               | Emotional, social, and psychological wellbeing .....                   | 33        |
| 5.3.1                                             | The Emotional wellbeing among adolescents aged 10 – 19 years.' .....   | 34        |
| 5.3.2                                             | The Social wellbeing among adolescents aged 10 – 19 years. ....        | 34        |
| 5.3.3                                             | The Psychological wellbeing among adolescents aged 10 – 19 years. .... | 34        |
| 5.4                                               | Strengths of the study .....                                           | 34        |
| 5.5                                               | Limitations of the study .....                                         | 34        |
| 5.6                                               | Implications for Public Health .....                                   | 35        |

|                         |                                           |           |
|-------------------------|-------------------------------------------|-----------|
| 5.7                     | Recommendations for further research..... | 35        |
| 5.8                     | Conclusion .....                          | 36        |
| <b>REFERENCES .....</b> |                                           | <b>37</b> |



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## LIST OF TABLES

|                                                                                                                                                   |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----|
| <b>Table 1:</b> Symptom Clusters and Dimensions (Keyes, 2009).....                                                                                | 14 |
| <b>Table 2:</b> Descriptive Analysis of the socio-demographical data of the adolescents in Amberfield Glen and Olievenhoutbosch Extension 19..... | 22 |
| <b>Table 3:</b> Categorical diagnosis of participants from the urban and semi-urban communities using MHC-SF guidelines.....                      | 25 |
| <b>Table 4:</b> Mean, Median and Mode per subscale .....                                                                                          | 27 |
| <b>Table 5:</b> Two sample T-test analysis for emotional wellbeing subscale .....                                                                 | 28 |
| <b>Table 6:</b> Two sample T-test analysis for social wellbeing subscale .....                                                                    | 28 |
| <b>Table 7:</b> Two sample T-test analysis for psychological wellbeing subscale .....                                                             | 29 |
| <b>Table 8:</b> Five of the fourteen items with significance differences .....                                                                    | 30 |

## LIST OF FIGURES

|                                                                                                                                                                                                                                                                                                                                               |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| <b>Figure 1:</b> The dual-continua model (Reproduced with permission from Keyes CLM. Mental Health as a Complete State: How the Salutogenic Perspective Completes the Picture. In: Bauer GF, Hämmig O, editors. Bridging Occupational, Organizational and Public Health: A Transdisciplinary Approach. London: Springer; 2014. P. 179-92).... | 7  |
| <b>Figure 2:</b> Family tree of mental health (Reproduced with permission from a lecture given by C. Keyes in Drammen, Norway, 13th of December 2010).....                                                                                                                                                                                    | 9  |
| <b>Figure 3:</b> Study areas .....                                                                                                                                                                                                                                                                                                            | 12 |
| <b>Figure 4:</b> Cronbach's alpha reliability level (Available via license: <a href="https://creativecommons.org/licenses/by/3.0/">https://creativecommons.org/licenses/by/3.0/</a> ).....                                                                                                                                                    | 24 |
| <b>Figure 5:</b> Categorical diagnosis for participants from the urban and semi-urban communities using MHC-SF guidelines.....                                                                                                                                                                                                                | 26 |

## LIST OF APPENDICES

|                                                                                                                 |    |
|-----------------------------------------------------------------------------------------------------------------|----|
| <b>Appendix 1:</b> Participant Information Leaflet and Consent Form .....                                       | 45 |
| <b>Appendix 2:</b> Parent/ Guardian of the Participant Information Leaflet and Consent form .....               | 48 |
| <b>Appendix 3:</b> Ethics Clearance Certificate .....                                                           | 53 |
| <b>Appendix 4:</b> Questionnaire for AN Matukane study .....                                                    | 54 |
| <b>Appendix 5:</b> Google Form Questionnaire screenshots of the online questionnaire .                          | 57 |
| <b>Appendix 6:</b> Keyes guidelines for the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) Scoring System™ .....   | 59 |
| <b>Appendix 7:</b> Item scores for participants from urban and semi-urban communities (MHC-SF 1 – 3) .....      | 60 |
| <b>Appendix 8:</b> Item scores for participants from urban and semi-urban communities (MHC-SF 4 – 8) .....      | 61 |
| <b>Appendix 9:</b> Item scores for participants from urban and semi-urban communities (MHC-SF 9 – 14) .....     | 62 |
| <b>Appendix 10:</b> Two sample T-test analysis for emotional, social and psychological wellbeing subscales..... | 63 |
| <b>Appendix 11:</b> Continuous scoring of the subscales and total score .....                                   | 64 |



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## **CHAPTER 1: INTRODUCTION AND BACKGROUND**

### **1.1. Introduction**

This chapter provides a brief overview of the study's background, problem statement, aims, objectives, research question, central theoretical statement, significance, and delimitation of the study. This chapter will end with the outline of this mini-dissertation.

### **1.2. Background of the study**

Positive mental health can be conceptualised in different ways. Some empirical models conceptualise positive mental health as the presence of multiple human strengths rather than the absence of weakness, while others conceptualise it as maturity, the dominance of positive emotions, a high socio-emotional intelligence, or subjective wellbeing, and others use the concept of resilience (Vaillant, 2012). Keyes (2010) conceptualised positive mental health using three core concepts, namely, emotional, social, and psychological wellbeing (Galderisi et.al., 2015). According to Keyes (2010), emotional wellbeing refers to feelings of positive emotions and satisfaction with life; psychological wellbeing refers to positive individual functioning in terms of self-realisation; and social wellbeing refers to positive societal functioning in terms of social value (Westerhof and Keyes, 2010). According to a 2022 U-Report South Africa survey, over 73% of children and adolescents thought they required help with their mental health. Adolescents are predisposed to mental health issues due to physical, emotional, and social changes, as well as exposure to violence, abuse, or poverty (World Health Organization, 2021).

### **1.3. Problem statement**

The emotional, social, and psychological wellbeing of adolescents' can have a significant impact on the positivity of their mental health, both in the short and long term (Knapstad et al., 2021). In turn, many factors in the living settings of adolescents can impact their wellbeing and consequently also their mental health in adulthood and ultimately on society (WHO, 2020). There is, however, insufficient evidence regarding the relationship between the living settings (urban and semi-urban) and the emotional, social, and psychological wellbeing of adolescents in South Africa. Therefore, a need exists to conduct a study that describes and compares the psychological, emotional, and social wellbeing of adolescents living in urban and semi-urban areas.

#### **1.4. Aim of the study**

The main of the study is to describe and compare the psychological, emotional, and social wellbeing of adolescents living in one urban and one semi-urban community.

#### **1.5. Objectives of the study**

To achieve the main aim of the study, the following specific objectives were undertaken:

Objective 1: To determine and compare the categorical diagnosis of wellbeing for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

Objective 2: To determine and compare average levels of emotional, social and psychological well-being for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

#### **1.6. Research Questions**

The research questions are:

- What are the differences in the emotional, social and psychological wellbeing of adolescents, in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities?
- What are the average levels of the emotional, social and psychological wellbeing of adolescents aged 10 –19 years living in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

#### **1.7. Significance of the study**

Researching adolescents in various living environments is crucial to determining and comprehending the effects they have on their wellbeing. (within the three wellbeing clusters) and thus on their mental health. Raising awareness is the goal of the survey, which represents the social, psychological, and emotional wellbeing of adolescents who participate and reside in various situations. This study will serve as a benchmark for future investigations to learn more about the social, psychological, and emotional wellbeing of adolescents in South Africa or other nations with comparable environments.

## **1.8. Delimitations of the study**

At Amberfield Glen, (one of a cluster of private estates in Centurion, Pretoria), the estate's board provided a list of potential participants aged 10–19. At Olievenhoutbosch Extension 19, a community leader provided a list of potential participants aged 10–19. It is, however, possible that these lists were incomplete (in that, for instance, the homeless were not considered as well as those that did not have access smartphones).

### **1.8.1. Mini-dissertation Outline**

**Chapter 1:** The study is introduced with the background on adolescent mental health, problem statement, aim, objectives, research question, central theoretical statement, significance, delimitation, and limitations of the study in Centurion.

**Chapter 2:** Provide the theoretical background to the study and introduce the concepts of psychological, emotional, and social wellbeing in adolescents by referring to relevant literature and summarising previous research on this topic. Background on the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF)

**Chapter 3:** Discuss the research methodology employed in this study, including the research design for the quantitative survey using the MHC-SF as the instrument for data collection, population sampling, data analysis, validity and reliability, and ethics.

**Chapter 4:** Presents the results or findings of the analyses. The demographics of the participants and 14-items of the MHC-SF are analysed between the two communities and interpreted in detail.

**Chapter 5:** Summarises the main findings of the study and suggests recommendations in line with the findings that can improve the mental health of adolescents in the two communities.

### **1.9.1 Chapter Summary**

This chapter provided a brief overview of the background, problem statement, purpose, aims, research question, central theoretical statement, significance and delimitation of the study. The following chapter provides an overview of the current literature on adolescent mental health and the use of the mental health continuum.

## **CHAPTER: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter reviews the available literature on mental health among adolescents, and we explore methods adopted in applying the MENTAL HEALTH CONTINUUM SHORT FORM focussing on the three clusters of wellbeing. It starts with the introduction of mental health.

### **2.2 Mental Health**

The World Health Organization (2017) defines health as "a state of complete physical, mental, and social wellbeing, not only the absence of disease or infirmity." They further defined the determinants of health as things that make people healthy or unhealthy, including individual lifestyle factors, social and community networks, socioeconomic, cultural, and environmental conditions.

Mental health and social determinants of health are connected. Social determinants of health are aspects of the community in which individuals are born, raised, work, play, worship, and age. They have an impact on a broad variety of health, functional, and quality-of-life outcomes, and hazards (Office of Disease Prevention and Health Promotion, 2022) (**Figure 1**). Indicators of mental health were identified to be emotional wellbeing, which focusses on life satisfaction, happiness, and peacefulness. Psychological wellbeing, which focuses on self-acceptance, personal growth, and positive relationships. Social wellbeing, which focusses on social acceptance, personal self-worth, usefulness to society and sense of community (Kelly, 2015).

### **2.3 Mental health and adolescents**

The World Health Organization (2022) defined mental health as a positive state that enables people to manage life's stressful situations, understand their abilities, acquire knowledge, and operate successfully while contributing back to their communities.

In South Africa, approximately 40% of South Africans under the age of 18 experience and are exposed to violence affecting their wellbeing and enhancing their negative mental health, with the possibility of transferring from childhood to adulthood development



stages (Mokitimi et al., 2018, 2019). The family's socioeconomic situation is a significant factor in determining a person's level of life satisfaction, with those from lower-income families reporting lower levels of life satisfaction on average than those from higher-income families (Chen et al., 2016). According to a UNICEF South Africa U-Report survey in October 2022, 73% of children and youth believed they needed mental health care in the preceding year. Mental health is one of the most underserved areas of global health (Kovacevic, 2021).

Adolescence is an important stage for mental health because this is when social and emotional habits are formed. A person's mental health can be adversely affected by a variety of situations, so it is crucial to provide them with safe environments where they are protected and supported in the community, at school, and at home (WHO, 2021). A growing number of nations are urging improvements in mental health. Adolescent mental health services are still underserved, so it is urgently necessary to implement evidence-based mental health interventions to support adolescent mental health (Mabrouk et al., 2022).

## **2.4 Mental health and mental well-being of adolescents in South Africa**

The study found that was conducted by Eloff and Graham (2020) on undergraduate students' mental health and wellbeing indicated decreased statistically significantly from the beginning of their academic year until the end. Poor mental health is frequently experienced by children and adolescents growing up in stressful situations (Zolopa, et.al., 2022:170). Adolescents in sub-Saharan Africa needed to be more mentally literate, ideally through easily accessible online resources like social media to educate them about mental health (Mindu et.al.2022).

## **2.5 Prevalence of mental health disorders among adolescents**

The prevalence of mental health disorders among adolescents is estimated to be between 10% and 20%. Adolescents suffer from common mental illnesses, such as anxiety (16%), depression (41%), and post-traumatic stress disorder (21%; UNICEF, 2023). Adolescents in South Africa's urban areas (14.64%) had higher rates of depression than those in rural areas (9.40%) (Ajaero, Nzeadibe, and Igboeli, 2018). In

Western Cape province, a South African study shows that students (14.9%) are at high risk of mental health challenges (Pluddemann et.al., 2014).

In the Sub-Saharan African region, mental health issues were found to affect one in seven (14.3%) children, and adolescents, and one in ten (9.5%) children and adolescents in this region qualifies for a psychiatric diagnosis due to their psychological challenges (Jorns-Presentati et.al., 2021).

## **2.6 Factors that are associated with mental health among adolescents**

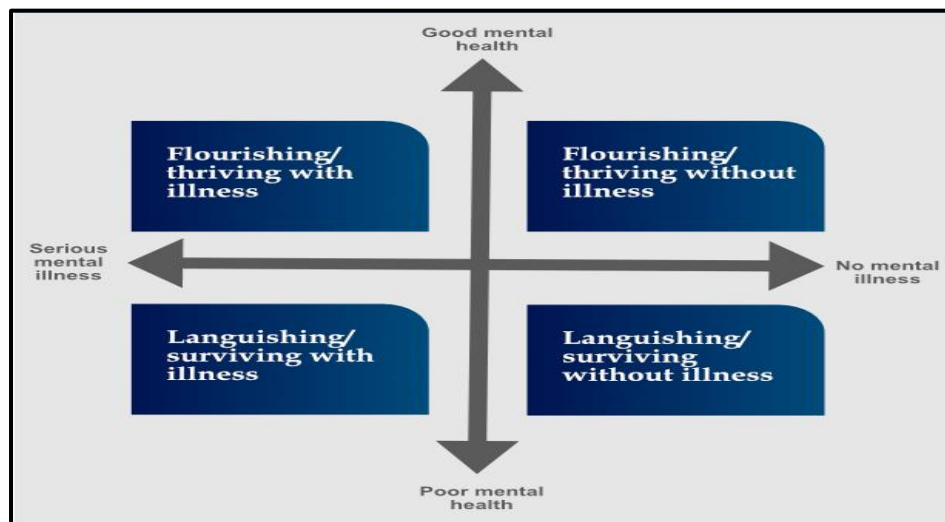
Adolescent mental health risks are linked to the state of their home environment, peer connections, and severe socioeconomic issues (WHO, 2021). Among the main contributors to mental disease and disability in adolescents are behavioural problems, anxiety, and depression (WHO, 2021). Increases in age, income, and place of residence were linked to increased risks of depression in adolescents in South Africa (Ajaero, Nzeadibe, and Igboeli, 2018).

Alcohol consumption is found to be one of the biggest problems concerning mental health in adolescents (Sorsdahl et.al., 2021). Anxiety, depression, attention deficit-hyperactivity disorder, and eating disorders are among the common mental health conditions that affect adolescents and are sometimes caused by alcohol consumption and unplanned pregnancy, amongst others (Seakamela, et al., 2023).

## **2.7 The Mental Health Continuum Model**

According to Westerhof and Keyes (2010), the two-continuum concept, mental health and mental illness has different but connected characteristics. One continuum represents mental wellbeing, while the other represents mental sickness.

The concept of mental health is characterised by positive feelings and functioning. A person's location in the two-dimensional space might change as their condition improves or deteriorates, based on their internal and external capacities at any particular time. **(Figure 1).**



**Figure 1:** The dual-continua model (Reproduced with permission from Keyes CLM. Mental Health as a Complete State: How the Salutogenic Perspective Completes the Picture. In: Bauer GF, Hämmig O, editors. Bridging Occupational, Organizational and Public Health: A Transdisciplinary Approach. London: Springer; 2014. P. 179-92).

