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Masters Report

Depression Demographic Profiling of Young Adults in South Africa

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the Degree of Master of Arts in Social and Psychological Research (PSYC7024A)

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Abstract

In young people aged 15 and 29 years, mental illnesses accounted for 23% of Years Lived with Disability (YLD) and among mental disorders, depressive disorders emerged as the second largest worldwide contributor to YLD at approximately 5.6%. In addition, one in every six individuals suffered from depression in South Africa. However, there is limited recent research about the demographic characteristics of South African emerging adults who may be vulnerable to depression. This research aimed to conduct demographic profiling of emerging adults (N=819) in South Africa who present with depressive symptoms. Additionally, using Pearson's Product-Moment Correlation, T-test, and ANOVA, this cross-sectional research analysed secondary data from the Africa Long Life Study to determine relationships as well as statistical differences among demographic variables and depressive symptoms. Results indicated a low presence of depression in the sample. Significant relationships were found between depressive symptoms and demographic variables (socioeconomic status and religiosity). While no significant differences were found among language groups, a higher presence of depressive symptoms was found among females and those experiencing moderate to great financial difficulties. The findings emphasised the critical need for mental health policies and initiatives that promote prevention or early detection, prevention, and enhanced access to quality mental healthcare, particularly among vulnerable emerging adults like females and individuals who are economically disadvantaged. Mental health interventions should adopt comprehensive approaches that incorporate aspects of religiosity and spirituality to buffer against the presence of depressive symptoms among emerging adults.

Keywords: emerging adults; demographics; depressive symptoms; South Africa

Table of Contents

Plagiarism Declaration ii

Acknowledgements iii

Abstract iv

Table of Contents v

List of Tables ix

List of Figures ix

Chapter 1: Depression Demographic Profiling of Young Adults in South Africa 1

1.1 Contextual Background 1

1.2 Problem Statement 5

1.3 Rationale 5

1.4 Research Aim 7

1.5 Research Questions 7

1.6 Hypotheses 7

1.7 Outline of the Research Report 8

Chapter 2: Literature Review 11

2.1 Introduction 11

2.2 The African Conception of Depression 12

2.3 The Definition of Depression Based on the DSM-V 14

2.4 Global Trends on Depression in Young Adults 15

2.5 Emerging Adulthood and Depression 18

2.6 The Biopsychosocial-Spiritual Model 22

2.6.1 ***Biological Components of the BPSS Model*** 25
2.6.2 ***Psychosocial Components of the BPSS Model*** 27
2.6.3 ***The Spiritual Component of BPSS Model*** 32
2.7 Chapter Conclusion 34

Chapter 3: Research Methods 36

3.1 Introduction 36

3.2 Research Design 36

3.3 Data Source 37

3.4 Research Sample 38

3.4.1 ***Sampling Method*** 38
3.4.2 ***Demographics of the Sample*** 39
3.5 Instruments 53

3.5.1 Demographic Questionnaire 54
3.5.2 Duke University Religion Index 54
3.5.3 Family Affluence Scale 55
3.5.4 International Mental Health Assessment 56
3.6 Procedure 57

3.7 Data Analysis 59

3.8 Ethical Considerations 61

3.9 Chapter Conclusion 62

Chapter 4: Results 63

4.1 Introduction 63

4.2: The Presence of Depression in Emerging Adults 63

4.3 Tests of Parametric Assumptions 65

4.4 The Relationship Between Socioeconomic Status and Depressive Symptoms 66

4.5 The Presence of Depressive Symptoms Across Financial Statuses.....71

4.6 The Relationship Between Religiosity and Depressive Symptoms 73

4.7 Gender Differences in the Presence of Depression Symptoms.....77

4.8 The Presence of Depressive Symptoms Across Languages 80

4.9 Chapter: Conclusion 81

Chapter 5: Discussion.....82

5.1 Introduction.....82

5.2 The Presence of Depressive Symptoms in Emerging Adults.....82

5.3 The Relationship Between Socioeconomic Status and Depressive Symptoms 86

5.4 Differences in the Presence of Depressive Symptoms in Different Financial Statuses.....90

5.5 The Influence of Religiosity on Depressive Symptoms 91

5.6 The Presence of Depressive Symptoms Between Males and Females 95

5.7 Differences in Depressive Symptoms Across Language Groups 97

5.8 Chapter Conclusion 98

Chapter 6: Conclusion.....100

6.1 Introduction.....100

6.2 Strengths and Limitations.....101

6.3 Recommendations for Future Research.....104

6.4 Concluding Remarks 105

References.....107

Appendix A: The ALLS Questionnaire 131

Appendix B: Ethics Clearance Certificate 139

Appendix C: Ethics Training Certificate 140

Appendix D: Letter to Principal Investigator in South Africa 141

Appendix E: Confidentiality Agreement 143

Appendix F: Permission Letter 145

Appendix G: Tests for Parametric Assumptions 146

List of Tables

TABLE 3.1 *Demographic Characteristics of South African Emerging Adult Sample*.....42

TABLE 3.2 *Frequency Distribution of Socioeconomic Status Among South African Emerging Adults* 49

TABLE 3.3 *Descriptive Statistics of Family Affluent Scale* 51

TABLE 3.4 *Descriptive Statistics of Religiosity Among Emerging Adults*.....53

TABLE 4.1 *Descriptive Statistics of Depressive Symptoms Present in Emerging Adults*....634

TABLE 4.2 *Pearson's r Correlation Between Depressive Symptoms and Socioeconomic Status.* 68

TABLE 4.3 *Descriptive Statistics of Categorical Fas Variables* 69

TABLE 4.4 *Independent Sample T-Test of Comparing the Presence of Depressive Symptoms Among The Categorical Fas Variables* 70

TABLE 4.5 *Anova And Welch Test Results Demonstrating Significant Differences in the Presence Of Depressive Symptoms Across Different Perceived Financial Statuses*.....73

TABLE 4.6 *Pearson's r Correlation Between Religiosity and Depressive Symptoms*.....76

TABLE 4.7 *Descriptives and Independent Sample T-Test Results Indicating Gender Differences in the Presence of Depressive Symptoms.* 79

TABLE 4.8 *One-Way Anova Results Indicating the Presence of Depressive Symptoms Across Language Group.* 80

List of Figures

FIGURE 2.1 *The Biopsychosocial-Spiritual Model Illustrating Different Factors Impacting Mental Health* 24

FIGURE 3.1 *Pie Chart Illustrating Collapsed Language Variable* 58

Chapter 1: Depression Demographic Profiling of Young Adults in South Africa

1.1 Contextual Background

The increased prevalence of mental illnesses has had a dire impact on the well-being of numerous young individuals. Mental disorders have constituted approximately 39% of the overall burden of mental illness with regards to Disability Adjusted Life Years (DALYs) (World Health Organisation [WHO], 2022). In South Africa, the prevalence of mental illnesses was 12.78% in 2019 (Onuh et al., 2021). Depression particularly, was identified as one of the most prevalent mental health disorders in the world (Liu et al., 2020). In addition, one in every six individuals suffered from depression in South Africa (Nguse & Wassenaar, 2021). Furthermore, depression, anxiety, and behavioural disorders were among the leading causes of morbidity among adolescents between the ages of 10 and 19 years (Doyle et al., 2023). Several adverse impacts of depression in adolescents often persist into later stages of life. Research found that persistent depressive disorder in adolescents predicted prolonged use of mental healthcare infrastructure (Thapar et al., 2022). In addition, adolescents with depression often continue to experience the effects of the mental disorder even in the early adulthood stage (Thapar et al., 2022).