Individuals with or without a diagnosis can experience both positive mental health (“flourishing”) and negative mental health (“languishing”), according to Concerto et al. (2022). A study conducted by Geldenhuys and Schalkwyk (2019) showed that about 44% of the South Africans that were interviewed flourished compared to 4% who are languishing and 52% who have intermediate mental health. According to Keyes’s 2009 study on middle school age groups, most of the young people (49%) are flourishing, less than half (45%) meet the requirements for moderate mental health, and 6% meet the criteria for languishing.

## 2.8 Mental Health continuum model and MENTAL HEALTH CONTINUUM – SHORT FORM

The mental health continuum (MHC) is a quantifiable and unbiased assessment of mental health. From this continuum, two questionnaires — a long and a short —were developed that contain scales to measure the underlying construct with its sub-facets. The MHC questionnaires are instruments for self-evaluation that include enquiries regarding an individual’s present state of psychological functioning, thereby corroborating the implications of the linear model.

The long form, also known as MHC-LF, was created initially, and the short form, also known as MHC-SF, was then created using the long form as a foundation. Three scales

are used to group the questionnaire items from the MHC-LF and MHC-SF: In addition to the emotional and psychological wellbeing scales, there is a social wellbeing scale.

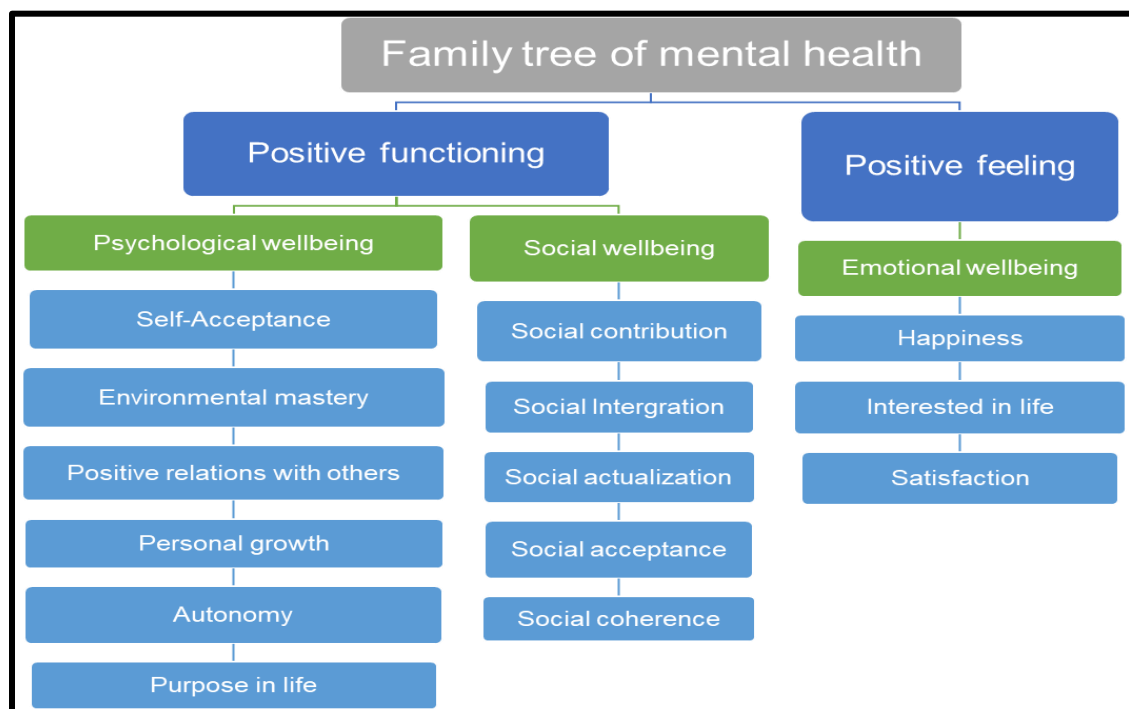
### **2.8.1 MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF)**

The overview of the MHC-SF, by Keyes, (2018), indicated that it took approximately 20 years to establish and verify the MENTAL HEALTH CONTINUUM LONG FORM, which was condensed into the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) in 2005. Westerhof & Keyes (2010) said in 2009 the MHC-SF was validated among adolescents and adults in the United States, the Netherlands, and South Africa. Piquerias at.al. (2022), Santini et.al (2020), Yeo and Suarez (2022) and Kennes at.al. (2020), confirmed validity of the MHC-SF cross-cultural comparison across three countries.

In the Dutch version of the MHC-SF tool, an evaluation of the psychometric properties of the adolescents was done to measure the mental health of adolescents in their educational context (Luijten et al. 2019). Several countries, such as Brazil, China, Italy, the Netherlands, Poland, South Africa, and South Korea, tested the MHC-SF tool between 1989 and 2017 (Luijten et al., 2019). In 2023, findings from the Indonesian and Iranian versions considered the MHC-SF to be a reliable psychometric tool for assessing adolescents' general mental health (Faradiba at.al. 2023; Afrasheth and Janjani, 2022).

The MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) was derived from the MENTAL HEALTH CONTINUUM LONG FORM (MHC-LF) and consists of 14 items of wellbeing symptoms (Keyes, 2018). The MHC-SF is a tool used to evaluate mental health with a focus on social, emotional, and psychological wellbeing (Keyes, 2005). These three focus areas are represented in the Family Tree of Mental Health (Keyes, 2018), as displayed in **Figure 2**.

Three degrees of positive mental health — flourishing, languishing, and moderate — are assessed when one uses the tool among adults and adolescents. Keyes, (2002) stated that people who are doing well in life have good functional symptoms and do well in both psychological and social outcomes.



**Figure 2:** Family tree of mental health (Reproduced with permission from a lecture given by C. Keyes in Drammen, Norway, 13th of December 2010)

### 2.8.1.1 Emotional wellbeing

Emotional wellbeing is a hedonistic dimension of mental health; Hedonic concentrates on achieving desires, pursuing pleasure, and ensuring that only positive effects occur (Schaffner, 2023).

Keyes (2003:1874) defined emotional wellbeing as a "particular component of subjective wellbeing," demonstrates "the extent to which people self-report experiencing feelings of happy and negative affect. " Negative affect usually includes feeling hopeless, anxious, restless, depressed to the point where nothing could make you smile, and worthless (Park et al., 2022). Conversely, the positive affect symptoms (the dimensions of emotional wellbeing) include the following: Happiness (Mahakud & Yadav, 2015); Interested in life (Reeve, Lee & Won, 2015); Satisfied with life (Ojha & Kumar, 2017).

### 2.8.1.2 Social wellbeing

Social wellbeing is also a eudaimonic dimension of mental health; this as a eudaimonic dimension too serves the goals of "growth, authenticity, meaning, and excellence" (Schaffner, 2023). Five components make up Keyes' (1998, p.122 – 123) conceptual model of social well-being: social contribution which assesses an individual's social

value, which includes the conviction that one is an important member of society with something of value to offer, social integration which evaluates the quality of an individual's relationship to society and community, social actualisation is the conviction that society is evolving and that its potential is being realised through the communities; social coherence is the assessment of the standard of social life in the communities and the desire to learn about the outside world and social acceptance is the understanding of society through the morality and attributes of other people.

### **2.8.1.3 Psychological wellbeing**

Psychological wellbeing is a eudaimonic dimension of mental health; eudaimonic serves the goals of "growth, authenticity, meaning, and excellence" (Schaffner, 2023).

The term "psychological wellbeing" was created to describe a "mainly private phenomenon that is focused on the difficulties people face in their daily lives" (Keyes, 2014). The psychological wellbeing, according to Keyes, Shmotkin, and Ryff (2002) measures six aspects: "self-acceptance, positive relationships with others, personal growth, purpose in life, environmental mastery, and autonomy.

These dimensions are described in more detail according to Ryff, C. D. 1989. Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Wellbeing. *Journal of Personality and Social Psychology*, 57(6), 1069-81.

The psychological wellbeing component of Keyes's model is based on Carol Ryff's (1989, p.1079) model of psychological wellbeing. Self-acceptance as the most consistent indicator of wellbeing among the earlier viewpoints is the person's sense of acceptance of who they are. Having a positive self-perception therefore becomes a fundamental aspect of positive psychological functioning. Positive relationships with others are said to be the capacity for love as a key element of mental health. Strong feelings of compassion and love for all people are said to characterise self-actualizers, as well as the ability to love, connect, and identify more fully with others. A mature person should be able to relate to others in a warm way. Personal growth assists a person to keep reaching their full potential and evolving as an individual in order to function psychologically at their best. Instead of reaching a static state when all issues are resolved, such a person is always evolving and becoming. Environmental mastery, as one of the hallmarks of mental health, is an individual's capacity to select or create circumstances that are appropriate

for their psychological conditions. Autonomy as a self-assessment according to personal standards rather than looking to others for approval.

## **2.9 Chapter Summary**

The chapter shows that the 14-question short form of the MHSF for adolescents aged 10 to 19 has been validated and evaluated by various researchers in numerous countries around the world. The aforementioned literature studies indicate that the questions of the short MSHF form are both reliable and valid. The next chapter describes the methods used to conduct the current study.



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## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter describes the methods used to examine the three objectives of the study, such as the research design, research environment, sampling plan and procedure, research tools, data collection techniques, data analysis, and ethical issues.

### 3.2 Research design

A cross-sectional study design was conducted using a quantitative research approach.

### 3.3 Research Setting

This study was conducted in the Centurion area (Figure 4), in the Gauteng province, South Africa. Two communities were selected, namely, Amberfield Glen (urban) and Olievenhoutbosch Section 19 (semi-urban).



**Figure 3: Study areas**



### **3.4 Sampling**

In Gauteng, the estimated population by age and sex at mid-year 2020 was 1,117,926 adolescents aged 10 to 14 and 1,062,602 adolescents aged 15 to 19 (Statistics South Africa, 2020). The estimated total number of adolescents in Gauteng was 2,180,528. Data from the 2016 Community Survey (Statistics South Africa, 2018) shows that a total of 220 adolescents aged between 10 and 19 reside in Amberfield Glen and 899 stay in Olievenhoutbosch, where extensions 4 and 19 are aggregated together. The latter means that 116 participants would be required from Amberfield Glen, while 194 participants would be required from Olievenhoutbosch extension 19 at the 95% confidence level with a power of 80.

#### **3.4.1 Population**

The study population includes adolescents aged between 10-19 years from the urban community (Amberfield Glen) and semi-urban community (Olievenhoutbosch Extension 19) in the Centurion area.

#### **3.4.2 Recruitment Process**

The list was consolidated upon approval of the parents or guardians of the adolescents in the communities. The details of the adolescents and their family members, such as their name, surname, date of birth, and home address, were not collected in compliance with Protection of Personal Information Act 4 of 2013, and the list was saved electronically in an encrypted password-protected file.

#### **3.4.3 Inclusion and Exclusion criteria**

The following conditions were met by study participants who were included in the study: (a) Adolescents between the ages of 10 and 19 who volunteered and granted permission were included in the study from Amberfield Glen and Olievenhoutbosch Extension 19. The consent was given by them and their guardians.

(b) Participants who resided in the study areas or communities at Amberfield Glen and Olievenhoutbosch Extension 19 but who did not volunteer and were not given permission by their guardians were excluded from the study.

### 3.5 Research Instrument

A structured questionnaire was used for this study. Two sections make up the research instrument (**Appendix 4**): section A for demographic data and section B for the 14-item MHC-SF questionnaire with the 6-point Likert scale in which participants had to select one answer.

#### 3.5.1 Keyes' MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF)

Section B contained the MHC-SF questionnaire, which adolescents had to select the best description of their experiences and feelings during the past month of the study. The MENTAL HEALTH CONTINUUM LONG FORM (MHC-LF) used by Keyes is the source of the MHC-SF. The MHC-SF comprises 14 items chosen to represent different aspects of wellbeing. It includes 3 items for emotional wellbeing (related to hedonic wellbeing), 6 items for psychological wellbeing, and 5 items for social wellbeing (together reflecting eudemonic wellbeing). The response options measure how often individuals experience each indicator of positive mental health. Additionally, this scale offers an indication of flourishing and languishing mental health based on these three subscales (Keyes, 2009). Table 1 indicates the symptom clusters and dimensions.

**Table 1:** Symptom Clusters and Dimensions (Keyes, 2009).

| <b>Emotional wellbeing</b><br>( <i>Hedonic</i> ) Items1 to 3                      | <b>Social wellbeing</b> ( <i>Eudaimonic</i> )<br>Items4 to 8                                                                                                                                               | <b>Psychological wellbeing</b><br>( <i>Eudaimonic</i> ) Items 9 to 14                                                                                                               |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item 1 = Happiness<br>Item 2 = Interested in life<br>Item 3 = Satisfied with life | Item4 = Social Contribution<br>Item 5 = Social Integration<br>Item 6 = Social Actualization<br>(i.e., Social Growth)<br>Item 7 = Social Acceptance<br>Item 8 = Social Coherence (i.e.,<br>Social Interest) | Item 9 = Self-Acceptance<br>Item10 = Environmental Mastery<br>Item11 =Positive Relations with others<br>Item12 = Personal Growth<br>Item 13 = Autonomy<br>Item 14 = Purpose in Life |

- Emotional (hedonic) wellbeing (Keyes, 2002, 2005, 2009): The level of satisfaction with one's life that one perceives oneself to have by achieving desires, pursuing pleasure, and ensuring that only positive effects occur.
- Social (eudaimonic) wellbeing (Keyes, 2002, 2005, 2009): The degree to which a person feels they are contributing positively to their community through growth, authenticity, meaning, and excellence.

- Psychological (eudaimonic) wellbeing (Keyes, 2002, 2005, 2009): The degree to which individuals feel that their mental states are functioning normally and their attempts to feel good about themselves despite being conscious of their limitations reflects self-acceptance, positive relationships with others, personal growth, purpose in life, environmental mastery, and autonomy.

The questionnaire was uploaded on Google Forms, in which the participants had to complete Section A on the demographics, which excluded personal details but included geographic area, gender, ethnicity, school attendance, physical health, type of dwelling, and substance use.

### **3.5.2 Categorical Diagnosis**

According to Keyes (2009), flourishing is made if someone feels 1 of the 3 hedonic wellbeing symptoms (items 1-3) "every day" or "almost every day" and feels 6 of the 11 positive functioning symptoms (items 4-14) "every day" or "almost every day" in the past month. Languishing is the diagnosis when someone feels 1 of the 3 hedonic wellbeing symptoms (items 1-3) "never" or "once or twice" and feels 6 of the 11 positive functioning symptoms (items 4-8 are indicators of social wellbeing and 9-14 are indicators of psychological wellbeing) "never" or "once or twice" in the past month. Individuals who are neither "languishing" nor "flourishing" are then coded as "moderately mentally healthy."

### **3.5.3 Validity and Reliability**

To check and confirm the validity and reliability of the Keyes questionnaire, the questionnaire was reviewed, and all questions were clear and direct. Using literature, previous studies conducted on adolescents in different countries confirmed the validity of the questionnaire. The study by Kennes et al. (2020) on Dutch adolescents demonstrated that the MHC-SF subscales produced the highest internal reliability consistency. The subscales of the MHC-SF yielded a high internal reliability consistency. The emotional wellbeing subscale had the highest internal reliability consistency ( $\alpha = 0.84$ ) and the social wellbeing subscale had the lowest ( $\alpha = 0.70$ ).

The validity of the MHC-SF scores was observed in another study on Dutch adolescents by Luijten et al. (2019), which demonstrated that substantial positive correlations exist between the MHC-SF scores and Cantril's ladder validation measures. The subscales of

psychological wellbeing ( $\alpha = 0.86$ ), social wellbeing ( $\alpha = 0.83$ ), and emotional wellbeing ( $\alpha = 0.92$ ) all had satisfactory coefficients.

In South Africa, Keyes et al. (2008) conducted a study among people who spoke Setswana in the Northwest Province, and the results showed that the total MHC-SF Scale had an internal reliability of  $\alpha = 0.74$ .

### **3.6 Data Collection**

The collection of data was done from March 25 to June 30, 2022, using a survey among adolescents living in Amberfield Glen and Olievenhoutbosch Extension 19. The MHC-SF questionnaire was used to assess the psychological, emotional, and social wellbeing of the participating adolescents between the ages of 10 to 19. The English 14-item questionnaire was applied to all participants.

### **3.7 Data Analysis**

The responses were exported from Google Forms into an Excel spreadsheet, in which the descriptive analysis was done. The scoring and interpretation of the data were based on Keyes's guidelines for the MHC-SF scoring. The SPSS version 28 was used for the statistical analysis. Data was represented using tables.

### **3.8 Ethical Considerations**

The following factors constituted the study's ethical considerations: approval from the University of Fort Hare Health Research Ethics Committee (UFH-HREC), the local authorities, informed consent forms, disclosure, anonymity, and confidentiality, as well as data collection, analysis, and reporting.

#### **3.8.1 Permission from UFH-HREC**

The researcher presented a proposal to the Faculty of Health Sciences and received ethical approval from UFH-HREC. The ethical clearance certificate Rec: 10018 - 054, Ref# 2021 = 11 = 10 = Matukane AN, was obtained on November 26, 2021.

#### **3.8.2. Permission from local authorities**

The research proposal was presented to the local authorities in Olievenhoutbosch Extension 19 and Amberfield Glen. The Amberfield Glen presentation was authorised by the estate board committee soon after it was reviewed, but only after they requested that the identification of the young people involved should be kept confidential.

At Olievenhoutbosch Extension 19, the presentation was presented to the councillor and a few parents. The proposal was authorised with the request that the councillor get the final report to give it to the departments of social development and education, so that they can decide on how they can support the mental health of all pupils in the local schools.

### **3.8.3. Voluntary participation and harmlessness**

Both adolescents and parents were informed that their participation in the study was voluntary and that they had the right to withdraw or not participate at any time without facing any consequences because their involvement or lack of participation in the study had no negative impacts on them.

### **3.8.4 Informed Consent Forms**

Two consent forms, one for the participant and one for the parent or guardian of the participant (see Appendices 1 & 2), were developed by the researcher. The consent forms give details of the study objectives, the target group invited to participate and their obligations, the direct and indirect benefits of participation, data management, and reporting. It also provided the researcher's contact information (phone number and physical address), the reference number of the ethics approval, and information about the study's target group.

The declaratory consent was required to participate. The participants and parents or guardians had to complete the consent forms in which they were required to indicate their place of residence as either Amberfield Glen or Olievenhoutbosch Extension 19 and provide their initials instead of the full name. The parents or guardians were also required to sign the consent as a form of confirmation and approval of the adolescent's participation in the study. The encrypted electronic password-protected file will be kept on a hard drive in a locked cabinet at the researcher's access office for at least five years.

### **3.8.5 Disclosure**

The research project title, objective, and all relevant information about the researcher, including contact information and a physical address, were completely disclosed in the informed consent forms for participants and their parents or guardians. All participants in the study did not receive compensation for their participation.

### **3.8.6 Anonymity and Confidentiality**

The personal data, such as name, surname, ID number, and contact number, were not requested from participants to safeguard their interests and long-term wellness. The study did not require participants to reveal their identities; instead, the questionnaire merely asked for information about where they currently reside as primary demographic data for the study objectives. Since neither the researcher nor the public who read the final research paper will be able to identify the participants, all the information gathered and recorded remains anonymous. Data cannot be linked to a person afterwards to compromise anonymity.

### **3.9 Chapter Summary**

This chapter provided an overview of the research design, research setting, procedures, instrumentation, sampling method, and ethical considerations. The MENTAL HEALTH CONTINUUM SHORT FORM questionnaire was used in this study. The method for data collection and data analysis used to test the study objectives were discussed. In the next chapter, the results of the study are reported.



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## CHAPTER FOUR: RESULTS

### 4.1 Introduction

To complete this study, analysis of the collected data was necessary in order to answer the research questions. This chapter comprises the analysis, presentation and interpretation of the study findings on the quantitative data. The analysis and interpretation of data are carried out in two phases. The first phase is based on the demographic information of the questionnaire; second phase is based on the results from the MHC-SF 14 item questions.

### 4.2 Background

The comparison of the mental health issues among adolescents aged 10-19 years was done using a sample of participants in Amberfield Glen, an urban community, and in Olievenhoutbosch, a semi-urban community. The questionnaire was distributed through Google form link to the targeted sampled number per community. A total of 317 out of the anticipated 414 responses were received, of which 160 adolescents were from Amberfield Glen and 157 adolescents were from Olievenhoutbosch Extension 19.

The research questions, as described in Chapter 1 were:

- What are the differences in the emotional, social and psychological wellbeing of adolescents, in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities?
- What are the average levels of the emotional, social and psychological wellbeing of adolescents aged 10 –19 years living in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

The objectives set for the study were:

**Objective 1:** To determine and compare the categorical diagnosis of wellbeing for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

**Objective 2:** To determine and compare average levels of emotional, social and psychological well-being for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

### **4.3 Approach to data analysis**

A cross-sectional design rendered demographical data and answers to the questions from a shortened 14-item MHC-SF questionnaire as was developed and validated by Keyes in 2009. The data were captured in Google Forms, where it was exported into an Excel spreadsheet that was cleaned. A descriptive analysis was performed on the data for the two communities, demonstrating the difference in mental health scores for the three clusters using the total number of participants by the demographic variables, the mean scores out of the six-point score, and the standard deviation. Using the recommendations for the MHC-SF scoring system, the 14-item questionnaire was analysed.

### **4.4 Results**

The research findings will be discussed in this section of the study.

#### **4.4.1 Demographics characteristics**

A realised response rate of 73% (160/220) from Amberfield Glen and 81% (157/194) from Olievenhoutbosch Extension 19 was achieved, totalling 317 participants out of a 414 estimated sample size. The expected total number per participants in Amberfield Glen was 220, and Olievenhoutbosch Extension 19 was 194. There was no response for “homeless”. The researcher’s assumption is that homeless adolescents and/or families are not involved in community activities as they are isolated, and the children or adolescents do not attend school.

The analysis of the nine socio-demographic factors presented in Table 2 below assessed the frequency in rates and percentages of the responses in both communities separately as well as in both communities collectively. The variable for geographical area was used to separate adolescents from the urban Amberfield Glen community and the semi-urban Olievenhoutbosch Extension 19 community. In the studied sample, females made up 58% (93) while males made up 42% (67) at Amberfield Glen and Olievenhoutbosch Extension 19 females were 60% (94) and males were 40% (63).

The age of the participants was classified into two groups according to the United Nations Population Fund: early adolescents are those between the ages of 10-14, and late adolescents are those between the ages of 15-19.



Most of the participants in both communities were late adolescents, with Amberfield Glen (89, 56%) and Olievenhoutbosch Extension 19 (97, 62%). Relatively small percentages in both communities were classified as early adolescents, at Amberfield Glen (71, 44%) and Olievenhoutbosch Extension 19 (60, 38%). The late adolescents (age group 15–19 years old) outnumbered early adolescents (age group 10–14 years old) by a margin of 18%.

The ethnicity question was asked similarly to the Home Affairs race categories on the Z83. Little more than six out of ten of the participants at Amberfield Glen identified themselves as White 105 (66%), followed by Blacks (21, 13%), Coloured and Indian participants comprised of 17 (11%) each. All participants at Olievenhoutbosch Extension 19 identified themselves as Black 157 (100%). Regarding people who are raising the children, participants at Amberfield Glen strongly reported being raised by their biological parents 91 (61%), whilst at Olievenhoutbosch Extension 19, nearly half of the participants were raised by a single mother who was never married 74 (47%). In both communities, the least were participants who were raised by their grandparents and other relatives.



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**Table 2:** Descriptive Analysis of the socio-demographical data of the adolescents in Amberfield Glen and Olievenhoutbosch Extension 19

|                       |                                                                  | Amberfield<br>Glen | Olievenhoutbosch<br>Ext. 19 | Combined   |
|-----------------------|------------------------------------------------------------------|--------------------|-----------------------------|------------|
| Item                  | Category                                                         | N (%)              | N (%)                       | N (%)      |
| Geographical area     |                                                                  | 160 (50.5%)        | 157 (49.5%)                 | 317 (100%) |
| Gender                | Female                                                           | 93 (58%)           | 94(60%)                     | 187 (59%)  |
|                       | Male                                                             | 67 (42%)           | 63(40%)                     | 130 (41%)  |
| Age (Years)           |                                                                  |                    |                             |            |
|                       | Early Adolescents (10-14)                                        | 71(44%)            | 60 (38%)                    | 131 (41%)  |
|                       | Late Adolescents (15-19)                                         | 89 (56%)           | 97(62%)                     | 186 (59%)  |
| Ethnicity             | Black                                                            | 21 (13%)           | 157 (100%)                  | 178 (56%)  |
|                       | White                                                            | 105 (66%)          | 0 (0%)                      | 105 (33%)  |
|                       | Brown (Coloured)                                                 | 17(11%)            | 0 (0%)                      | 17 (5%)    |
|                       | Indian                                                           | 17(11%)            | 0 (0%)                      | 17 (5%)    |
|                       | Other                                                            | 0 (0%)             | 0 (0%)                      | 0 (0%)     |
| Guardians/<br>Parents | Biological parents – raised by own mother and father             | 97 (61%)           | 22 (14%)                    | 119 (38%)  |
|                       | Divorced parents – raised by a parent and a stepfather or mother | 24 (15%)           | 34 (22%)                    | 58 (18%)   |
|                       | Single parent – raised by mother only                            | 24 (15%)           | 74 (47%)                    | 98 (31%)   |
|                       | Grandparents are raising you                                     | 9 (6%)             | 12 (8%)                     | 21 (7%)    |
|                       | No guardian/ parents – raised by other relatives                 | 6 (4%)             | 15 (10%)                    | 21 (7%)    |
|                       | Other                                                            | 0 (0%)             | 0 (0%)                      | 0 (0%)     |
| School                | Yes                                                              | 160 (100%)         | 145 (92%)                   | 305 (96%)  |
|                       | No                                                               | 0 (0%)             | 12 (8%)                     | 0 (0%)     |
|                       | Home schooled                                                    | 0 (0%)             | 0 (0%)                      | 0 (0%)     |
|                       | Unsure                                                           | 0 (0%)             | 0 (0%)                      | 0 (0%)     |

|                         |                                        | <b>Amberfield<br/>Glen</b> | <b>Olievenhoutbosch<br/>Ext. 19</b> | <b>Combined</b> |
|-------------------------|----------------------------------------|----------------------------|-------------------------------------|-----------------|
| <b>Item</b>             | <b>Category</b>                        | <b>N (%)</b>               | <b>N (%)</b>                        | <b>N (%)</b>    |
| General physical health | Good - not really sick                 | 132 (83%)                  | 139 (89%)                           | 271 (85%)       |
|                         | Fair - sick only few times a year      | 25 (16%)                   | 17 (11%)                            | 42 (13%)        |
|                         | Poor - sick at all times               | 3 (2%)                     | 1 (1%)                              | 4 (1%)          |
|                         | Unsure                                 | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
| Type of dwelling        | Freestanding brick house with a yard   | 87 (54%)                   | 0 (0%)                              | 0 (0%)          |
|                         | Townhouse in a complex                 | 73 (46%)                   | 0 (0%)                              | 0 (0%)          |
|                         | Apartment or flat                      | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
|                         | RDP house                              | 0 (0%)                     | 93 (59%)                            | 0 (0%)          |
|                         | Shack plastic, paper and/or sink house | 0 (0%)                     | 64 (41%)                            | 0 (0%)          |
|                         | Homeless                               | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
|                         | Other                                  | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
| Substance use           | Smoke                                  | 7 (4%)                     | 18 (11%)                            | 25 (8%)         |
|                         | Drink alcohol                          | 0 (0%)                     | 45 (29%)                            | 0 (0%)          |
|                         | Use drugs, such as Speed, Pinks, etc.  | 0 (0%)                     | 0 (0%)                              | 0 (%)           |
|                         | Sniff petrol or glue                   | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
|                         | Other                                  | 0 (0%)                     | 0 (0%)                              | 0 (0%)          |
|                         | Use none of the above                  | 153 (96%)                  | 94 (60%)                            | 247 (78%)       |

#### 4.4.1.1 Socio-demographical differences

A little under two-thirds of the participants in the urban community were raised by both biological parents (97, 61%) while almost half (74, 47%) of participants in the semi-urban community were raised by their mothers as a single parent. Results in both communities show that almost nine out of ten of the participants shared good physical health (271, 85%), with slightly more than one out of ten participants that are sick a few times a year (42, 13%), and only (4,1%) of the participants reported having poor health in both communities. The participants in the urban community lived in either a freestanding brick house (87; 54%) or townhouses (73; 46%), and the participants in the semi-urban community lived in either RDP houses (93; 59%) or shack houses (64; 41%).

A few participants in both communities (25; 8%) indicated that they smoke. In the semi-urban community, (45; 28.7%) were drinking alcohol, while none of the participants in the urban community drank alcohol. Almost eight out of ten of the participants in both communities (247, 77.9%) did not use any substance.

#### 4.4.2. Reliability of MHC-SF questionnaire for the study

The reliability for the three MHC-SF categories measured in this study through Cronbach Alpha scores were  $\alpha=0.94$  for emotional wellbeing,  $\alpha=0.82$  social wellbeing and  $\alpha=0.80$  psychological wellbeing. The categories are very reliable for the conducted study in one urban and one semi-urban communities in Centurion, Gauteng.

| Cronbach's Alpha Value | Reliability Level |
|------------------------|-------------------|
| 0.0 - 0.20             | Less Reliable     |
| >0.20 – 0.40           | Somewhat Reliable |
| >0.40 – 0.60           | Reliable enough   |
| >0.60 – 0.80           | Reliable          |
| >0.80 – 1.00           | Very Reliable     |

**Figure 4:** Cronbach's alpha reliability level (Available via license: <https://creativecommons.org/licenses/by/3.0/>)

#### 4.4.3 MHC – SF Analysis

In both urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities, various statistical analysis were utilised to determine and compare the

categorical diagnosis as well as the average levels of emotional, social, and psychological well-being for adolescents aged 10 to 19.