A key feature of adulthood is maturity and stability. However, many people transitioning through the earlier stage of young adulthood seek stability and enduring commitments (Arnett et., 2014). According to Arnett (2004), emerging adults may exhibit greater maturity than adolescents but are still exploring a range of trajectories compared to older adults. This implies that there are often elevated levels of distress exacerbating mental health vulnerability (Matud et al., 2023). Emerging adults have to navigate through a stressful developmental period that is characterised by increased pressure to accomplish goals and establish stability (Matud et al., 2023).

In addition, Depression can give rise to other challenges such as dysfunctional behaviour, poor management of chronic illnesses like HIV, and a decreased capacity to pursue educational and career opportunities (Doyle et al., 2023; Scardera et al., 2020). Consequently, this may also diminish people's ability to attain growth. Young adulthood spans from the ages of 18 – 40 or 45 years (Arnett., 2014), however, this research focused on the emerging adults aged 18 – 29 years, a younger adult population that has demonstrated a greater vulnerability to depression.

While several factors have contributed to the elevated suicide rates among young people, depression has played a prominent role in contributing to the high global prevalence of suicide (Bantjes et al., 2022). One in every hundred deaths is caused by suicide, which also happens to be the leading cause of death among adolescents (WHO, 2022). In Johannesburg, South Africa, approximately 19.9% of adolescent boys who presented depressive symptoms had previously contemplated suicide (Mngoma et al., 2021). This emphasises the significance of evaluating and addressing various contextual factors that influence the presence of depressive symptoms. One of the Sustainable Development Goals is to decrease suicide mortality by a third in 2030 (WHO, 2022). Therefore, research on depression is fundamental for gaining insight into how to effectively prevent and manage depression, thereby alleviating the rapid increase in suicide incidences, especially among adolescents and emerging adults.

Moreover, an insufficient focus on vulnerable populations could hinder efficient mental health support for individuals who require support. Research found that despite the high levels of mental health vulnerability among individuals 25 years and younger, there is often a delay between the onset of symptoms and the first reception of treatment (Colizzi et al., 2020). For example, Thapar et al. (2022) argued that most depression treatment trials are either targeted at younger adolescents or older adults, hence there is little information about

the effectiveness of treatment among those between the ages of 18-24 years. Furthermore, emerging adults have exhibited a higher proneness to depression compared to the remaining population. For instance, the prevalence of major depressive disorder among females and emerging adults aged 20 – 24, increased by approximately 27.6% amid the COVID–19 pandemic (WHO, 2022).

On the other hand, there have been continuous efforts to promote the endorsement and prioritisation of mental health at a global level. The Convention on the Rights of Persons with Disabilities (CRPD), Sustainable Development Goals (SDGs), and Universal Health Coverage (UHC) were implemented to implore countries around the world to strive for transformation and improved mental health (WHO, 2022). However, Mayston and colleagues (2020) found that the prevalence of depression in low and middle-income countries (even some from Sub-Saharan Africa) is about 10-20%, akin to depression rates in high-income countries, and yet many people living with depression in poorer regions do not receive treatment.

In South Africa, various objectives have been implemented to improve the accessibility and quality of mental healthcare at a national level (National Department of Health, 2023). These objectives also aimed to enhance preventative measures and decrease the likelihood of relapse or readmission among mental health patients (National Department of Health, 2023). However, it is worth noting that mental health services remain among the most expensive and inaccessible services for many young people in South Africa. Approximately 27% of patients living with severe mental disorders receive treatment, while only 16% have medical aids (Kim et al., 2022). In addition, there are only 0.31 psychiatrists per 10, 000 individuals without medical insurance (Kim et al., 2022). Furthermore, the country is characterised by socioeconomic inequality among young people, a problem deeply rooted in the distressing legacy of the Apartheid era (Andersen et al., 2021; Gibbs et al.,

2018). This implies that many young people who experience depression may also fail to access adequate mental healthcare. Without alternative ways of improving mental health, these individuals are also highly prone to poorer mental health outcomes.

In addition, mental health problems are likely to have a broader economic impact, especially in cases where functionality is greatly impaired by aggravated symptoms. Reduced productivity and capacity as a result of undiagnosed mental health disorders like depression is estimated to cost approximately R161 billion every year in South Africa (Household, 2022). Costs associated with loss of productivity are essentially greater than healthcare costs and an increase in the prevalence of anxiety and depressive disorders can have a major effect on the national expenditure (WHO, 2022). Therefore, the prioritisation of mental wellness, especially among highly vulnerable populations like emerging adults can have positive economic implications as well.

In recent years, there has been a gradual shift into digital mental health, which has afforded many young and financially independent individuals more convenient access to mental health resources (WHO, 2022). Among emerging adults from sub-Saharan Africa, this would be ideal because many young people between the ages of 15-24 years already have the greatest engagement with digital technology compared to the rest of the population (WHO, 2022). The endorsement of e-mental health potentially addresses challenges related to limited mental healthcare access, as well as expenses associated with travelling to different healthcare facilities (Padmanabhanunni &Pretorius, 2021). This innovation also enables technology to become a positive tool that decreases depressive symptoms in emerging adults rather than contributing to the increased presence of depressive symptoms, as most research has shown (Kreski et al., 2021; Shin et al., 2022; Tang et al., 2021; Twenge, 2020). However, this initiative has the potential to broaden the gap between those who are affluent or proficient in technology and their counterparts who lack technological literacy. Therefore,

comprehending the demographic characteristics and context of the population intended to benefit from any mental health initiative is imperative.

1.2 Problem Statement

Depression is a worldwide problem that has had a detrimental impact on many emerging adults, and although literature has extensively explored depression among emerging adults essentially from Western, educated, industrialized, rich, and democratic (WEIRD) samples (Höltge et al., 2021; Muthukrishna et al., 2020), less research has investigated the demographic characteristics of South African emerging adults who are also vulnerable to depression.

1.3 Rationale

The promotion of better mental health outcomes among specific population groups requires understanding the factors that contribute to higher levels of vulnerability in different individuals. The South African Stress and Health (SASH) study was conducted more than ten years ago and is among the few well-referenced studies that investigated common mental illnesses across various demographics, and at a population level in South Africa (Herman et al., 2009). Over the years, South Africa has been plagued by several disastrous events including the Life Esidemeni incident, the COVID–19 pandemic, the Kwa Zulu Natal floods, and droughts, among many other detrimental events that have had a negative mental health impact on the South African youth (National Department of Health, 2023). Additionally, most of the statistical research on depression in emerging adults is either dated or based mostly on samples from the Western context, hence findings from this research contribute relevant insight into the current state of mental health among emerging adults in the South African context.

In addition, adolescent mental health has received significant attention in literature (Scardera et al. 2022; Varma et al., 2021). However, emerging adulthood is often associated with high mental health vulnerability because of socio-psychological and developmental factors individuals encounter while transitioning (Arnett, 1997; 2000; 2004). Many emerging adults suffering from persistent depression are prone to problems like mental and physical health challenges, self-injuries, substance use problems, and decreased chances of acquiring formal education and employment at the age of 25 (Thapar et al., 2022). By obtaining a demographic profile of emerging adults in South Africa, this research provides a better understanding of the general characteristics of the South African emerging adults that are prone to depression.