#### 4.4.3.1 Research Objective one

To determine and compare the categorical diagnosis of wellbeing for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

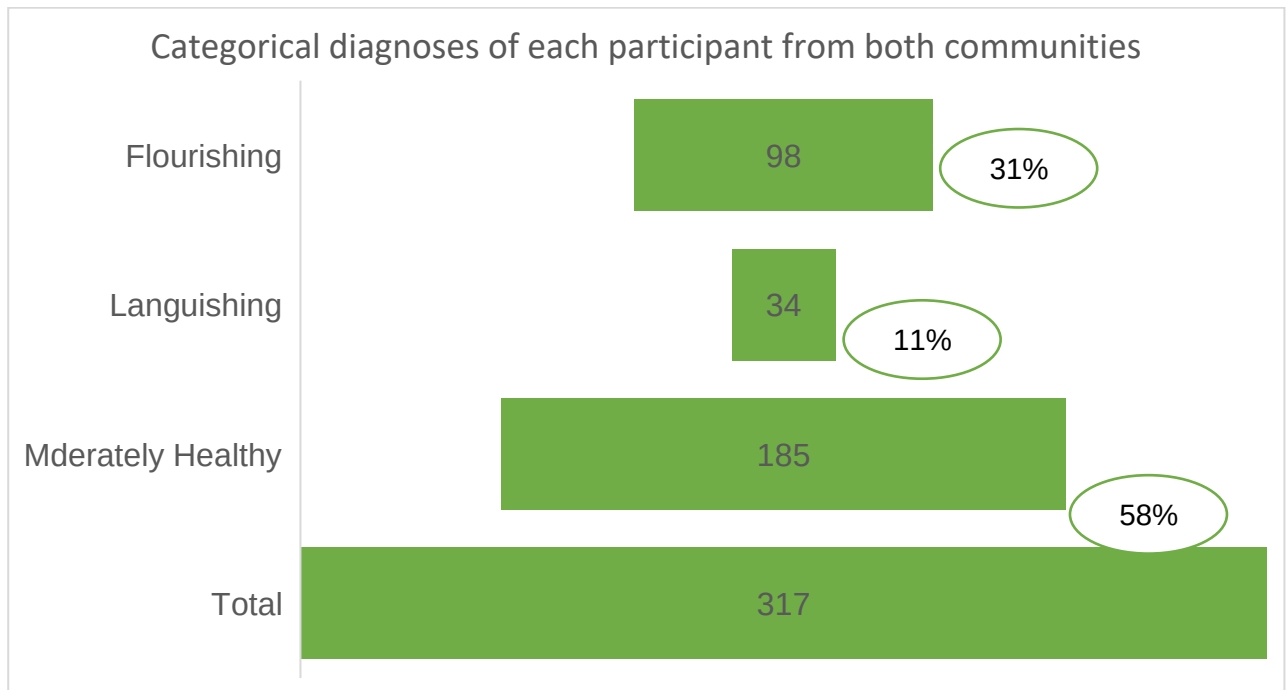
##### 4.4.3.1.1 The categorical diagnosis of participants' wellbeing.

Descriptive characteristics results on the categorical diagnosis of mental health using Keyes' criteria on the MHC-SF guidelines is reported into three categories. Flourishing when reporting "every day" or "5–6 times a week" experiences of at least one of the three hedonic signals and at least six of the eleven eudaimonic signs (comprising the social and psychological subscales). The diagnosis of languishing is made when a person reports having experienced "never" or "once or twice" one of the three hedonic well-being symptoms (items 1-3) and six of the eleven positive functioning symptoms. Moderately mentally healthy people are those who are neither "languishing" nor "flourishing." (Table 3).

**Table 3:** Categorical diagnosis of participants from the urban and semi-urban communities using MHC-SF guidelines

|                               | Flourishing | Languishing | Moderate mental Health | Total |
|-------------------------------|-------------|-------------|------------------------|-------|
| Amberfield Glen               | 74 (46%)    | 20 (13%)    | 66 (41%)               | 160   |
| Olievenhoutbosch Extension 19 | 24 (15%)    | 14 (9%)     | 119 (76%)              | 157   |
| Total                         | 98 (31%)    | 34 (11%)    | 185 (58%)              | 317   |

Based on the three mental categories, a majority of the participants (185, 58%) experienced moderate mental health levels of wellbeing, followed by flourishing levels (98, 31%) with relatively few reporting their languishing levels (34, 11%). Between the communities, majority of participants in Amberfield Glen flourished (74,46%) while at Olievenhoutbosch Extension 19 majority were moderate (119,76%) in their wellbeing.



**Figure 5:** Categorical diagnosis for participants from the urban and semi-urban communities using MHC-SF guidelines

Figure 4 shows that most participants (185, 58%) from the two communities were in a moderate state of their mental wellbeing, with those who flourished coming in second (98, 31%) and a small percentage of participants who languished (34, 11%).

#### 4.4.3.2 Research Objective two

To determine and compare average levels of emotional, social and psychological well-being for adolescents aged 10-19 in urban (Amberfield Glen) and semi-urban (Olievenhoutbosch Extension 19) communities.

#### 4.4.3.2.1 Continuous scoring per subscale

In the overall MHC-SF score, each participant received a total score between 0 and 70 based on the sum of the 14 items. The emotional, social, and psychological subscale scores for each participant range from 0 to 15, 0 to 25, and 0 to 30, respectively. Table 4 below, illustrates continuous scoring in which the total scores mean for the participants in the urban community (44) is higher than in the semi-urban community (8).

The emotional wellbeing score range was high at Amberfield Glen with mean=10.8 while at Olievenhoutbosch Extension 19 mean=2.1. The emotional wellbeing score range was high at Amberfield Glen with mean=13.5 while at Olievenhoutbosch Extension 19 mean=2.5. The psychological wellbeing score range was high at Amberfield Glen with mean=20.2 while at Olievenhoutbosch Extension 19 mean=3.4.

**Table 4:** Mean, Median and Mode per subscale

| Area                             |             | EWB<br>Subscale | SWB<br>Subscale | PWB<br>Subscale | Total<br>Score |
|----------------------------------|-------------|-----------------|-----------------|-----------------|----------------|
| Amberfield Glen                  | Total Score | 1722            | 2159            | 3237            | 7118           |
|                                  | Average     | 11              | 13              | 20              | 44             |
|                                  | Mean        | 10.8            | 13.5            | 20.2            | 44.5           |
|                                  | Median      | 12              | 13              | 21              | 47             |
|                                  | Mode        | 12              | 10              | 20              | 50             |
| Olievenhoutbosch<br>Extension 19 | Total Score | 327             | 385             | 530             | 1242           |
|                                  | Average     | 2               | 2               | 3               | 8              |
|                                  | Mean        | 2.1             | 2.5             | 3.4             | 7.9            |
|                                  | Median      | 1               | 2               | 4               | 8              |
|                                  | Mode        | 1               | 2               | 3               | 6              |

#### 4.4.3.2.2 Two sample T-test analysis for emotional, social and psychological subscales

##### Emotional wellbeing subscale

Two samples t-test results for the emotional wellbeing ( $p=0.0000$ ) high significance level. The mean difference (4.527) and t-test score (9.9562), evidently there is a statistically significant difference in the emotional wellbeing of the adolescents between the two communities. The null hypothesis is rejected (Table 5).

**Table 5:** Two sample T-test analysis for emotional wellbeing subscale

```
. ttest ewbsubscale, by(site)
```

Two-sample t test with equal variances

| Group    | Obs | Mean     | Std. err. | Std. dev. | [95% conf. interval] |          |
|----------|-----|----------|-----------|-----------|----------------------|----------|
| AMBERFIE | 160 | 10.7625  | .282966   | 3.579269  | 10.20364             | 11.32136 |
| OLIEVENH | 157 | 6.254777 | .354609   | 4.443238  | 5.554322             | 6.955232 |
| Combined | 317 | 8.529968 | .2591412  | 4.613877  | 8.020108             | 9.039829 |
| diff     |     | 4.507723 | .4527548  |           | 3.616917             | 5.398529 |

diff = mean(AMBERFIE) - mean(OLIEVENH)  
t = 9.9562  
Degrees of freedom = 315

H0: diff = 0  
Ha: diff < 0      Ha: diff != 0      Ha: diff > 0  
Pr(T < t) = 1.0000      Pr(|T| > |t|) = 0.0000      Pr(T > t) = 0.0000

### Social wellbeing subscale

Two samples t-test results for the social wellbeing ( $p=0.0570$ ) low significance level. The mean difference (0.645) and t-test score (2.502003), evidently there is a statistically significant difference in the social wellbeing of the adolescents between the two communities. The null hypothesis is rejected (Table 6).

**Table 6:** Two sample T-test analysis for social wellbeing subscale

```
. ttest swbsubscale, by(site)
```

Two-sample t test with equal variances

| Group    | Obs | Mean     | Std. err. | Std. dev. | [95% conf. interval] |          |
|----------|-----|----------|-----------|-----------|----------------------|----------|
| AMBERFIE | 160 | 13.49375 | .4952603  | 6.264602  | 12.51561             | 14.47189 |
| OLIEVENH | 157 | 12.26115 | .4116492  | 5.157949  | 11.44802             | 13.07427 |
| Combined | 317 | 12.88328 | .3239234  | 5.767291  | 12.24596             | 13.5206  |
| diff     |     | 1.232604 | .6451761  |           | -.0367957            | 2.502003 |

diff = mean(AMBERFIE) - mean(OLIEVENH)      t = 1.9105  
H0: diff = 0      Degrees of freedom = 315

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0  
Pr(T < t) = 0.9715      Pr(|T| > |t|) = 0.0570      Pr(T > t) = 0.0285

### Psychological wellbeing subscale



Two samples t-test results for the psychological wellbeing ( $p=0.9949$ ) no significance. The mean difference (-0.0044) and t-test score (-0.0063), evidently there is no statistically significant difference in the psychological wellbeing of the adolescents between the two communities. Fail to reject the null hypothesis.

**Table 7:** Two sample T-test analysis for psychological wellbeing subscale

```
. ttest pwbsubscale, by(site)
```

Two-sample t test with equal variances

| Group    | Obs | Mean      | Std. err. | Std. dev. | [95% conf. interval] |          |
|----------|-----|-----------|-----------|-----------|----------------------|----------|
| AMBERFIE | 160 | 20.23125  | .5096723  | 6.446902  | 19.22465             | 21.23785 |
| OLIEVENH | 157 | 20.23567  | .4738068  | 5.936782  | 19.29976             | 21.17157 |
| Combined | 317 | 20.23344  | .3476484  | 6.189703  | 19.54944             | 20.91744 |
| diff     |     | -.0044188 | .6964306  |           | -1.374662            | 1.365825 |

diff = mean(AMBERFIE) - mean(OLIEVENH)      t = -0.0063  
H0: diff = 0      Degrees of freedom = 315

Ha: diff < 0      Ha: diff != 0      Ha: diff > 0  
Pr(T < t) = 0.4975      Pr(|T| > |t|) = 0.9949      Pr(T > t) = 0.5025

Appendix 8 is showing the histograms of the three subscales.

#### 4.4.3.2.3 Chi-squared test for Items scores in the urban and semi-urban communities

Adolescents in Amberfield Glen were compared with those at Olievenhoutbosch Extension 19 using chi-squared ( $X^2$ ) test of independence to determine whether a statistically significant difference exists from participants between the two communities. The research results shows that there is a statistically significant difference between the two communities in items one to five. The participants' feelings in the past month were statistically significantly difference with p-value <0.05 on their happiness, interest in life, satisfaction with life, their contribution to the society and belonging to their communities (Table 5 and Appendix 7 and 8). There was no significant difference in items six to fourteen (Appendix 8 and 9).

**Table 8:** Five of the fourteen items with significance differences

| Items                                                                               | P-value |
|-------------------------------------------------------------------------------------|---------|
| Happy                                                                               | <0.001  |
| interested in life                                                                  | <0.001  |
| satisfied with life                                                                 | <0.001  |
| that you had something important to contribute to society                           | 0.015   |
| that you belonged to a community (like a social group, school, neighbourhood, etc.) | 0.003   |
| that our society is a good place, or is becoming a better place, for all people     | 0.158   |
| that people are basically good                                                      | 0.58    |
| that the way our society works made sense to you                                    | 0.359   |
| that you liked most parts of your personality                                       | 0.988   |
| good at managing the responsibilities of your daily life                            | 0.447   |
| that you had warm and trusting relationships with others                            | 0.547   |
| that you had experiences that challenged you to grow and become a better person     | 0.4     |
| confident to think or express your own ideas and opinions                           | 0.75    |
| that your life has a sense of direction or meaning to it                            | 0.399   |

#### 4.4.4. Emotional wellbeing

(2009) defines emotional wellbeing as the combination of items 1–3. A statistically significant difference ( $p < 0.001$ ) in the three items between the two communities is seen in Table 5 and Appendix 7. 64% of participants in the urban community felt happy, interested in life, and satisfied with life, compared to 50% of participants in the semi-urban group who reported feeling unhappy, interested in life, and satisfied with life.

#### **4.4.5. Social wellbeing**

Social wellbeing, according to Keyes (2009), is the sum of items 4–8. Table 5 and Appendix 8 show a statistically significant difference between the two communities in two of the five items. Compared to only 16% of participants in the urban community, 31% of participants in the semi-urban community felt they had something significant to give to society “social contribution” ( $p=0.015$ ) and that they belonged to a community “social integration” ( $p=0.003$ ). However, only 6% of individuals who were semi-urban felt that they belonged to a community, compared to 41% of participants who were urban. In terms of the participants' social wellbeing, there was no statistically significant difference in items 6 through 8 (social actualization, acceptance and coherence).

#### **4.4.6. Psychological wellbeing**

Keyes (2009) defined psychological wellbeing as a combination of items 9–14. The psychological wellbeing of urban and semi-urban participants does not differ statistically significantly, as Table 4 and Appendix 9 demonstrate.

### **4.5 Chapter summary**

This chapter presents the results of a cross-sectional study of 317 adolescents from one urban and one semi-urban communities in Centurion, Gauteng province that aimed to describe and compare the psychological, emotional, and social wellbeing of adolescents living in the two communities. Different statistical analysis was conducted to address the objectives of this study. Based on Keyes (2009) Mental Health Continuum model, the descriptive statistics using Pivot Tables more than two-thirds of the participants were classified as being moderately mentally health (185,58%) with the remainder being classified along the continuum as flourishing (98,31%) and languishing (37,11%).

Two samples t-test analysis results have shown a high significance level on the emotional wellbeing ( $p=0.0000$ ), low significance level on the social wellbeing ( $p=0.0570$ ) and no

significance on the psychological wellbeing ( $p=9949$ ) of the adolescents from the two communities. Further analysis using Chi-square test revealed a statistically significant difference in five of the MHC-SF 14 items. Items 1 to 3 ( $p<0.001$ ) and items 4 - 5 ( $p=0.015$ ,  $p=0.003$ ). There was no statistically significant difference in items 6 to 14 of MHC-SF.

The findings from various analytical methods confirm that there emotional wellbeing of the adolescent is statistically significant different while on the social wellbeing the significance is low as the difference was on the social contribution and integration but no on the social actualization, social acceptance and social coherence. No statistically significant difference on the psychological wellbeing of the adolescents in the two communities.

In the next chapter, the conclusion and recommendations of the study are presented and discussed.



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## **CHAPTER 5: DISCUSSION AND CONCLUSION**

### **5.1 Introduction**

This chapter presents the findings, conclusions, and recommendations of the study. Additionally, it outlines the research's outcomes and presents suggestions for further research.

### **5.2 Prevalence of mental health in adolescents**

In this study, based on the three mental categories, a majority of the participants (185, 58%) experienced moderate mental health levels of wellbeing, followed by flourishing levels (98, 31%) with relatively few reporting their languishing levels (34, 11%). Between the communities, majority of participants in urban community were classified as being flourishing (74,46%) while at semi-urban community majority were classified as being moderately mentally health (119,76%) in their wellbeing.

### **5.3 Emotional, social, and psychological wellbeing**

The aim of the study was to assess the psychological, emotional, and social wellbeing of the adolescents' aged 10 – 19 years old using the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) from one urban community and one semi-urban community in Centurion. A statistically significant difference in the adolescents' happiness, interest in life and satisfaction with life ( $p<0.001$ ), social contribution ( $p=0.015$ ) and social integration ( $p=0.003$ ). The highly statistically significant difference exists between the participants' emotional wellbeing and partially on the social wellbeing. No significant differences at the 5% significance level of the adolescents' psychological during the month preceding data collection.

The three wellbeing clusters of the mental health continuum (Keyes, 2005) were categorised into flourishing (98,31%), languishing (34,11%), and moderately mentally health (185,58%).

### **5.3.1 The Emotional wellbeing among adolescents aged 10 – 19 years.'**

Emotional wellbeing is influenced by the level of satisfaction with life that people perceive themselves to have (Keyes, 2002, 2005, 2009). Happiness, interest in life, and satisfaction with life form part of this diagnosis (Keyes, 2009). This cross-sectional study looked at the emotional wellbeing in the mental health of adolescents aged 10 – 19 years. In this study, it was found that there was a highly significant difference ( $p < 0.001$ ) on the adolescents' happiness, interest in life, and satisfaction with life between the two communities.

### **5.3.2 The Social wellbeing among adolescents aged 10 – 19 years.**

Social wellbeing is influenced by the degree to which a person feels they are contributing positively to their community (Keyes, 2002, 2005, 2009). Social contribution, social integration, social actualisation, social acceptance and social coherence form part of this diagnosis (Keyes, 2009). Statistically significant difference was on the adolescents' social contribution ( $p = 0.015$ ) and social integration ( $p = 0.003$ ). There was no statistically significant difference in the social actualisation, acceptance and coherence.

### **5.3.3 The Psychological wellbeing among adolescents aged 10 – 19 years.**

Psychological wellbeing focused on how participants thought about the functionality of their mental states (Keyes, 2002, 2005, 2009). Self-acceptance, environmental mastery, positive relations with others, personal growth, autonomy and purpose in life formed part of this diagnosis. There was no statistically significant difference

## **5.4 Strengths of the study**

The study used the MHC-SF tool, validated on adolescents in similar settings, with reliable results. The study was conducted in both urban and semi-urban communities, highlighting the importance of geographical settings.

## **5.5 Limitations of the study**

The study had a cross-sectional design and only included adolescents from two communities in the Centurion area within a 3-month period. Therefore, the results from this study cannot be generalised to other areas of the country in South Africa.

## **5.6 Implications for Public Health**

Emotional, social, and psychological wellbeing are the three common measurements of mental health, as defined by the WHO, as a state of health in which a person is aware of their own strengths, able to handle everyday stress, able to work effectively and efficiently, and able to give back to their community.

To prevent mental health challenges and promote awareness of mental wellbeing, it is essential to evaluate the three dimensions of mental wellbeing in adolescents aged 10-19 years. Since the participants live in the community, communities outside of the family should offer a safe and healthy environment for growing children and adolescents. According to the social determinants of health, which include education, housing, environment, social inclusion and protection adolescents' wellbeing depends heavily on the community. As adolescents in the urban community were found to be more flourishing and they were all attending school and living in a secured community, they felt safe which caused them to have positive functioning symptoms in their emotional wellbeing. While those from the semi-urban community were moderately mentally healthy even though majority were at school, but their living conditions were not conducive.

This study was conducted in one urban and one semi-urban communities of Centurion, and it discovered that there was a significant difference in emotional wellbeing with regard to the adolescents' happiness, their interest and satisfaction with their lives. Social contribution and integration had significant difference in the social wellbeing of the adolescents while no difference on the social actualization, acceptance and coherence. The psychological wellbeing did not show statistically significant difference among adolescents within the two communities.

## **5.7 Recommendations for further research**

The following recommendations for further research are suggested based on the findings of this study:

1. Further exploration of the data to see whether some of the differences between the urban and rural samples could be explained by differences in social determinants
2. Conduct similar studies in multiply demographic areas to establish the mental health status of adolescents using Keyes' MHC-SF model. Valuable information was gathered in the present study, and this approach could be replicated to gain further insights.

3. As the quantitative methodology of this study has certain limitations, it is recommended to conduct qualitative follow-up studies to elicit more information from participants.
4. Longitudinal or prospective cohorts with large sample sizes would be ideal for future studies.
5. Education to adolescents on mental health as part of the aligning the National Mental Health Policy framework's strategic plan for 2023-2030 to the social determinants of health.

## **5.8 Conclusion**

Taken together, the results of this study provide an essential contribution to theory on mental health continuum of adolescents. Keyes (2009) The majority of the adolescents who took part in this study had moderate mental health, followed by those who were flourishing, as evidenced by positive functioning symptoms. Adolescent mental health problems are linked to their general wellbeing. Interventions for mental health issues vary depending on what is causing them. This study can be used to determine the need for policies and programs that can support adolescents' mental health resilience in changing social determinant of health situations, as adolescent mental health becomes a more important issue. Further studies are still required in order to assess mental wellbeing and successfully plan interventions for the adolescent groups from different backgrounds.

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## REFERENCES

- Ajaero, C.K., Nzeadibe, C.T. & Igboeli, E.E. (2018) Rural-urban differences in the prevalence and predictors of depression among adolescents in South Africa. *South African Journal for Child Health*, 12 (2), S71 – S74.
- Appau, S., Churchill, S.A. & Farrell, L. (2019) Social integration and subjective wellbeing. *Applied Economics*, 51(5), 1748–1761.
- Chen, W., Niu, G., Zhang, D., Fan, C., Tian, Y., & Zhou. Z. (2016) Socioeconomic status and life satisfaction in Chinese adolescents: Analysis of self-esteem as a mediator and optimism as a moderator. *Personality and Individual Differences*, 95, 105-109.
- Concerto, C., Rodolico, A., La Rosa, V.L., Aiello, B., Martinez, M., Stuto, S., Infortuna, C., Fusar-Poli, L., Signorelli, M.S., Commodari, E., Battaglia, F., & Aguglia, E. (2022) Flourishing or Languishing? Predictors of Positive Mental Health in Medical Students during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*, [Online] 19 (23),15814 Available at: <https://doi.org/10.3390/ijerph19231581> [Accessed 30 June 2022].
- Dahlgren, G., & Whitehead, M. (2021). The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows. *Public health*, 199, 20–24. [Online] Available at: <https://doi.org/10.1016/j.puhe.2021.08.009> [ Accessed 30 June 2022].
- D’Souza, J. F. (2018) Self-Actualization [Online] Available at: [https://www.researchgate.net/publication/324115279\\_Self-Actualization](https://www.researchgate.net/publication/324115279_Self-Actualization). [Accessed 27 September 2023].
- Dunaeva, V. (2018) New approaches in social wellbeing studies. *International Journal of Social Sciences*, 4(3), 566 -573.
- Dweck, C. S. (2008) *Mindset: The new psychology of success*. New York, Ballantine Books.

Eloff, I. and Graham, M. (2020) Measuring mental health and well-being of South African undergraduate students. *Global Mental Health* 7, e34, 1-10.

Fuligni, A.J. (2019) The need to contribute during adolescence. *Perspectives on Psychological Science*, 14(3), 331–343.

Geldenhuys, O & van Schalkwyk, I. (2019) Investigating the Relational Wellbeing of a Group of Adolescents in a South African High-Risk Community. *Psychology and Behavioural Science International Journal*, 12(2), 1-10.

Guo, C., Tomson, G., Guo, J., Li, X., Keller, C & Söderqvist, F. (2015) Psychometric evaluation of the Mental Health Continuum-Short Form (MHC-SF) in Chinese adolescents – a methodological study. *Health and Quality of Life Outcomes*, 13, 198 1-10.

Hongyu, L. & Lu, H. (2013) The Beauty of the Transcending of the Humanity Research on Maslow's Self-actualization Theory. *Atlantis Press*, 229–233.

Jorns-Presentati, A., Napp, A.K., Dessauvague, A.S., Stein, D.J., Jonker, D., Breet, E., Chales, W., Swart, R.L., Lahti, M., Suliman, S., Jansen, R., van den Heuvel, L.L., Seedat, S. & Groen, G. (2021) The prevalence of mental health problems in sub-Saharan adolescents: A systematic review. [Online]. Available at: <https://doi.org/10.1371/journal.pone.0251689> [Accessed 06 December 2023].

Kennes, A., Peeters, S., Janssens, M., Reijnders J., Lataster, J. & Jacobs, N. (2020) Psychometric Evaluation of the Mental Health Continuum-Short Form (MHC-SF) for Dutch Adolescents. *Journal of Child and Family Studies*, (29), 3276–3286.

Keyes, C.L.M. (1998) Social well-being. *Social Psychology Quarterly*, Vol. 61 (2) 121-140.

Keyes, C.L.M. (2002) The mental health continuum: From Languishing to flourishing in life. *Journal of Health and Social Behavior*, (43): 207–222.

Keyes, C.L.M. (2005) Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73(3), 539-548.

Keyes, C.L.M. (2009) Brief description of the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) [Online]. Available at: <https://www.aacu.org/sites/default/files/MHC-SFEnglish.pdf>. [Accessed 15 March 2021].

Keyes, C.L.M. (2014) Mental health as a complete state: how the Salutogenic perspective completes the picture. In: Bridging Occupational, Organizational and Public Health. *Springer*, 179–192.

Keyes, C.L.M. (2018) Overview of the MENTAL HEALTH CONTINUUM SHORT FORM. [Online] Available from: 10.13140/RG.2.2.24204.62088 [Accessed 15 March 2021].

Keyes, C.L.M., Shmotkin, D., & Ryff, C.D. (2002). Optimizing wellbeing: the empirical encounter of two traditions. *Journal of personality and social psychology*, 82(6): 1007.

Keyes, C.L.M., Wissing, M., Potgieter, J.P., Temane, M., Kruger, A. & van Rooy, S (2008). Evaluation of the mental health continuum-short form (MHC-SF) in setswana-speaking South Africans. *Clin Psychol Psychother*,15(3),181-192.

Khaile, F.T., Roman, N.V, October, K.R, Van Staden, M., & Balogun, T.V. (2022) Perceptions of Trust in the Context of Social Cohesion in Selected Rural Communities of South Africa. *Social Sciences* 11(8): 359. [Online] Available at <https://doi.org/10.3390/socsci11080359> [Accessed 28 September 2023].

Knapstad, M., Sivertsen, B., Knudsen, A.K., Smith, O.R.F, Aarø, L.E., Lønning, K.J., & Skogen, J.C. 2021. Trends in self-reported psychological distress among college and university students from 2010 to 2018. *Psychological Medicine*, 51: 470–478,

Kovacevic, R. (2021) Mental health: lessons learned in 2022 for 2021 and forward. [Online] Available at: <https://blogs.worldbank.org/health/mental-health-lessons-learned-2020-2021-and-forward> [Accessed on 24 October 2022].

Langeland, E. (2014) Emotional Wellbeing 1874-1876 [Online]. Available at: DOI: 10.1007/978-94-007-0753-5\_859 [Accessed 10 June 2022].

Luijten, C.C., Kuppens, S., van de Bongardt, D. & Nieboer, A.P. (2019) Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF) in Dutch adolescents. *Health and Quality of Life Outcomes*, [Online] 17 (157), 2-10 Available at: DOI: 10.1186/s12955-019-1221-y [Accessed 25 June 2022].

Mabrouk, A., Mbithi, G., Chongwo, E., Too, E., Sarki, A., Namuguzi, M., Atukwatse, J., Ssewanyana, D., & Abubakar, A. (2022) Mental health interventions for adolescents in sub-Saharan Africa: A scoping review. *Frontiers in Psychiatry*, [Online] 13:937723 Available at: doi: 10.3389/fpsyt.2022.937723 [Accessed 18 January 2023].

Mahakud, G.C. & Yadav, R. (2015) Effects of Happiness on Mental Health. *The International Journal of Indian Psychology*, 2(3),106-114.

Mindu, T, Mutero, I.T., Ngcobo, W.B., Musesengwa, R. & Chinbari, M.J. (2022) Digital Mental Health Interventions for Young People in Rural South Africa: Prospects and Challenges for Implementation. *International Journal of Environmental Research and Public Health*, [Online] 20 (1453). Available at: <https://doi.org/10.3390/ijerph20021453> [Accessed 10 October 2024]

Mokitimi, S., Jonas, K., Schneider, M. & de Vries, P.J. (2019) Child and Adolescent Mental Health Services in South Africa—Senior Stakeholder Perceptions of Strengths, Weaknesses, Opportunities, and Threats in the Western Cape Province. *Frontiers in Psychiatry*, [Online] 10(841), 1 -13. Available at: doi: 10.3389/fpsyt.2019.00841 [Accessed 20 February 2022].

Mokitimi, S., Schneider, M. & de Vries P.J. (2018). Child and adolescent mental health policy in South Africa: History, current policy development and implementation, and policy analysis. *International journal of mental health systems*, [Online] 12, 1-15 Available at: <https://doi.org/10.1186/s13033-018-0213-3> [Accessed 20 February 2022].

Office of Disease Prevention and Health promotion (2022) Social determinants of health. [Online] Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>. [Accessed 07 October 2023].

Ojha, R., & Kumar, V. (2017) A study on life satisfaction and emotional wellbeing among university students. *Indian Journal of Positive Psychology*, 8(2): 112-116

Park, C.L., Kubzansky, L.D., Chafouleas, S.M., Davidson, R.J., Keltner, D. Parsafar, P. Conwell, Y., Martin, M.Y., Hanmer, J. & Wang, K.H. (2022) Emotional Well-Being: What It Is and Why It Matters, *Affective Science*, [Online] 10–20 Available at: <https://doi.org/10.1007/s42761-022-00163-0> [ Accessed 10 February 2023].

Pluddemann, A., Morojele, N., Myers, B., Townsend, L., Lombard, C.J., Williams, P.P., Carney, T. & Elmarie Nel, E. (2014) The prevalence of risk for mental health problems among high school students in the Western Cape Province, South Africa, *South African Journal of Psychology*, 44(1) 30–35.

Reeve, J. Lee, W. & Won, S. (2015) Interest as Emotion, as Affect, and as Schema. [Online]. Available at: <https://www.researchgate.net/publication/309469695> Interest as Emotion as Affect and as Schema [Accessed 4<sup>th</sup> September 2023].

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081

Schaffner, A.K. (2023). Hedonic vs. Eudaimonic Wellbeing: How to Reach Happiness. [Online] Available at: <https://positivepsychology.com/hedonic-vs-eudaimonic-wellbeing/> [Accessed 22<sup>nd</sup> September 2023].

Seakamela, K.P., Mashaba, R.G, Ntimana, C.B., Mbombi, M. O., Tlouyamma, J., Mphekgwana, P., Nemuramba, R., Mothapo, K., Muthelo, L., Mabila, L.N., Dhau, I. & Maimela E (2023) Prevalence and associated factors of probable depression amongst pregnant and parenting young females: a comparison of adolescents and young adults

in rural South Africa. *Child and Adolescent Psychiatry*. [Online] Available at: doi: 10.3389/frcha.2023.1200759 [Accessed 6 December 2023].

Sorsdahl, K., Van der Westhuizen, C., Neuman, M., Weiss, H.A., & Myers, B. (2021). Addressing the mental health needs of adolescents in South African communities: a protocol for a feasibility randomized controlled trial. *Pilot and Feasibility Studies*, (7):69.

Statistics South Africa. (2018) Demographic Profile of Adolescents in South Africa. [Online] Available at: <http://www.statssa.gov.za/publications/Report%2003-00-10/Report%2003-00-102016.pdf>. [Accessed 12 December 2022].

Statistics South Africa. (2020) Statistical release; mid-year population estimates [Online]. Available at: <http://www.statssa.gov.za/publications/P0302/P03022020.pdf> [Accessed 12 December 2022].

Tian, L., Zhao, J., & Scott Huebner, E. S. (2015) School-related social support and subjective wellbeing in school among adolescents: The role of self-system factors. *Journal of Adolescence*, 45(1), 138-148.

UNICEF (2022) Adolescents: Investing in a safe, healthy, and productive transition from childhood to adulthood is critical. [Online] Available at: <https://data.unicef.org/topic/adolescents/overview/>. [Accessed 16 August 2023].