Furthermore, there has been an extensive focus on the mental health of adolescents and emerging adults living with HIV in South Africa (Lofgren et al., 2020). This research extends focus beyond small niches in the emerging adult population and provides a broader and more diverse depiction of depression in emerging adults in South Africa. In addition, by examining the roles of different biopsychosocial and spiritual factors in relation to depression, this research provides a more holistic understanding of aspects that influence the presence of depression among the broader population of South African emerging adults.

Spirituality and religiosity play a pivotal role in the well-being of many young people living in South Africa (den Hertog et al., 2021) and hence, it is difficult to eliminate these aspects from the ongoing discourse about mental health among these individuals. This research is centred around a more holistic approach to understanding depression in emerging adults by also considering the impact of religiosity on emerging adults who present depression. Firstly, this provides an overview of how the conception of depression is shaped by being religious or spiritual as an emerging adult. Secondly, the research also provides knowledge about how religiosity and spirituality can be used as protective factors against

depression (Pillay et al., 2016). This can encourage mental health policymakers and various relevant mental health structures to endorse holistic approaches to treating and preventing depression among South African emerging adults.

Moreover, the research contributes to knowledge production and has a potential to practically benefit emerging adults through shaping health policies. Mental health research that informs policies can influence the fair allocation of mental health resources among young people (Doyle et al., 2023). Additionally, this research can assist researchers, mental health organisations and therapists in establishing suitable preventative interventions for the demographic groups of emerging adults that are more prone to depressive symptoms. This knowledge can also influence initiatives that aimed at managing depression and other contextual challenges faced by emerging adults that present depression.

1.4 Research Aim

The aim of the study is to conduct demographic profiling of emerging adults in South Africa who present with depressive symptoms.

1.5 Research Questions

1. What depressive symptoms are present among emerging adults in South Africa?
2. Which demographic variables (socioeconomic status and religiosity) are associated with the presence of depressive symptoms?
3. What are the differences in the presence of depression across demographic groups (gender, language and financial income) of emerging adults?

1.6 Hypotheses

1. There will be high levels of depression among emerging adults.
2. Socioeconomic status will have a significantly negative correlation with the presence of depressive symptoms.

3. Religiosity will have a significantly negative correlation with the presence of depressive symptoms.
4. Females will have a higher presence of depressive symptoms compared to males.
5. There will be no significant differences in depression levels across different languages.

1.7 Outline of the Research Report

Chapter one provides a contextual background of the topic by outlining the prevalence of depression and other pertinent issues about the mental health of emerging adults. The research problem is stated, which highlights the limited research exploring the demographic characteristics of emerging adults from a non-western context like South Africa who are susceptible to depression. The subsequent sections provide a breakdown of the rationale of the research, the research aim as well as specific research questions that have guided this research to fulfilling its aim. This is followed by an outline of the research hypotheses and lastly, an overview of the report structure.

Chapter two offers a comprehensive review of relevant literature about depression and highlights the various gaps that this research has addressed. The review begins with an overview of the history and conceptualisation of depression. Secondly, the global prevalence of depression is provided. The Theory of Emerging adulthood (Arnett, 1997; 2000; 2004), is used to explore the challenges faced by emerging adults as the individuals transition into adulthood and how these issues contribute to depression. The biopsychosocial-spiritual model is employed to demonstrate the diverse causes and protective factors against depression. The chapter concludes with a summary highlighting pertinent issues from the literature review and gaps in research.

Chapter three provides a detailed outline of the research methods employed to address the research questions and assess the various hypotheses in this research. This chapter essentially explains and justifies the research process by discussing aspects like the research design, the data source, sampling methods used in the primary study, the sample and instruments that were utilised to collect data that was analysed in this study. Lastly, the chapter discusses the ethical considerations that were crucial for bringing this research to fruition.

Chapter four reports on the results obtained from data analyses. The results address research questions that are presented at the beginning of the report. The chapter firstly reports on the descriptive statistics that address the question of the presence of depressive symptoms among emerging adults. Secondly, there is a discussion about various parametric assumptions that had to be met for parametric tests to be conducted using the data. Thirdly, the chapter presents results addressing the research questions about the relationship between the presence of depressive symptoms and demographic variables like socioeconomic status and religiosity. Other sections also illustrate results obtained from conducting inferential statistics tests to explore statistical differences in the presence of depressive symptoms across demographic groups (perceived financial status, gender and language).

Chapter five entails a discussion of the results and engages further in the ongoing debates on the presence of depression across various demographic groups. The aim of the chapter is to link the findings in this study to the existing body of literature on the topic, therefore contextualising the findings in this study.

Lastly, chapter six concludes with an overview of the key points in this study. This includes a discussion of the methodological and conceptual shortfalls of this research. This

follows recommendations of various important key areas in the context of depression in emerging adults that can be explored through future research.

Chapter 2: Literature Review

2.1 Introduction

Depression has had a profound impact on the lives of many young adults worldwide. For example, this mental disorder has not only contributed to the greatest Global Burden of Diseases but is also linked to several personal and socioeconomic effects on afflicted individuals (Thapar et al., 2022). In addition, research on mental health in South Africa has focused on depression in both adolescents and emerging adults (Scardera et al. 2022; Varma et al., 2021), and yet there is a distinct developmental period between these overlapping stages. There has been limited attention to the unique challenges in the emerging adulthood stage and how these influence the presence of depressive symptoms in the cohort. This chapter provides a comprehensive review of literature on depression among emerging adults. Firstly, there is a discussion about how depression has been conceptualised in Africa. Secondly, the definition of depression based on the DSM-V criteria is discussed. This closely aligns with how depressive symptoms have been described in this study. Thirdly, recent global statistics on depression are presented to highlight the profound negative effects of this mental disorder, particularly as the prevalence of depression continues to escalate among emerging adults (WHO, 2022). The chapter employs the Theory of Emerging Adulthood (Arnett, 1997; 2000; 2004; 2007) to explore the concept of emerging adulthood in the South African context and how unique developmental challenges impact the presence of depressive symptoms during this period. Moreover, the Biopsychosocial-Spiritual Model (Hatala, 2013) was also employed to critically discuss how several biological, psychosocial and spiritual factors interact to influence the high presence of depressive symptoms among emerging adults in South Africa. This chapter concludes with a summary of the pertinent points highlighted in the literature review.

2.2 The African Conception of Depression

The conceptualization of mental health has varied across the world and hence, understanding how different mental illnesses are perceived in different cultural contexts allows one to gain a broader picture of the aspects that guide how people relate to mental health problems in that environment. Across various African countries, different folk expressions resemble the Western and biomedical descriptions of several depressive symptoms. In South Sudan, *wehie arenio* and *wehie arir* refer to a temporarily impaired mind and people with these conditions display characteristics like sadness, suicidal behaviour, talking to oneself (in a manner that is deemed abnormal) and aggression (Ventevogel et al., 2013). Some symptoms may also manifest along with physical ailments. *Nger yec* is another term in South Sudan that describes stomach cramps that are accompanied by green diarrhoea, fainting, limited sleep, loss of appetite, and psychological symptoms like vitality, fatigue, hopelessness, forgetfulness and a desire for self-isolation (Ventevogel et al., 2013). It becomes evident that while mental disorders are typically clustered and categorised to enable more efficient medical diagnoses, most African conceptions display significant overlap in the definitions of various conditions. This is because similar symptoms can be present across different syndromes.

Furthermore, in South Africa, words like depression often cannot be translated directly into some indigenous languages although various expressions – mostly behavioural and somatoform descriptions have been used (Duby et al., 2021). These expressions tend to resemble experiences of certain depressive symptoms. In Zulu, a word like *Dangala* describes a state of fatigued body and mind, while in Xhosa and Zulu-speaking people use words like *Ukukhathazeka*, which refer to feeling despondent, experiencing grief or feeling concerned and troubled (Ellis, 2003). Patients often describe a cluster of various symptoms that collectively resemble the experience of depression. Ellis (2003) mentioned that

depression could be described in four forms namely: bodily complaints like *ikhanda* and *isifuba* (chest pains) among others, body pains; different experiences of fatigue like *ukukhathala* (feeling tired) or *ukuphela amandla* (losing vigour); distress expressions like *isiyezi* (feeling dizzy) or *abufiki ubuthongo* (insomnia); and relational problems.

Cultural conceptions of mental health are often shaped by people's spiritual beliefs and experiences that transcend the physical domain. Slewa-Younan et al., (2022) found that in the Congolese community, the word *mapepo* referring to an "evil possession" is among the superficial attributions for mental health problems. These conditions are often related to the presence of bad spirits or witchcraft. Several Congolese communities consider mental disorders an aftermath of violating a taboo (Slewa-Younan et al., 2022). One study highlighted that depression was culturally considered an inappropriate term in Uganda however in Nigeria, mental illness was seen either because of God's will or wrath from defying God (Amuyunzu-Nyamongo, 2013). Furthermore, a study which explored how !Xun and Kwe-speaking people from South Africa conceptualised depression, and found that causal explanations of events were linked to spiritual beliefs (den Hertog et al., 2021). Among Christians in those populations, God is considered to play the protagonist role of preventing the harm (mental illness) brought by Satan (den Hertog et al., 2021). Therefore, African spiritual and sociocultural conceptions of depression and overall mental health are often very much intertwined.

Most Zulu-speaking people from South Africa perceive health in general to be influenced by personal and social factors, as well as the supernatural realm (Bakow & Low, 2018). *Ukuthwasa* is a process in which individuals respond to an ancestral calling to become a traditional healer and in this process, the individuals are likely to experience several symptoms that often subside as one embarks on training (Bakow & Low, 2018). Many people who have undergone *ukuthwasa* are likely to have experienced depressive and psychotic

symptoms that are often either difficult to diagnose or misdiagnosed medically (Laher, 2014; Bakow & Low, 2018). The differences that exist in the spiritual-cultural conceptualisations of depression highlight the importance of exploring depression even in a non-western context. Additionally, non-western research can improve the development of mental health assessments, and treatment interventions that will be well-adapted and consistent with how individuals present depressive symptoms in that context.

2.3 The Definition of Depression Based on the DSM-V

There are no standardised criteria for diagnosing and assessing depression in the African context. Many mental health specialists have relied on the popular Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association [APA], 2013) and the 11th version of the International Statistical Classification of Disease (Harrison et al., 2021) as guides for understanding and diagnosing health problems. Over time, there have been several changes in the different versions of the DSM in terms of classifying depression. DSM III placed depression under the category of Major Affective Disorders and regarded it as a Major Depressive Disorder (MDD) (APA, 1980). In the subsequent DSM IV and the revised version (DSM IV-TR), MDD included major depressive episodes, that could be either single or recurrent (APA, 2000).

In the DSM-V, major depressive disorder (MDD) is categorised under a range of depressive disorders. In addition, this mental disorder is characterized by at least five to nine symptoms (such as changes in weight and sleep patterns, hopelessness, guilt, worthlessness, poor concentration and decisiveness, fatigue, suicidal thoughts or behaviour), including either loss of interest or depressed mood present or worsening almost every day for two weeks (APA, 2013). Furthermore, a single or several depressive episodes should occur in one's lifespan without the presence of mania or hypomania (APA, 2013). This study also defines depression as per the major depressive disorder diagnostic criteria outlined in the DSM-V.

The DSM-V also showed that emerging adults are very vulnerable because of depression. When it came to major depressive disorders, there was a twelve-month prevalence of approximately 7% among people between the ages of 18-29 years in the United States, and this is three-fold higher than the prevalence of older people over the age of 60 years (APA, 2013). Compared to their older counterparts, young adults exhibit a greater likelihood of enduring longer effects of mental illness. Moreover, the DSM-V also highlighted that while there was still a possibility of the major depressive disorder appearing later in life, the mental illness often peaked in the twenties (APA, 2013). While this evidence emphasises the seriousness of depression among emerging adults, there has been limited research on the cohort, especially in the South African contest.

2.4 Global Trends on Depression in Young Adults

In young people aged 15 and 29 years, mental illnesses accounted for 23% of Years Lived with Disability (YLD) and among mental disorders, depressive disorders emerged as the second largest worldwide contributor to YLD at approximately 5.6% (WHO, 2022). In addition, both anxiety and depressive disorders were among the predominant causes of YLD (WHO, 2022). Based on a recent narrative review, the prevalence of depression among young people aged 10 -19 years and in Sub-Saharan Africa was estimated at 27%, while the rate of suicidal ideation was about 12% (Sequeira et al., 2022). Nyundo et al. (2020) found that depression was higher among older adolescents in Sub-Saharan Africa compared to younger children. This was attributed to the social and biological changes experienced by individuals at a later period of adolescence. Furthermore, although there is an overlap between the adolescence and adulthood phases, there is a distinct developmental stage in between which exhibits unique features that potentially contribute to the presence of depression among young individuals. There is still limited statistical research on the prevalence or presence of depression among emerging adults at a global level.

Research indicated that adolescents, particularly female adolescents in non-western regions like the Middle East, Africa, and various Asian countries, are at a higher risk of experiencing depression (Shorey et al., 2022). The same study also found that resilience was higher in older adults. This could suggest that older people would be better at coping with mental problems than their younger counterparts. Nevertheless, it is essential to explore the presence of depressive symptoms across specific developmental stages to identify the specific factors that contribute to variations in the prevalence of depressive symptoms within specific age groups. This can assist with the development of treatment for that developmental group.

There has been extensive research showing evidence of high depression rates in young people living with HIV in Africa (Gbadamosi et al., 2022; Lofgren et al., 2020; MacLean & Wetheral, 2021; Too et al., 2021). Lofgren et al. (2020) argued that approximately 3.63 million people living with HIV in Sub-Saharan Africa were also affected by major depression. Additionally, compared to the general population, African adults living with HIV were more likely to present depressive symptoms (Lofgren et al., 2020; Too et al., 2021). There was a high prevalence of depression among HIV patients from countries like Botswana, South Africa, and Zambia, while Ethiopia varied based on the population being investigated, ranging between 11 – 38% (Gbadamosi et al., 2022). However, there is limited research on the prevalence of depression in the general population from Sub-Saharan Africa. According to Gbadamosi et al. (2022), data on the prevalence of depression in these countries is not complete nor representative of the population because the data mostly comes from research conducted on specific samples from hospitals, academic institutions, and prisons. Consequently, there has been limited recent data on the demographic profiles of individuals who present depression symptoms in the broader populations of these countries.