UNICEF (2021) The State of the World's Children 2021. On My Mind: Promoting, protecting, and caring for children's mental health. [Online] Available at <https://www.unicef.org/reports/state-worlds-children-2021#:~:text=It%20is%20estimated%20that%20more,live%20with%20a%20mental%20disorder> [Accessed 2 May 2022].

UNICEF (2021) Adolescent mental health. Guide 1: Mental health and wellbeing [Online]. Available at <https://www.unicef.org/southafrica/media/7826/file/ZAF-Adolescent-mental-health-radio-production-guide-1.pdf> [28 November 2023].

UNICEF (2021) UNICEF South Africa U-Report poll [Online]. Available at: <https://www.unicef.org/southafrica/press-releases/65-cent-young-people-mental-health-related-issues-did-not-seek-help-unicef> [ 15 January 2022].

United Nations (2020) Data selection for SDG monitoring and reporting on Indicator 3.7.2: Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group. [Online] Available at: [https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/unpd-egm-fer-2020-10-backgroundpaper\\_newtitle\\_final\\_oct9.pdf](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/unpd-egm-fer-2020-10-backgroundpaper_newtitle_final_oct9.pdf). [Accessed 1 May 2022].

United Nations High Commissioner for Refugees. Child and Adolescent Development. [Online] Available at: <https://www.unhcr.org/3bb81bad4.pdf>. [Accessed 10 October 2022].

Vaillant, G.E. 2012. Positive mental health: is there a cross-cultural definition? *World psychiatry: official journal of the World Psychiatric Association (WPA)*, 11(2):93–99. [Online] Available at: <https://doi.org/10.1016/j.wpsyc.2012.05.006>. [Accessed 1 May 2024].

Westerhof, G.L & Keyes, C.L.M. (2010). Mental illness and Mental Health: The Two Continua Model across the lifespan. *Journal of Adult Development*, (17), 110-119.

World Health Organization. (2017) Child and adolescent health: fact sheet on Sustainable Development Goals (SDGs): health targets [online]. Available at: <https://apps.who.int/iris/handle/10665/340816>. [Accessed 2 June 2022].

World Health Organization. (2017) Determinants of health. [Online] Available at: <https://www.who.int/news-room/questions-and-answers/item/determinants-of-health>. [Accessed 2 June 2022].

World Health Organization (2018) WHO Special initiative for mental health. [Online]. Available at <https://www.who.int/initiatives/who-special-initiative-for-mental-health> [Accessed 30 August 2022].

World Health Organization. (2021) Mental Health Atlas 2020. [Online] Available at:

<https://iris.who.int/bitstream/handle/10665/345946/9789240036703-eng.pdf?sequence=1>. [Accessed 30th August 2022].

World Health Organization (2021) Mental health of adolescents [online]. Available at: <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>. [Accessed 2<sup>nd</sup> May 2022].

World Health Organization (2022) Concepts in Mental Health [Online]. Available at: <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response> [ Accessed 30 August 2022].

World Health Organization (2023). Adolescent health [Online]. Available at: [https://www.who.int/health-topics/adolescent-health#tab=tab\\_1](https://www.who.int/health-topics/adolescent-health#tab=tab_1) [ 21 November 2023].

The Presidency Republic of South Africa. Z83 Application form [Online] Available at: <http://www.dha.gov.za/images/PDFs/Approved-New-Z83-form-Gazetted-6-Nov-2020.pdf>. [ Accessed 19 December 2022].

Zolopa, C., Burack, J.A., O'Connor, R.M., Corran, C., Lai, J., Bomfim, E., DeGrace, S., Dumont, J., Larney, S., and Wendt, D. (2022) Changes in Youth Mental Health, Psychological Wellbeing, and Substance Use During the COVID-19 Pandemic: A Rapid Review. *Adolescent Research Review* (2022) 7:161–177.



## Appendix 1: Participant Information Leaflet and Consent Form



### PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

**TITLE OF THE RESEARCH PROJECT:** *Psychological, emotional, and social wellbeing of adolescents in urban and semi-urban communities of Centurion, Gauteng*

**PRINCIPAL INVESTIGATOR:** *Alucia Nkateko Matukane*

**ADDRESS:** *6B Sooty Street, Amberfield Glen  
Centurion, 0157*

**CONTACT NUMBER:** 0846379824

*This study has been approved by the **University of Fort Hare Faculty of Health Sciences Research Ethics Committee (UFH HREC)** (Ref No:2021=11=10=MatukaneAN) and will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records.*

#### **What is this research study all about?**

*This study will be conducted at Amberfield Glen estate and Olievenhoutbosch township and will involve adolescents aged 10 to 19 years. The study will use a MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) questionnaire for adolescents that was developed and tested by Keyes (2009), which can be completed online or physically. The questionnaire is divided into 14 items: six items of psychological wellbeing, three items of emotional wellbeing, and five items of social wellbeing. The response options are on a 5-point scale ranging from 0 “never” to 5 “everyday.”*

*The objectives of this study are:*

- To describe and compare the demographics of the adolescents aged 10-19 by geographical area, gender, age, ethnicity, guardians, school, general physical health, type of dwelling, and substance use from one urban and one semi-urban community of Centurion.*
- To describe and compare the 14-item variables on the mental health continuum of the adolescents aged 10 -19 from one urban community and one semi-urban community in Centurion.*
- To determine the differences in the mental health status (emotional, social, and psychological wellbeing) of adolescents aged 10 - 19 in one urban (Amberfield Glen)*

*and one semi-urban (Olievenhoutbosch Extension 19) community of Centurion by demographical variables.*

### **Why have you been invited to participate?**

*You have been invited to participate in the study because:*

*You are an adolescent age 10 to 19 years whose parents and/or guardian gave consent to participate.*

*Your ethnic and educational background is suitable for the study.*

*You are living in Centurion in either a gated community (Amberfield Glen) or a non-gated community (Olievenhoutbosch section 19).*

### **What will your responsibilities be?**

*Your responsibility as a participant in the study is to complete the questionnaire that you will receive online (via Google Form link) or in a printed copy as honestly and completely as possible. It will take you about 5 to 10 minutes to complete the questionnaire.*

### **Will you benefit from taking part in this research?**

*The direct benefit for you, the participant, will include:*

*Identifying the impact of your psychological, emotional, and social wellbeing on your physical activity, sleep quality, stress, social trust, and desire to learn.*

*The indirect benefit for your local community and parents or guardians will include:*

*Assisting the local communities to identify adolescents who need support from teachers and parents in regard to their wellbeing, as well as identifying challenges thereof.*

### **Are there risks involved in your taking part in this research?**

*There are no risks in this study in as far as the participants are concerned; participants will only complete a questionnaire with 14 items that best represent experiences and feelings.*

### **Who will have access to the data?**

*Data will be collected online and also through printed copies of the questionnaire for those who do not have online access. Printed copies will be scanned and saved electronically, along with the electronically completed forms. All hardcopies will be disposed of through shredding until the research study is finalised.*

### **What will happen with the data or samples?**

*This is a once-off collection of data; it will be analysed and communicated to local authorities in Centurion at Amberfield Glen, Olievenhoutbosch and University of Fort Hare through a copy of the final and approved manuscript.*

### **Will I be paid to take part in this study and are there any costs involved?**

*No. You will not be paid to take part in this study, therefore there will be no cost involved.*

### Who can you contact for additional information regarding the study?

The primary investigator Alucia Nkateko Matukane can be contacted during office hours at (011 386 6115), or on her mobile phone at (084 637 9824). Should you have any questions regarding the ethical aspects of the study, you can contact the Acting Chairperson of the UFH HREC, Prof Leon van Niekerk, during office hours at [leonvn@ufh.ac.za](mailto:leonvn@ufh.ac.za) or tel. no: +27 (0) 40 602 2435.

### How will you know about the findings?

*The findings of the research will be shared with the local authorities and Amberfield Glen estate management through a report.*

### Declaration by participant

By signing below, I agree to take part in a research study entitled: *Psychological, emotional, and social wellbeing of adolescents in urban and semi-urban communities of Centurion, Gauteng.*

#### I declare that:

- I have read this information and consent form, and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent as well as the researcher, and all my questions have been adequately answered.
- I understand that I will be taking part in this study, which does not require my medical or personal records, and I have not been pressured to do so.
- I was offered an opportunity to invite an interpreter in order for me to clearly understand the language and content.

Signed \_\_\_\_\_ at \_\_\_\_\_ (place) \_\_\_\_\_ on  
(date) \_\_\_\_/\_\_\_\_/202\_\_

Signature of participant giving consent \_\_\_\_\_

## **Appendix 2: Parent/ Guardian of the Participant Information Leaflet and Consent form**



### **PARENT/ GUARDIAN OF THE PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM**

**TITLE OF THE RESEARCH PROJECT:** *Psychological, emotional, and social wellbeing of adolescents in urban and semi-urban communities of Centurion, Gauteng*

**PRINCIPAL INVESTIGATOR:** *Alucia Nkateko Matukane*

**ADDRESS:** *6B Sooty Street, Amberfield Glen, Centurion, 0157*

**CONTACT NUMBER:** 0846379824

*This study has been approved by the **University of Fort Hare Faculty of Health Sciences Research Ethics Committee (UFH HREC) (Ref No:2021=11=10=MatukaneAN)** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records.*

#### **What is this research study all about?**

*This study will be conducted at Amberfield Glen estate and Olievenhoutbosch township and will involve adolescents aged 10 to 19 years. The study will use a MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) questionnaire for adolescents that was developed and tested by Keyes (2009), which can be completed online or physically. The questionnaire is divided into 14 items: 6 items of psychological wellbeing, 3 items of emotional wellbeing, and 5 items of social wellbeing. The response options are on a 5-point scale ranging from 0 “never” to 5 “everyday.”*

*The objectives of this study are:*

- *To describe and compare the demographics of the adolescents aged 10-19 by geographical area, gender, age, ethnicity, guardians, school, general physical health, type of dwelling, and substance use from one urban and one semi-urban community of Centurion.*

- *To describe and compare the 14-item variables on the mental health continuum of the adolescents aged 10 – 19 from one urban community and one semi-urban community in Centurion.*
- *To determine the differences in the mental health status (emotional, social, and psychological wellbeing) of adolescents aged 10 – 19 in one urban (Amberfield Glen) and one semi-urban (Olievenhoutbosch Extension 19) community of Centurion by demographical variables*

### **Why has your child been invited to participate?**

*Your child has been invited to participate in the study because:*

*He or she is an adolescent age 10 to 19 years whose parents and/or guardian gave consent to participate.*

*His or her ethnical and educational background is suitable for the study.*

*He or she is living in Centurion in either a gated community (Amberfield Glen) or a non-gated community (Olievenhoutbosch section 19).*

### **What will your responsibilities be?**

*Your responsibilities as a parent or guardian are to read through the description of the study and make an informed decision on whether you want your child to participate in the study or not. Your child's participation in the study is entirely voluntary, and his or her responsibility as a participant in the study will be to complete the questionnaire that he or she will receive online (via Google Form link) or in a hard, printed copy as honestly and completely as possible. It will take him or her about 5 to 10 minutes to complete the questionnaire.*

### **Will there be benefits from your child taking part in this research?**

*The direct benefits of your child, the participant, taking part in the study will include:*

*Identifying the impact of your psychological, emotional, and social wellbeing on your physical activity, sleep quality, stress, social trust, and desire to learn.*

*The indirect benefit for you as parents/ guardians and your local community will include:*

*Assisting the local communities to identify adolescents who need support from teachers and parents in regard to their wellbeing, as well as identifying challenges thereof.*

### **Are there risks involved in your taking part in this research?**

*There are no risks in this study in as far as the participants are concerned, participants will only complete a questionnaire with 14 items that best represent experiences and feelings.*

### **Who will have access to the data?**

*Data will be collected online and also through printed copies of the questionnaire for those who do not have online access. Printed copies will be scanned and saved electronically, along with the electronically completed forms. All hardcopies will be disposed of through shredding until the research study is finalised.*

### **What will happen with the data or samples?**

*This is a once-off collection of data; it will be analysed and communicated to local authorities in Centurion at Amberfield Glen, Olievenhoutbosch and University of Fort Hare through a copy of the final and approved manuscript.*

### **Will I or my child be paid to take part in this study, and are there any costs involved?**

*No. You or your child will not be paid to take part in this study; therefore, there will be no cost involved.*

### **Who can you contact for additional information regarding the study?**

The primary investigator Alucia Nkateko Matukane can be contacted during office hours at (011 386 6115), or on her mobile phone at (084 637 9824). Should you have any questions regarding the ethical aspects of the study, you can contact the Acting Chairperson of the UFH HREC, Prof Leon van Niekerk, during office hours at [leonvn@ufh.ac.za](mailto:leonvn@ufh.ac.za) or tel. no: +27 (0) 40 602 2435.

### **How will you know about the findings?**

*The findings of the research will be shared with the local authorities and Amberfield Glen estate management through a report.*

### **Declaration by the parent or guardian of the participant**

By signing below, I agree to my child taking part in a research study entitled: *Psychological, emotional, and social wellbeing of adolescents in urban and semi-urban communities of Centurion, Gauteng.*

#### **I declare that:**

- I have read this information and consent form, and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent as well as the researcher, and all my questions have been adequately answered.
- I understand that my child will be taking part in this study which does not require his or her medical/personal records and I have not been pressurised to do so.
- I was offered an opportunity to invite an interpreter in order for me to clearly understand the language and content.

Signed \_\_\_\_\_ at \_\_\_\_\_ (place) \_\_\_\_\_ on  
(date) \_\_\_\_/\_\_\_\_/202\_\_\_\_

Signature of the parent/ guardian of the participant giving consent

\_\_\_\_\_

### Declaration by parent/care giver/guardian giving consent

I \_\_\_\_\_ (name)  
\_\_\_\_\_ declare  
that:

- I will require an interpreter: ☐ Y ☐ N
- I fully understand the information in this document to  
\_\_\_\_\_
- I understand the purpose of the research as explained by the researcher or data collector.
- I am satisfied that the researcher or data collector clearly explained all aspects of the research,
- I give permission for my child to participate by answering all the questions in the allocated questionnaire.

Signed \_\_\_\_\_ at \_\_\_\_\_ (place) \_\_\_\_\_ on  
(date) \_\_\_\_/\_\_\_\_/202\_\_\_\_

\_\_\_\_\_

Signature of parent/care giver/guardian giving consent  
witness

Signature of

### Declaration by researcher/person obtaining consent

I \_\_\_\_\_ (name)  
\_\_\_\_\_ declare  
that:

- I explained the information in this document to  
\_\_\_\_\_

- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed \_\_\_\_\_ at \_\_\_\_\_ (place) \_\_\_\_\_ on \_\_\_\_\_ (date)  
 \_\_\_\_\_/\_\_\_\_\_/202\_\_\_\_

\_\_\_\_\_  
 Signature of researcher/ person obtaining consent

\_\_\_\_\_  
 Signature of witness



University of Fort Hare  
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## Appendix 3: Ethics Clearance Certificate



University of Fort Hare  
Together in Excellence

HEALTH RESEARCH ETHICS COMMITTEE  
P.O. Box 1054  
East London 5200  
Tel: +27 (0) 43 704 7368  
E-mail: dgoon@ufh.ac.za

**ETHICAL CLEARANCE CERTIFICATE**  
**REC-100118-054**

Certificate Reference Number: **Ref #2021-11-10-MatukaneAN**

Project title: **Psychological, emotional and social wellbeing of adolescents in urban and semi-urban communities of Centurion, Gauteng**

Nature of Project: **Masters of Public Health**

Principal Researcher: **Matukane AN**

Student Number: **202005011**

Supervisor: **Dr J Wagner**

Co-Supervisor: **Prof van Gent Maya**

On behalf of the University of Fort Hare Health Research Ethics Committee (HREC), I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instruments(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the HREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the HREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

The HREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
  - Any unethical principles or practices are revealed or suspected
  - relevant information has been withheld or misrepresented
  - regulatory changes of whatsoever nature so require
  - the conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.