There was a surge in the prevalence of common mental disorders during the outbreak of the recent pandemic. The World Health Organization reported that depression in youth

tripled during the COVID–19 pandemic (WHO, 2022). Fancourt and colleagues (2021) pointed out that adults aged 18 years and older (n = 36522) presented with elevated levels of anxiety and depression at the onset of the COVID-19 pandemic although these rates subsided as people adapted to changes led by the pandemic. Even though the study highlighted the exacerbating effects of the pandemic on adults, this research was still based on the Western context. Additionally, the study did not delve substantially into the patterns of distinct depressive symptoms to examine whether some symptoms were more present than others.

After the initial lockdown in Uganda, there were high levels of distress, suicide ideation (1.2%) and feelings of sadness and hopelessness in adolescent boys and young adult men (Haag et al., 2022). In South Africa, about 72% of young adults presented depressive symptoms during the early stages of the COVID-19 (Mudiriza & Lannoy, 2020). In parallel with findings from Zambia and Sierra Leone, there were high rates of dissatisfaction with life, anxiety and loneliness in undergraduate students (Haag et al., 2022). These African studies consisted mostly of student samples which is often not representative of the remaining population of emerging adults. In addition, South Africa had the strictest restrictions and extremely high COVID–19 cases (Gittings et al., 2021) and many young people living in South Africa experienced psychosocial stress because of the problems created by the pandemic (Gittings et al., 2021). It is imperative for research to also examine the presence of varied depressive symptoms in emerging adults even after the lockdown to determine not only the lingering effects of the pandemic but other ongoing challenges that still affect the mental health of emerging adults.

Despite the high rates of depression among emerging adults, evidence has shown that only about 25% of people in South Africa who have experienced MDD have sought treatment (Igboeli et al., 2021). One of the reasons for this is the limited access to professional mental health support. In 2019, only 5% was allocated to mental health services in the national

health budget in South Africa even though about 50% of public hospitals had mental health facilities, and 30% of those were without clinical psychologists (Nguse & Wassenaar, 2021). Furthermore, emerging adults from impoverished backgrounds or those who are unemployed have often struggled to afford mental health support. Therefore, conducting research on the presence of depression symptoms in emerging adults can promote awareness of the mental health challenges faced by this cohort and thus encourage better mental health support that will be accessible to individuals.

2.5 Emerging Adulthood and Depression

Based on Arnett's Theory of Emerging adulthood (Arnett, 1997; 2000; 2004; 2007), the late teenage years and early twenties are marked by an abundance of diverse possibilities where most people experience career or educational opportunities. This developmental period has been summed up into five characteristics which include exploring one's identity, instability, exposure to ample possibilities, experiencing ambivalence, and focusing on oneself (Arnett & Jensen, 2002). In many developed countries, many emerging adults have preferred pursuing postgraduate education or exploring a range of opportunities as opposed to seeking permanent work or settling down (Nelson & Barry, 2005). In addition, many adult identities have therefore developed through the process of exploring diverse settings (Adams et al., 2018). However, the theory was developed in the Western context and hence, these developmental experiences have been different for many emerging adults living in South Africa.

Numerous emerging adults from disadvantaged backgrounds in South Africa have lacked access to economic resources that allow individuals to lead independent lives aligned with the individuals' adult identities (Naudé & Piotrowski, 2022). For example, institutions of higher learning in South Africa have served as diverse spaces that afforded some emerging adults opportunities for self-discovery. Furthermore, emerging adults gained a sense of

independence from navigating in such spaces and making decisions that are not influenced by the individuals' caregivers. However, opportunities for exploration and self-focused growth have been limited for many emerging adults living in destitution (Czerniewicz et al., 2020; Gibbs et al., 2018).

On the other hand, among the few emerging adults who managed to access further education, research has pointed out elevated levels of pressure to succeed among those who are first-generation students (Bantjes et al., 2022). Ndaba (2022), argued that students in South African universities had an elevated risk of depression than the rest of the population, and suicidal thoughts were common among male students. Another study of South African rural and urban adults pointed out that higher education was related to higher levels of depression (Ajearo et al., 2018). These studies consistently emphasised the detrimental impacts of socioeconomic inequality in South Africa, which has resulted in many emerging adults continuing to struggle despite having access to opportunities that should promote growth and the individuals. As opposed to academic or work opportunities becoming enjoyable avenues for exploration, these have been associated with pressure, leading to depression in emerging adults.

According to Naudé and Piotrowski (2022), this stage is marked by unlimited possibilities, fostering an optimistic anticipation about the future among emerging adults. Consequently, this development may be presumed to foster a positive outlook and hopefulness in emerging adults. On the contrary, South Africa has a high unemployment rate among youth between the ages of 15 to 35 (Van Breda & Theron, 2018). Moreover, the rate of unemployment among young people has been over 50% in the previous five years (Maka et al., 2021). This means that for half a decade, more than half of emerging adults in South Africa have experienced problems of generating a stable and secure income. In addition, many emerging adults may have experienced financial difficulties and an inability to achieve

financial independence, which is often considered a key feature of adulthood. Instead, these challenges have led to a greater presence of hopelessness, characterised by maladaptive cognitive appraisals and poor prospects about oneself and one's future (Padmanabhanunni &Pretorius, 2021).

In addition, another key feature of this stage is an ambivalent self-perception of being neither an adult nor an adolescent (Arnett & Jensen, 2002; Arnett, 2007). This was attributed to the abundance of possibilities which creates higher levels of instability and uncertainty (Arnett, 2007). Individuals in this stage are not entirely committed to permanent decisions, and yet display a greater sense of responsibility (Arnett, 2004). Research indicated that the inability to secure employment or other self-enhancing opportunities negatively affected decision-making skills, particularly among young females in Sub-Saharan Africa (WHO, 2022). One would argue that as opposed to ambivalence resulting from a plethora of opportunities to explore as the theory suggested, several limitations among marginalised populations have created a sense of liminality and a limited capacity to fulfil adult responsibilities.

Arnett and Jensen (2002) argued that people's development during emerging adulthood is also influenced by the process of establishing certain beliefs and values that are shaped by religion. South Africa is a diverse country with multiple cultures, religions and alternative belief systems that are shared by people. The diverse religious exposure in South Africa has allowed emerging adults to explore identities in a range of social, spiritual and cultural contexts (Adams et al., 2018). A study of Xhosa-speaking young people aged 17 – 24 years found that compared to females, males had greater endorsement of success and hence were more likely to explore before committing to a religious identity (Ntshangase et al., 2013). On the other hand, females were likely to engage in firmer decision-making due to a firmer commitment to religious identities formed during childhood. The findings from the

mentioned study suggested that there may be a link between religious identity and decision-making capabilities. In addition, the research underscored the role of demographic factors on depression by showing how gender differences may influence variations in decision-making problems.

Furthermore, Naudé (2022) found that social media has fostered positiveness in emerging adults by offering individuals a platform to construct better narratives of the self. In addition, many emerging adults have used social media as a tool to discover better experiences outside the individuals' world, which is characterised by uncertainty and instability (Naudé, 2022). One study pointed out that globalization has been facilitated through things like digital technology (Porter et al., 2020) and this has provided opportunities for South African emerging adults to explore international cultures and establish remote relationships (Ferguson and Adams 2016). This means that social media created a platform that allows emerging adults to interact with others while exploring different ways of living that may fit into the ideal adult identities that individuals aspire to have.

Others highlighted that continuous use of social media was linked to poor mental health outcomes and higher levels of depression among young adults who do not successfully establish social connections on online platforms like Facebook (Listista et al., 2020). A study noted that higher usage of social media negatively affects people's self-esteem (Jan et al., 2017). People became cognisant of their limitations and instability while gaining exposure to others and this negatively impacted individuals' self-evaluations and overall appraisal of life. Nonetheless, there have been numerous avenues through which emerging adults have explored the transition into adulthood. However, the diverse experiences highlight the fact that this developmental period varies even among emerging adults in the South African context. Therefore, these variations have prompted an investigation of the demographic characteristics that influence the presence of depressive symptoms.

This developmental stage is also characterised by frequent changes in dynamics, especially in sexual relationships and living arrangements (Arnett, 1997; 2000; 2004; 2007; Nelson & Barry, 2005). As a period marked by high levels of sexual exploration (Arnett, 1997), this has had dire consequences for many emerging adults including increased risks of HIV infections and unwanted early pregnancies. In South African adolescents between the ages of 15-19 years, approximately 71% experienced unplanned pregnancies, while 20% developed symptoms of depression during pregnancy and after giving birth (Govender, 2020). Many emerging adults who became young parents have struggled with the stress and demands associated with the role (Naudé & Piotrowski, 2022). However, the prevalence of postpartum depression cases was much higher amongst individuals who either lacked knowledge about depression or were not screened (Govender, 2020). This emphasised the importance of research that is aimed at promoting awareness of depression among emerging adults in South Africa, and research that can be disseminated to educate the public about mental health in this cohort.

2.6 The Biopsychosocial-Spiritual Model

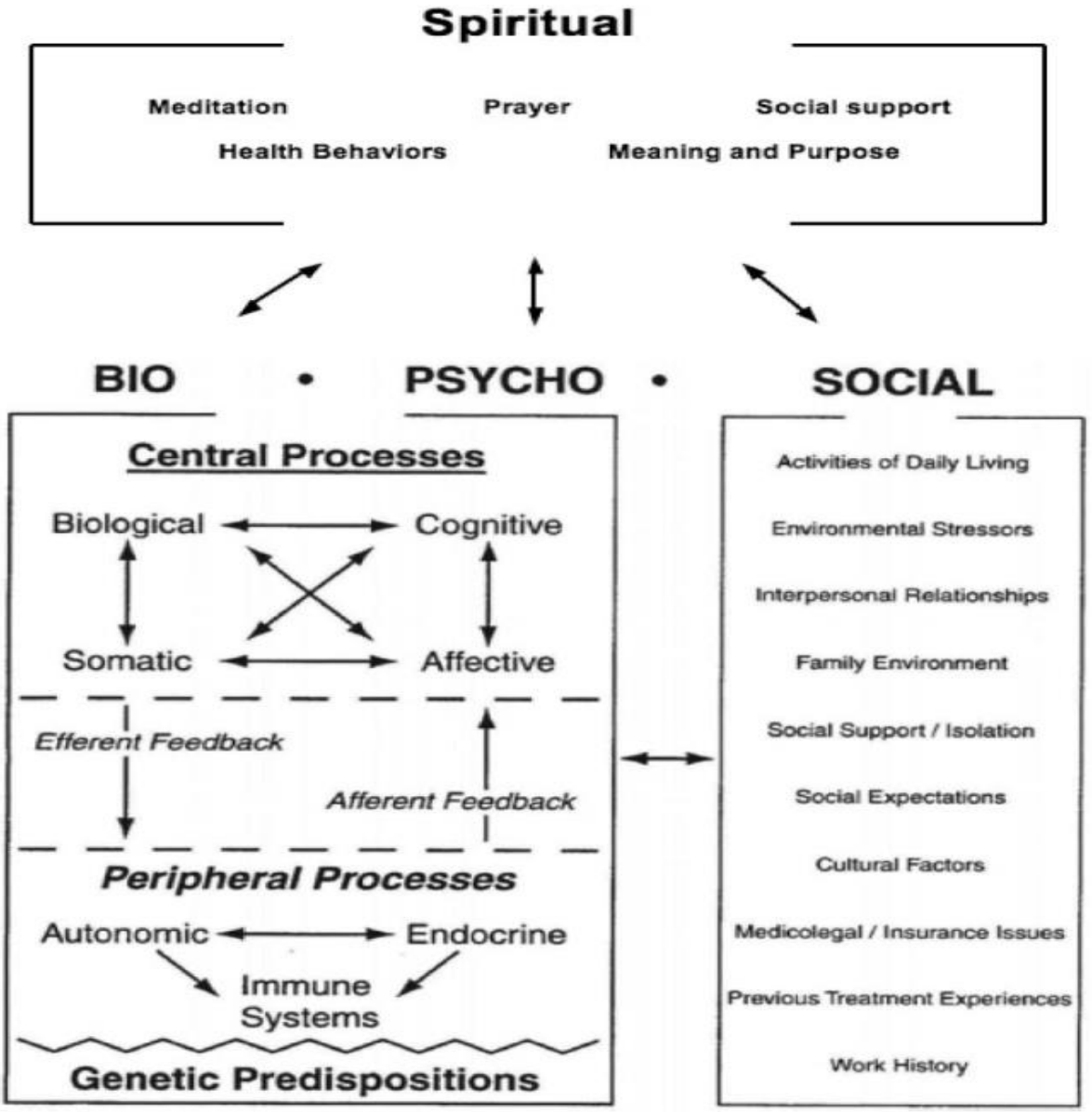
The Biopsychosocial Model (Engel, 1977) was developed as an addition to the biomedical model that provided a limited perspective to understanding illnesses.
The late 19th century and early 20th century witnessed substantial progress in biological and anatomical fields, significantly impacting the widespread embrace of the biomedical model (Hatala, 2013). However, the introduction of the Biopsychosocial Model (Engel, 1977) was essential because this model incorporated various psychosocial factors and provided a more holistic view of studying and treating illnesses. The model essentially provides a multidimensional and more humanistic view of explaining the causes of both physical and psychiatric illness (Hatala, 2013). Engel (1980) argued that every individual exists in the centre of a continuous flow and in interconnected systems that are arranged in a hierarchy

starting from biological, to psychological and then, sociocultural spheres. Nonetheless, a multitude of biological, psychological, social and behavioural factors are all involved in the various stages in which an illness develops (Hatala, 2013). Németh and colleagues (2021) argued that the Biopsychosocial Model (Engel, 1977) is the most comprehensive framework that can be used to understand depression.

Hatala (2013) argues that not including spirituality in the Biopsychosocial Model (Engel, 1977) was a major shortfall of the model. This is because the endorsement of a Biopsychosocial-Spiritual Model (BPSS) enabled the incorporation of spirituality into clinical research settings and encouraged clinicians to consider the spiritual factors contributing to patients' problems (King, 2000). Similarly, an important historical contribution involved the inclusion of spirituality into the World Health Organisation's definition of health to emphasize a holistic state of wellness, extending beyond the absence of a physical condition (Saad et al., 2017). In essence, the BPSS Model (Hatala, 2013) serves as a valuable framework enabling researchers to comprehensively grasp the phenomena influencing human experiences. Figure 2.1 provides an illustration of how different factors influence mental health in human beings. This research deconstructed the individual components of the model to unravel the diverse factors that contribute to the occurrence of depression.