 @ufh1916  ufh1916  www.ufh.ac.za



University of Fort Hare  
Together in Excellence

HEALTH RESEARCH ETHICS COMMITTEE  
P.O. Box 1054  
East London 5200  
Tel: +27 (0) 43 704 7368  
E-mail: dgoon@ufh.ac.za

- In addition to the need to comply with the highest level of ethical conduct principal investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to HREC monitoring@ufh.ac.za.

The Ethics Committee wishes you well in your research endeavours.

Yours sincerely



**Professor DT Goon**  
Chairperson: HREC  
26<sup>th</sup> November 2021

## Appendix 4: Questionnaire for AN Matukane study

| Questionnaire No. | Office use only                                                                    |
|-------------------|------------------------------------------------------------------------------------|
|                   | V 1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1-3 |

### Title: THE MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF)

**Aim:** The purpose of this questionnaire is to determine the mental health (psychological, emotional, and social wellbeing) of adolescents living in the Olievenhoutbosch Ext 19, (a semi-urban environment) and Amberfield, (an urban environment) in Centurion, Gauteng.

#### Instructions:

1. Please complete all the questions.
2. Do not write in the “office use only” sections.
3. Only indicate one choice/ answer per question, unless otherwise indicated.
4. Complete the **SHORT FORM (MHC-SF)** questionnaire by marking the most appropriate space on the scale below with an **X** e.g.

| Item No. | During the past month, how often did you feel . . . : | Level of psychological, emotional, and social wellbeing |               |                   |                     |                  |           | Office use only |  |
|----------|-------------------------------------------------------|---------------------------------------------------------|---------------|-------------------|---------------------|------------------|-----------|-----------------|--|
|          |                                                       | NEVER                                                   | ONCE OR TWICE | ABOUT ONCE A WEEK | 2 OR 3 TIMES A WEEK | ALMOST EVERY DAY | EVERY DAY |                 |  |
| 15       | Excited                                               | 0                                                       | 1             | 2 <b>X</b>        | 3                   | 4                | 5         |                 |  |

5. This questionnaire consists of **3** (three) pages.

### SECTION A: DEMOGRAPHIC INFORMATION

| Question 1 | Item: Geographical area<br>Where do you live in Centurion? | Indicate one choice | Office use only             |    |
|------------|------------------------------------------------------------|---------------------|-----------------------------|----|
| 1.1        | Olievenhoutbosch Extension 19                              |                     | V1 <input type="checkbox"/> | 2  |
| 1.2        | Amberfield Glen                                            |                     |                             |    |
| Question 2 | Item: Gender<br>What is your gender?                       | Indicate one choice | Office use only             |    |
| 2.1        | Male                                                       |                     | V2 <input type="checkbox"/> | 2  |
| 2.2        | Female                                                     |                     |                             |    |
| Question 3 | Item: Age<br>What is your current age?                     | Indicate one choice | Office use only             |    |
| 3.1        | 10years.                                                   |                     | V3 <input type="checkbox"/> | 10 |
| 3.2        | 11years                                                    |                     |                             |    |
| 3.3        | 12years                                                    |                     |                             |    |
| 3.4        | 13years                                                    |                     |                             |    |
| 3.5        | 14years.                                                   |                     |                             |    |
| 3.6        | 15years                                                    |                     |                             |    |
| 3.7        | 16years                                                    |                     |                             |    |
| 3.8        | 17years                                                    |                     |                             |    |
| 3.9        | 18years                                                    |                     |                             |    |
| 3.10       | 19years                                                    |                     |                             |    |
| Question 4 | Item: Ethnicity<br>What is your race group?                | Indicate one choice | Office use only             |    |

|            |                                                                   |                      |                             |   |
|------------|-------------------------------------------------------------------|----------------------|-----------------------------|---|
| 4.1        | African (Black)                                                   |                      | V4 <input type="checkbox"/> | 5 |
| 4.2        | White                                                             |                      |                             |   |
| 4.3        | Coloured (Brown)                                                  |                      |                             |   |
| 4.4        | Indian                                                            |                      |                             |   |
| 4.5        | Other                                                             |                      |                             |   |
| Question 5 | Item: Guardians/Parents<br>Who is raising you?                    | Indicate one choice  | Office use only             |   |
| 5.1        | Biological parents – raised by own mother and father              |                      | V5 <input type="checkbox"/> | 4 |
| 5.2        | Divorced parents – raised by a parent and a step father or mother |                      |                             |   |
| 5.3        | Single parent – raised by mother only who was never married       |                      |                             |   |
| 5.4        | Grandparents are raising you                                      |                      |                             |   |
| 5.5        | No guardian/ parents – raised by other relatives                  |                      |                             |   |
| Question 6 | Item: School<br>Do you attend school?                             | Indicate one choice  | Office use only             |   |
| 6.1        | Yes                                                               |                      | V6 <input type="checkbox"/> | 4 |
| 6.2        | No                                                                |                      |                             |   |
| 6.3        | Home schooled                                                     |                      |                             |   |
| 6.4        | Unsure                                                            |                      |                             |   |
| Question 7 | Item: General physical health<br>Your general physical health is? | Indicate one choice  | Office use only             |   |
| 7.1        | Good – not really sickly                                          |                      | V7 <input type="checkbox"/> | 4 |
| 7.2        | Fair – sick only few times a year                                 |                      |                             |   |
| 7.3        | Poor – sick all the time                                          |                      |                             |   |
| 7.4        | Unsure                                                            |                      |                             |   |
| Item No. 8 | Item: Dwelling<br>What type of home do you live in?               | Indicate one choice  | Office use only             |   |
| 8.1        | Freestanding brick house with a yard                              |                      | V8 <input type="checkbox"/> | 7 |
| 8.2        | Townhouse in a complex                                            |                      |                             |   |
| 8.3        | Apartment or flat                                                 |                      |                             |   |
| 8.4        | RDP house                                                         |                      |                             |   |
| 8.5        | Shack – plastic, paper and/or sink house                          |                      |                             |   |
| 8.6        | Homeless                                                          |                      |                             |   |
| 8.7        | Other                                                             |                      |                             |   |
| Question 9 | Item: Substance use<br>Do you?                                    | Indicate all choices | Office use only             |   |
| 9.1        | Smoke                                                             |                      | V9 <input type="checkbox"/> | 5 |
| 9.2        | Drink alcohol                                                     |                      |                             |   |
| 9.3        | Use drugs, such as Speed, Pinks, etc.                             |                      |                             |   |
| 9.4        | Other                                                             |                      |                             |   |
| 9.5        | Use none of the above                                             |                      |                             |   |

## SECTION B: MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF)

| Item No. | During the past month, how often did you feel....:                                  | Level of psychological, emotional, and social wellbeing |               |                   |                     |                  |           | Office use only              |    |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------|---------------------|------------------|-----------|------------------------------|----|
|          |                                                                                     | NEVER                                                   | ONCE OR TWICE | ABOUT ONCE A WEEK | 2 OR 3 TIMES A WEEK | ALMOST EVERY DAY | EVERY DAY |                              |    |
| 1        | Happy                                                                               | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V16 <input type="checkbox"/> | 18 |
| 2        | interested in life                                                                  | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V17 <input type="checkbox"/> | 19 |
| 3        | satisfied with life                                                                 | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V18 <input type="checkbox"/> | 20 |
| 4        | that you had something important to contribute to society                           | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V19 <input type="checkbox"/> | 21 |
| 5        | that you belonged to a community (like a social group, school, neighbourhood, etc.) | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V20 <input type="checkbox"/> | 22 |
| 6        | that our society is a good place, or is becoming a better place, for all people     | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V21 <input type="checkbox"/> | 23 |
| 7        | that people are basically good                                                      | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V22 <input type="checkbox"/> | 24 |
| 8        | that the way our society works made sense to you                                    | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V23 <input type="checkbox"/> | 25 |
| 9        | that you liked most parts of your personality                                       | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V24 <input type="checkbox"/> | 26 |
| 10       | good at managing the responsibilities of your daily life                            | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V25 <input type="checkbox"/> | 27 |
| 11       | that you had warm and trusting relationships with others                            | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V26 <input type="checkbox"/> | 28 |
| 12       | that you had experiences that challenged you to grow and become a better person     | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V27 <input type="checkbox"/> | 29 |
| 13       | confident to think or express your own ideas and opinions                           | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V28 <input type="checkbox"/> | 30 |
| 14       | that your life has a sense of direction or meaning to it                            | 0                                                       | 1             | 2                 | 3                   | 4                | 5         | V29 <input type="checkbox"/> | 31 |

**Thank you for completing the Questionnaire!**

## Appendix 5: Google Form Questionnaire screenshots of the online questionnaire

### 5.1 Section 1

Questions Responses Settings

Section 1 of 2

# MPH Research UFH 2022

"PSYCHOLOGICAL, EMOTIONAL AND SOCIAL WELLBEING OF ADOLESCENTS IN URBAN AND SEMI-URBAN COMMUNITIES OF CENTURION, GAUTENG."

**Student:** Alucia Nkateko Matukane  
**Student Number:** 202005011  
**Year:** 2022

Where do you live in Centurion?

☐ Olievenhoutbosch Extension 19

☐ Amberfield Glen

What is your gender?

☐ Male

☐ Female

What is your current age?

☐ 10 Years

☐ 11 Years

☐ 12 Years

☐ 13 Years

☐ 14 Years

☐ 15 Years

☐ 16 Years

## 5.2 Section 2

Questions   Responses   Settings

**Section 2 of 2**

**Section B: MHC-SF 14 - Items** ✕ ⋮

**NB:** Please tick one of the six scores per item

**During the past month, how often did you feel ... \***

|                   | Never                    | Once or Twice            | About once ...           | 2 or 3 times ...         | Almost ever...           | Everyday                 |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Happy             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Interested in...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Satisfied wit...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that you had...   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that you bel...   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that our soci...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that people ...   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that the way ...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that you like...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| good at man...    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that you had...   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that you had...   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| confident to ...  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| that your life... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## 5.3. Links (Long and short)

[https://docs.google.com/forms/d/e/1FAIpQLSdG0Zjv-ghnQM\\_JzNVegTGTEL\\_JfuOo\\_TTPC6y95QHTgpEVXA/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdG0Zjv-ghnQM_JzNVegTGTEL_JfuOo_TTPC6y95QHTgpEVXA/viewform?usp=sf_link)

<https://forms.gle/5bGCLVsmv8WT7WtSA>

## Appendix 6: Keyes guidelines for the MENTAL HEALTH CONTINUUM SHORT FORM (MHC-SF) Scoring System™

### The Mental Health Continuum-Short Form (MHC-SF) Scoring

Continuous Scoring: Sum, 0-70 range (use 10 point categories if desired).

Categorical Diagnosis: a diagnosis of flourishing is made if someone feels 1 of the 3 hedonic well-being symptoms (items 1-3) "every day" or "almost every day" and feels 6 of the 11 positive functioning symptoms (items 4-14) "every day" or "almost every day" in the past month. Languishing is the diagnosis when someone feels 1 of the 3 hedonic well-being symptoms (items 1-3) "never" or "once or twice" and feels 6 of the 11 positive functioning symptoms (items 4-8 are indicators of Social well-being and 9-14 are indicators of Psychological well-being) "never" or "once or twice" in the past month. Individuals who are neither "languishing" nor "flourishing" are then coded as "moderately mentally healthy."

Symptom Clusters and Dimensions:

Cluster 1; Items 1-3 = *Hedonic*, Emotional Well-Being

Cluster 2; Items 4-8 = *Eudaimonic*, Social Well-Being

Item 4 = Social Contribution

Item 5 = Social Integration

Item 6 = Social Actualization (i.e., Social Growth)

Item 7 = Social Acceptance

Item 8 = Social Coherence (i.e., Social Interest)

Cluster 3; Items 9-14 = *Eudaimonic*, Psychological Well-Being

Item 9 = Self Acceptance

Item 10 = Environmental Mastery

Item 11 = Positive Relations with Others

Item 12 = Personal Growth

Item 13 = Autonomy

Item 14 = Purpose in Life

**\*SPSS Syntax for creating the categories for the categorical diagnosis**

**\*Assumes item responses have been coded as follows: never=0, once or twice=1, about once a week=2, about 2 or 3 times a week=3, almost every day=4, every day=5**

count hiaff=mhc1 mhc2 mhc3(4,5).

count loaff=mhc1 mhc2 mhc3(0,1).

count hifunc=mhc4 mhc5 mhc6 mhc7 mhc8 mhc9 mhc10 mhc11 mhc12 mhc13 mhc14(4,5).

count lofunc=mhc4 mhc5 mhc6 mhc7 mhc8 mhc9 mhc10 mhc11 mhc12 mhc13 mhc14(0,1).

recode hiaff (1,2,3=1) (else=0) into hiaffect.

recode hifunc (6,7,8,9,10,11=1) (else=0) into hifunct.

recode loaff (1,2,3=1) (else=0) into loaffected.

recode lofunc (6,7,8,9,10,11=1) (else=0) into lofunct.

if hiaffect=1 and hifunct=1 mhc\_dx=2.

if loaffected=1 and lofunct=1 mhc\_dx=0.

if hiaffect=1 and hifunct=0 mhc\_dx=1.

if hiaffect=0 and hifunct=1 mhc\_dx=1.

if loaffected=0 and lofunct=1 mhc\_dx=1.

If loaffected=1 and lofunct=0 mhc\_dx=1.

variable labels mhc\_dx 'MHC-SF Three Category Diagnosis of Positive Mental Health'.

value labels mhc\_dx 0 'Languishing' 1 'Moderate' 2 'Flourishing'.

compute mhc\_total = mhc1 + mhc2 + mhc3 + mhc4 + mhc5 + mhc6 + mhc7 + mhc8 + mhc9 + mhc10 + mhc11 + mhc12 + mhc13 + mhc14.

compute mhc\_ewb = mhc1 + mhc2 + mhc3.

compute mhc\_swb = mhc4 + mhc5 + mhc6 + mhc7 + mhc8.

compute mhc\_pwb = mhc9 + mhc10 + mhc11 + mhc12 + mhc13 + mhc14.