Figure 2.1:

The Biopsychosocial-Spiritual Model Illustrating Different Factors Impacting Mental Health



Note. From "A Biopsychosocial–Spiritual Interactive Processes Involved in Health and Illness" [Image] by Hatala, A. R. (2013). Towards a biopsychosocial–spiritual approach in health psychology: Exploring theoretical orientations and future directions. *Journal of Spirituality in Mental Health*, *15*(4), (p. 269). https://doi.org/10.1080/19349637.2013.776448

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2.6.1 *Biological Components of the BPSS Model*

The biological perspective of the BPSS model explains how psychopathology emerges because of biochemical imbalance; biological irregularities in the neuroendocrine or chronobiological systems; genetic predisposition and sex traits (Schotte et al., 2006) and cerebral damage in the infancy stage (Garcia-Toro & Agguire, 2007). As an example, Thapar and colleagues (2022) highlighted that about 40% of variance in depression can be explained by genetic causes. Biological factors also increase depression vulnerability even in distinct developmental stages. Hormonal and cerebral developments during adolescence can increase rates of depression and risky behaviours like suicide in adolescents and emerging adults (Thapar et al., 2022). A study investigating sensation-seeking in 11 countries in Africa, Asia, the Americas and Europe found that sensation-seeking increased until the age of 19 years and thereafter, emerging adulthood is marked by increasing self-regulation (Steinberg et al., 2018). In emerging adults, decision-making abilities are better as a result of distinct brain developments and activation patterns that are more advanced in this period compared to adolescence (Potterton et al., 2020).

In addition, some studies have also highlighted that depression is often related to medical illness. Firstly, there has been a link between depression and suffering from chronic diseases like HIV (WHO, 2022). In a systematic review of HIV stigma and depressive symptoms in South Africa, females and emerging adults were found to experience more depression symptoms (MacLean & Wetheral, 2021). Moreover, people with comorbid conditions often experience worse depression outcomes. These may include neurodevelopmental disorders like ADHD and autism spectrum disorders, which have been found to increase risks of early onset and a prolonged course of depression (Thapar et al., 2022).

Furthermore, there are differences in the presence of depressive symptoms across the different sexes. In both males and females around the world, the most common disorders are anxiety and depressive disorders (WHO, 2022). Many studies have shown that depression is higher among young females than males (Herman et al., 2009; Porter et al., 2021; Thapar et al, 2022; WHO, 2022). Herman and colleagues (2009) found higher levels of depression in females between the ages of 18 - 34. However, another study highlighted that in South Africa, black men were five times more likely to commit suicide than women (Ndaba, 2022). Even though the study does not show that depression is the direct cause of suicide cases, but feeling suicidal is one of the symptoms of depression (Rousseau et al., 2021). One study highlighted that gender disparity in the experience of depression can mostly be observed after puberty and is mediated by higher levels of oestradiol or testosterone (Thapar et al, 2022).

Biological models have created an impression of people existing as physical entities that should depend on physiological forms of healing (Németh et al.,2021). According to this view, depression arises because of problems with the physical body and thus treatment is oriented towards healing the physical body. This often undermines the interdependence of biological and social factors like culture in shaping how depression is perceived and treated. For example, another pivotal issue influencing gender disparities is that men are less likely to seek mental health support and hence many individuals who are affected are likely to remain undiagnosed and untreated (Masemola et al., 2022, Ndaba, 2022). On the other hand, substantial amount of evidence showed that young females had greater depression vulnerability because of socioeconomic marginalisation caused by discrimination against women (Nyahunda et al., 2021; WHO, 2022) and gender-based violence (Muluneh et al., 2021). This underscores the importance a broader and wholistic approach to assessing the underlying causes of depression.

2.6.2 *Psychosocial Components of the BPSS Model*

Several psychological models have been applied to explain the social determinants of depression. The Biopsychosocial Model (Engel, 1977) has sought to shift away from the naturalistic view which places an overemphasis on physiological perspectives by recognising the effects of moral, social and political factors (Hatala, 2013). In comparison to the emphasis on biological causes of depression, social and psychological factors have mostly received less attention. (Németh et al., 2021). Psychological perspectives on depression were based on the idea that people experienced internal dysfunction and hence therapy was structured in a way that encouraged individuals to be agents and tackle issues affecting the past or present self (Cuijpers et al., 2019).

Hopelessness promotes a negative cognitive evaluation of life stressors and reduces an individual's ability to believe that there is a way of coping with adverse events (Padmanabhanunni & Pretorius, 2021). The multitude of life challenges faced by emerging adults during the transition have contributed to hopelessness and therefore increased individuals' proneness depressive symptoms. Furthermore, learned hopelessness and heightened sensitivity to stress among individuals who have depression can worsen the appraisal of illnesses (Kim et al., 2022). This suggests that many South African emerging adults who have been constrained from making a smooth transition into adulthood due to having limited resources or even biological factors like diseases may have developed learned hopelessness which eventually increased the risk of emerging adults presenting depressive symptoms.

Moreover, a selective focus on negative events can contribute to the presence of depression. According to Thapar and colleagues (2022), most adolescents pay more attention to negative stimuli, which in turn increases the presence of depressive symptoms. The study attributed these problems to adolescents having limited top-down regulation of emotions

which otherwise allows individuals to adequately manage emotional reactions to stressors (Thapar et al., 2022). Moreover, the study highlighted that these issues mostly occurred because of several cognitive structures that were not yet developed in children and young adolescents. However, there is a need to investigate the presence of depressive symptoms among those in later stages of emerging adulthood who have gained better emotional regulation but are still burdened by many stressful challenges linked to external and developmental factors.

Solely adopting the psychological viewpoint promotes the idea that individuals living with depression are inherently internally dysfunctional and the view of an ongoing state of brokenness for those who are unable to access therapy. This could increase self-blame and reduce compassion for those experiencing depressive symptoms (Németh et al., 2021). One may argue that the integration of psychological theories into the dominant biological theories still allowed both patients and therapists to explore individual factors like developmental experiences, identity, personality traits, emotions and cognitions and how these also impact physiological symptoms of depression.

The perception of depression as a social problem promoted interventions that sought to establish change at micro and macro social levels (Németh et al., 2021). On the contrary, since many traditional social and cultural perspectives of depression were developed in the Western context, these promoted the assumption that depression does not exist in other places (Fabrega, 1974; Teja et al.,1971). Engel (1977) described a crisis in the medical field which called for researchers and practitioners to look beyond a biological view of disease to fulfil an empirical task of assuming responsibility for society.

Factors like insufficient access to food, socioeconomic status, financial stress, and education were positively correlation with depression symptoms (Guan et al., 2022).

Niemeyer et al. (2019) argued that low levels of education affected the ability for people to effectively utilise both psychological and psychosocial resources to manage mundane obstacles and this in turn increased the risk of developing depressive symptoms. A study in the US reported moderate levels of depressive (18.4%) and anxiety (23.6%) symptoms, and stress (34.5%) among undergraduate college students above 18 years (Ramón-Arbués et al., 2020). In the same vein, Theron et al. (2023) found that compared to emerging adults presenting mild depression, those experiencing severe levels of depression did not view enriching opportunities such as work and education as a protective factor that promoted resilience.

On the other hand, in an environment marked by limited economic resources, individuals who obtained work and educational opportunities often dedicated personal resources to maintaining those accomplishments such that limited attention or resources have been dedicated to sustaining one's mental health. Doyle and colleagues (2023) argued that the high presence of depression in young people may be attributed to many young people having work commitments and less time and resources to join mental health support structures within local communities. This would offer an alternative interpretation of the higher rates of depressive symptoms of suicide among university students and the young working-class in South Africa as compared to the general population (Bantjes et al., 2022; Ndaba, 2022).