**Appendix 7: Item scores for participants from urban and semi-urban communities (MHC-SF 1 – 3)**

| MHC-SF 1     | Urban      |            | Semi-urban |            | Total      |            | P       |  | MHC-SF 3     | Urban      |            | Semi-urban |            | Total      | P          | P       |
|--------------|------------|------------|------------|------------|------------|------------|---------|--|--------------|------------|------------|------------|------------|------------|------------|---------|
|              | n          | %          | n          | %          | n          | %          | < 0.001 |  |              | n          | %          | n          | %          | n          | %          | < 0.001 |
| 0            | 0          | 0          | 22         | 14.01      | 22         | 6.94       |         |  | 0            | 7          | 4.38       | 31         | 19.75      | 38         | 11.99      |         |
| 1            | 18         | 11.25      | 56         | 35.67      | 74         | 23.34      |         |  | 1            | 9          | 5.62       | 49         | 31.21      | 58         | 18.3       |         |
| 2            | 17         | 10.62      | 28         | 17.83      | 45         | 14.2       |         |  | 2            | 16         | 10         | 21         | 13.38      | 37         | 11.67      |         |
| 3            | 33         | 20.62      | 18         | 11.46      | 51         | 16.09      |         |  | 3            | 28         | 17.5       | 18         | 11.46      | 46         | 14.51      |         |
| 4            | 53         | 33.12      | 19         | 12.1       | 72         | 22.71      |         |  | 4            | 61         | 38.12      | 22         | 14.01      | 83         | 26.18      |         |
| 5            | 39         | 24.38      | 14         | 8.92       | 53         | 16.72      |         |  | 5            | 39         | 24.38      | 16         | 10.19      | 55         | 17.35      |         |
| <b>Total</b> | <b>160</b> | <b>100</b> | <b>157</b> | <b>100</b> | <b>317</b> | <b>100</b> |         |  | <b>Total</b> | <b>160</b> | <b>100</b> | <b>157</b> | <b>100</b> | <b>317</b> | <b>100</b> |         |
|              |            |            |            |            |            |            |         |  |              |            |            |            |            |            |            |         |
| MHC-SF 2     | Urban      |            | Semi-urban |            | Total      | P          | P       |  |              |            |            |            |            |            |            |         |
|              | n          | %          | n          | %          | n          | %          | < 0.001 |  |              |            |            |            |            |            |            |         |
| 0            | 3          | 1.88       | 6          | 3.82       | 9          | 2.84       |         |  |              |            |            |            |            |            |            |         |
| 1            | 15         | 9.38       | 70         | 44.59      | 85         | 26.81      |         |  |              |            |            |            |            |            |            |         |
| 2            | 10         | 6.25       | 20         | 12.74      | 30         | 9.46       |         |  |              |            |            |            |            |            |            |         |
| 3            | 19         | 11.88      | 15         | 9.55       | 34         | 10.73      |         |  |              |            |            |            |            |            |            |         |
| 4            | 57         | 35.62      | 28         | 17.83      | 85         | 26.81      |         |  |              |            |            |            |            |            |            |         |
| 5            | 56         | 35         | 18         | 11.46      | 74         | 23.34      |         |  |              |            |            |            |            |            |            |         |
| <b>Total</b> | <b>160</b> | <b>100</b> | <b>157</b> | <b>100</b> | <b>317</b> | <b>100</b> |         |  |              |            |            |            |            |            |            |         |



**Appendix 8:** Item scores for participants from urban and semi-urban communities (MHC-SF 4 – 8)

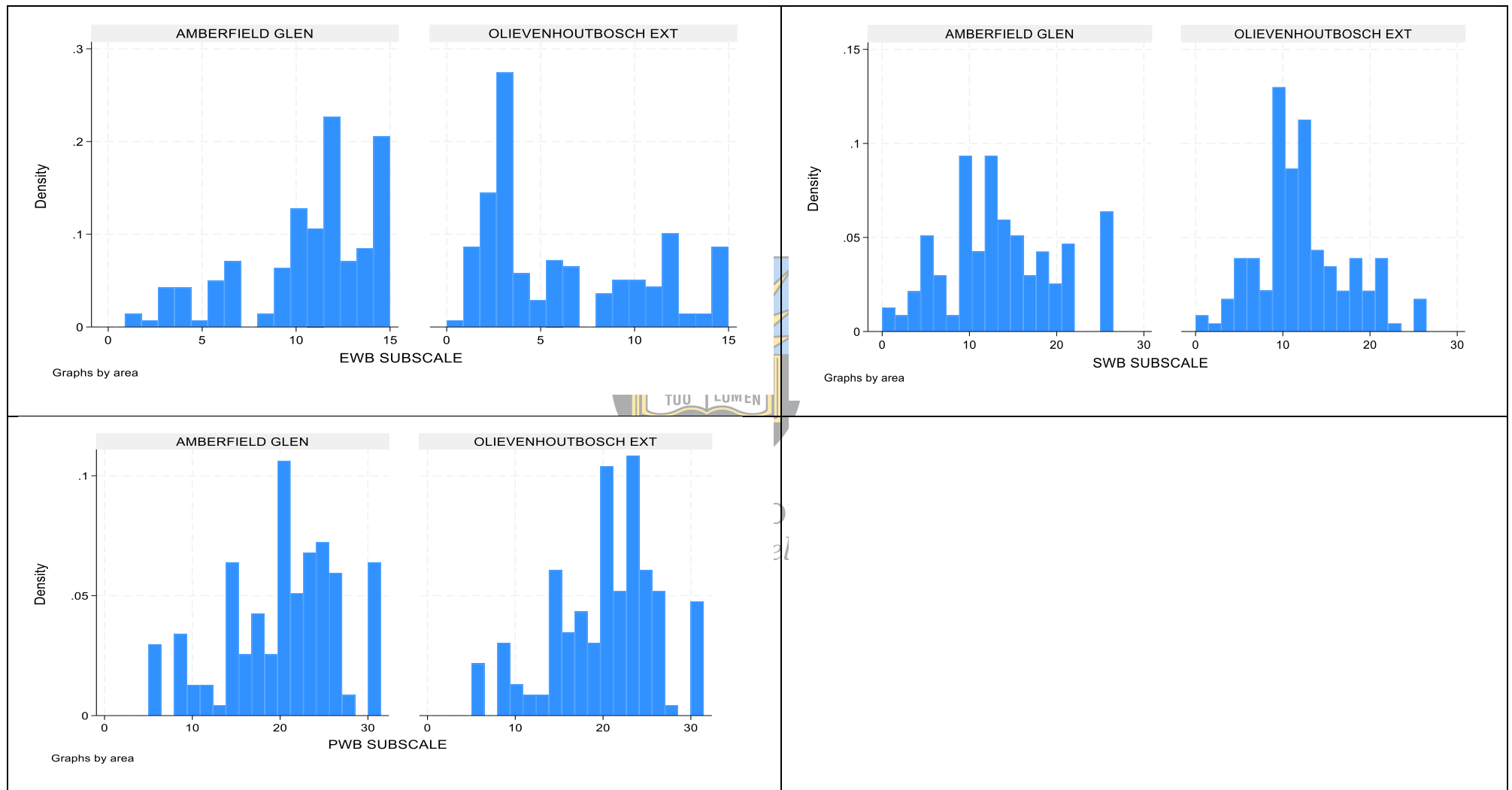
| MHC-SF 4 |     | Urban        |     | Semi-urban  |     | Total | P     | P |
|----------|-----|--------------|-----|-------------|-----|-------|-------|---|
|          | n   | %            | n   | %           | n   | %     | 0.015 |   |
| 0        | 25  | 15.62        | 25  | 15.92       | 50  | 15.77 |       |   |
| 1        | 38  | 23.75        | 51  | 32.48       | 89  | 28.08 |       |   |
| 2        | 25  | 15.62        | 39  | 24.84       | 64  | 20.19 |       |   |
| 3        | 32  | 20           | 23  | 14.65       | 55  | 17.35 |       |   |
| 4        | 20  | 12.5         | 11  | 7.01        | 31  | 9.78  |       |   |
| 5        | 20  | 12.5         | 8   | 5.1         | 28  | 8.83  |       |   |
| Total    | 160 | 100          | 157 | 100         | 317 | 100   |       |   |
|          |     |              |     |             |     |       |       |   |
| MHC-SF 5 |     | Urban        |     | Semi-urban  |     | Total | P     | P |
|          | n   | %            | n   | %           | n   | %     | 0.003 |   |
| 0        | 12  | 7.5          | 8   | 5.1         | 20  | 6.31  |       |   |
| 1        | 13  | 8.12         | 8   | 5.1         | 21  | 6.62  |       |   |
| 2        | 11  | 6.88         | 7   | 4.46        | 18  | 5.68  |       |   |
| 3        | 20  | 12.5         | 17  | 10.83       | 37  | 11.67 |       |   |
| 4        | 65  | 40.62        | 99  | 63.06       | 164 | 51.74 |       |   |
| 5        | 39  | 24.38        | 18  | 11.46       | 57  | 17.98 |       |   |
| Total    | 160 | 100          | 157 | 100         | 317 | 100   |       |   |
|          |     |              |     |             |     |       |       |   |
| MHC-SF 6 |     | nberfield Gl |     | osch Ext 19 |     | Total | P     | P |
|          | n   | %            | n   | %           | n   | %     | 0.158 |   |
| 0        | 11  | 6.88         | 10  | 6.37        | 21  | 6.62  |       |   |
| 1        | 19  | 11.88        | 25  | 15.92       | 44  | 13.88 |       |   |
| 2        | 34  | 21.25        | 41  | 26.11       | 75  | 23.66 |       |   |
| 3        | 33  | 20.62        | 39  | 24.84       | 72  | 22.71 |       |   |
| 4        | 26  | 16.25        | 23  | 14.65       | 49  | 15.46 |       |   |
| 5        | 37  | 23.12        | 19  | 12.1        | 56  | 17.67 |       |   |
| Total    | 160 | 100          | 157 | 100         | 317 | 100   |       |   |

| MHC-SF 7 |     | Urban |     | Semi-urban |     | Total | P     | P |
|----------|-----|-------|-----|------------|-----|-------|-------|---|
|          | n   | %     | n   | %          | n   | %     | 0.58  |   |
| 0        | 15  | 9.38  | 14  | 8.92       | 29  | 9.15  |       |   |
| 1        | 19  | 11.88 | 19  | 12.1       | 38  | 11.99 |       |   |
| 2        | 36  | 22.5  | 38  | 24.2       | 74  | 23.34 |       |   |
| 3        | 36  | 22.5  | 44  | 28.03      | 80  | 25.24 |       |   |
| 4        | 35  | 21.88 | 32  | 20.38      | 67  | 21.14 |       |   |
| 5        | 19  | 11.88 | 10  | 6.37       | 29  | 9.15  |       |   |
| Total    | 160 | 100   | 157 | 100        | 317 | 100   |       |   |
|          |     |       |     |            |     |       |       |   |
| MHC-SF 8 |     | Urban |     | Semi-urban |     | Total | P     | P |
|          | n   | %     | n   | %          | n   | %     | 0.359 |   |
| 0        | 40  | 25    | 45  | 28.66      | 85  | 26.81 |       |   |
| 1        | 36  | 22.5  | 45  | 28.66      | 81  | 25.55 |       |   |
| 2        | 21  | 13.12 | 22  | 14.01      | 43  | 13.56 |       |   |
| 3        | 17  | 10.62 | 13  | 8.28       | 30  | 9.46  |       |   |
| 4        | 23  | 14.37 | 20  | 12.74      | 43  | 13.56 |       |   |
| 5        | 23  | 14.37 | 12  | 7.64       | 35  | 11.04 |       |   |
| Total    | 160 | 100   | 157 | 100        | 317 | 100   |       |   |
|          |     |       |     |            |     |       |       |   |

**Appendix 9:** Item scores for participants from urban and semi-urban communities (MHC-SF 9 – 14)

| MHC-SF 9  |     |            |     |       |     |       |  | MHC-SF 11 |     |       |     |       |     |       |  |
|-----------|-----|------------|-----|-------|-----|-------|--|-----------|-----|-------|-----|-------|-----|-------|--|
| Urban     |     | Semi-urban |     | Total | P   | P     |  | Urban     |     | urban |     | Total | P   | P     |  |
| n         | %   | n          | %   | n     | %   | 0.988 |  | n         | %   | n     | %   | n     | %   | 0.547 |  |
| 0         | 3   | 1.88       | 3   | 1.91  | 6   | 1.89  |  | 0         | 1   | 0.62  | 1   | 0.64  | 2   | 0.63  |  |
| 1         | 11  | 6.88       | 9   | 5.73  | 20  | 6.31  |  | 1         | 19  | 11.88 | 14  | 8.92  | 33  | 10.41 |  |
| 2         | 19  | 11.88      | 19  | 12.1  | 38  | 11.99 |  | 2         | 27  | 16.88 | 31  | 19.75 | 58  | 18.3  |  |
| 3         | 31  | 19.38      | 31  | 19.75 | 62  | 19.56 |  | 3         | 21  | 13.12 | 27  | 17.2  | 48  | 15.14 |  |
| 4         | 49  | 30.63      | 53  | 33.76 | 102 | 32.18 |  | 4         | 43  | 26.88 | 48  | 30.57 | 91  | 28.71 |  |
| 5         | 47  | 29.38      | 42  | 26.75 | 89  | 28.08 |  | 5         | 49  | 30.63 | 36  | 22.93 | 85  | 26.81 |  |
| Total     | 160 | 100        | 157 | 100   | 317 | 100   |  | Total     | 160 | 100   | 157 | 100   | 317 | 100   |  |
|           |     |            |     |       |     |       |  |           |     |       |     |       |     |       |  |
| MHC-SF 10 |     |            |     |       |     |       |  | MHC-SF 12 |     |       |     |       |     |       |  |
| Urban     |     | Semi-urban |     | Total | P   | P     |  | Urban     |     | urban |     | Total | P   | P     |  |
| n         | %   | n          | %   | n     | %   | 0.447 |  | n         | %   | n     | %   | n     | %   | 0.4   |  |
| 0         | 6   | 3.75       | 9   | 5.73  | 15  | 4.73  |  | 0         | 21  | 13.12 | 15  | 9.55  | 36  | 11.36 |  |
| 1         | 7   | 4.38       | 5   | 3.18  | 12  | 3.79  |  | 1         | 21  | 13.12 | 14  | 8.92  | 35  | 11.04 |  |
| 2         | 21  | 13.12      | 19  | 12.1  | 40  | 12.62 |  | 2         | 14  | 8.75  | 12  | 7.64  | 26  | 8.2   |  |
| 3         | 35  | 21.88      | 34  | 21.66 | 69  | 21.77 |  | 3         | 18  | 11.25 | 20  | 12.74 | 38  | 11.99 |  |
| 4         | 50  | 31.25      | 62  | 39.49 | 112 | 35.33 |  | 4         | 44  | 27.5  | 59  | 37.58 | 103 | 32.49 |  |
| 5         | 41  | 25.62      | 28  | 17.83 | 69  | 21.77 |  | 5         | 42  | 26.25 | 37  | 23.57 | 79  | 24.92 |  |
| Total     | 160 | 100        | 157 | 100   | 317 | 100   |  | Total     | 160 | 100   | 157 | 100   | 317 | 100   |  |
|           |     |            |     |       |     |       |  |           |     |       |     |       |     |       |  |
| MHC-SF 13 |     |            |     |       |     |       |  | MHC-SF 14 |     |       |     |       |     |       |  |
| Urban     |     | Semi-urban |     | Total | P   | P     |  | Urban     |     | urban |     | Total | P   | P     |  |
| n         | %   | n          | %   | n     | %   | 0.75  |  | n         | %   | n     | %   | n     | %   | 0.399 |  |
| 0         | 17  | 10.62      | 16  | 10.19 | 33  | 10.41 |  | 0         | 2   | 1.25  | 1   | 0.64  | 3   | 0.95  |  |
| 1         | 16  | 10         | 17  | 10.83 | 33  | 10.41 |  | 1         | 26  | 16.25 | 18  | 11.46 | 44  | 13.88 |  |
| 2         | 22  | 13.75      | 25  | 15.92 | 47  | 14.83 |  | 2         | 11  | 6.88  | 11  | 7.01  | 22  | 6.94  |  |
| 3         | 21  | 13.12      | 26  | 16.56 | 47  | 14.83 |  | 3         | 24  | 15    | 24  | 15.29 | 48  | 15.14 |  |
| 4         | 32  | 20         | 34  | 21.66 | 66  | 20.82 |  | 4         | 53  | 33.12 | 69  | 43.95 | 122 | 38.49 |  |
| 5         | 52  | 32.5       | 39  | 24.84 | 91  | 28.71 |  | 5         | 44  | 27.5  | 34  | 21.66 | 78  | 24.61 |  |
| Total     | 160 | 100        | 157 | 100   | 317 | 100   |  | Total     | 160 | 100   | 157 | 100   | 317 | 100   |  |

## Appendix 10: Two sample T-test analysis for emotional, social and psychological wellbeing subscales



## Appendix 11: Continuous scoring of the subscales and total score