Moreover, there has been a lack of consensus on the influence of demographic characteristics like geographic location on depression among emerging adults in South Africa. According to Ajaero et al. (2018), depression was only predicted by factors like age, race, income, and the specific province individuals lived. This was irrespective of whether individuals were from urban or rural environments (Ajaero et al., 2018). On the other hand, Mngoma and colleagues (2021) found high levels of depression, anxiety, worthlessness and hopelessness among young men aged 14 -24 years in the rural community of Harry Gwala

District. Onuh and colleagues (2021) mentioned that approximately 81.34% - 82.16% of South African adolescents from urban areas had lower levels of depression compared to adolescents living in rural areas. While Igboeli et al. (2021) found that 77 % of individuals from the Eastern Cape and 88% from the Western Cape province had a low presence of depression, and yet there were spatial differences in the nine provinces because of socioeconomic factors.

South Africa, being a diverse and multicultural country, should prompt a shift away from considering depression as a universal construct. This includes considering how mental disorder manifests in different cultural groups. Language is often used as a marker of culture. In addition, language plays a pivotal role in giving meaning to certain behaviours and emotions that people exhibit. Literature has extensively explored the prevalence of depression across various South African racial groups (Herman, 2009; Posel et al., 2021; Tomita et al. 2017; Williams et al., 2008) but research on the presence of depression across different language or cultural groups is scarce. The limited available research has been outdated or entailed cross-sectional studies that explored depression across a few language groups. One study found a higher prevalence of depression in Afrikaans-speaking participants (18%) compared to Xhosa (6.6%) and Zulu-speaking participants (6.9%) (Baron et al., 2017). Research pointed out a higher prevalence of depression among Sotho and Venda-speaking female adolescents compared to their counterparts (Bach & Louw, 2010). A more recent study initially found no direct association between language and depression, however, the relationship was mediated by education and having a high income (Elwell-Sutton et al., 2019). However, the same study found a direct relationship between language and depression longitudinal analysis of income (Elwell-Sutton et al., 2019).

Research on online language data found that compared to Western cultural groups, those from non-Western cultural backgrounds were less likely to express having mental

health problems like depression (Loveys et al., 2018). However, research has also shown that for many years, Africans have been considered to have a robustness to mental health challenges because of the protective roles played by local cultures and traditions (den Hertog et al., 2021). In the sub-Saharan communities, the adoption of the philosophy of "*Ubuntu"* which emphasises being a complete person by living in harmony and sharing an interconnection with others is very beneficial for people's well-being (Moodley et al., 2020). This concept has promoted social support in communities, and this may be immensely beneficial for emerging adults who face several stressors while transitioning into adulthood (Moodley et al., 2020; Tefera et al., 2023). Furthermore, increased social support plays a vital role in buffering against the presence of depressive symptoms (Thapar et al., 2022).

Furthermore, cultural context has played an essential role in also fostering gender disparities in the presence of depression. A study on the perceptions and attitudes of depression among South African Black men in the rural region of Lephalale, Limpopo found most men were less likely to seek depression treatment or to know where to find mental healthcare services within local communities (Masemola et al., 2022). This was also related to cultural standards that encouraged men to portray physical and mental strength. This could also explain research that has highlighted a higher expression of emotions in females when confronted with life problems compared to men (Carcedo et al., 2020).

Other research has found that depressed men reported higher emotional problems along with symptoms like feelings of aggression and irritability; social withdrawal; poor substance use; and sleep disturbances, (Martin et al., 2013). This could imply that although males were less likely to openly display emotional symptoms, individuals nonetheless still struggled with emotional challenges as well. On the other hand, that study was conducted in the United States and thus, the findings may not be representative of the South African population. A South African study found a greater prevalence of MDD among young men

from the Western Cape compared to the general population (Bantjes et al., 2018). Negative prejudice towards emerging adult men who lack resources to carry out specific gender roles such as caring for families has influenced the presence of depression and suicidal behaviour (Bantjes et al., 2018). The absence of a clear consensus in literature regarding the exact depressive symptoms present between the two genders, along with variations across cultural contexts, highlighted the need for research on gender disparities in the presence of depression. Therefore, this research sought to explore this with a special focus on emerging adults in the non-western context.

Lastly, even with the inclusion of psychosocial aspects, the model would still not be able to consider the role of factors that transcend the physical realm and how things like spiritual beliefs faith and hope influence the experience of illness. There are also practical advantages of recognising the role of spirituality and religion as an aspect of people's well-being.

2.6.3 *The Spiritual Component of BPSS Model*

The healthcare system is predominantly Western and heavily reliant on pharmacotherapy that is complemented by different kinds of psychotherapy (Németh et al.,2021). However, many people from diverse cultural backgrounds around the world turn to a higher power or faith-based practices while experiencing an illness (Hatala, 2013). In the African context, the nature of spirituality is concentrated on the idea of a hierarchical structure of one's personal and intimate relationships (Kasambala, 2005). Relationships with deities like God, gods, ancestors and spirits are of greater importance and can to some extent, influence how certain individuals view and experience the physical world.

Spirituality involves a personal experience, transcendence, higher consciousness, and achieving meaning and sensitivity (Astrachan et al.,2020). This means that spirituality is an

important protective factor and can play a significant role in reducing the effects of depression. Spirituality also fosters a sense of hope in individuals. This is because individuals can make spiritual meanings of adversities and make the events more tolerable (Saad et al., 2017). Pillay and colleagues (2016) found being spiritual was related to having lower levels of depression and an enhanced quality of life.

Religion can play a role in developing spirituality by creating a structure when it comes to meaning, values and relationships among similar people as well as things that lie beyond the self (Astrachan et al., 2020). There is an overlap between aspects of religiosity and spirituality is inevitable and both play a significant role in shaping the health of emerging adults. In 2016, the national census showed that most of the population were Christians and about (32%) of those individuals were members of African Independent Churches (Statistics South Africa, 2016). A significant portion of these individuals adhere to a combination of religious beliefs and African traditional practices, which are deeply rooted in spiritual elements.

Religiosity can also influence spirituality by creating a structure when it comes to meaning, values and relationships among similar people as well as things that lie beyond the self (Astrachan et al., 2020). Religious settings provide a space for interpersonal relationships to develop and expand among people with share similar religious beliefs (Gwin et al., 2021). Emerging adults could also benefit indirectly from being religious through the social relationships established in such settings. In modern orthodox Jewish young adults, there was increased suicide vulnerability among individuals who were less religiously involved and valued religion less (Hamdan & Peterseil-Yaul, 2020). Additionally, Hamdan and Peterseil-Yaul (2020) argued that these individuals were also likely to have access to social support.

Gwin et al. (2020) found that although there was no association between going to church and depression, prayer helped decrease sadness in emerging adults. In addition, prayer reduced the adverse impacts of discrimination on depression (Rose et al., 2020). Religious activities like prayer and engaging meditations or reading religious texts can facilitate a transition into positive spaces and conscious awareness of religious truths that influence the experience of hardship (Captari et al., 2022). Voytenko and colleagues (2022) highlighted that positive religious coping, which meant having a strong and secure association with a divine power like God and an in-depth relationship with other people, was positively associated with higher resilience in emerging adults. Saad and colleagues (2017) argued by encouraging spiritual-religious coping, physicians promoted hope and other positive virtues in individuals.

A study of medical students at the University of Kwa-Zulu Natal found that lower spirituality was related to having a history of mental illnesses like depression as well as not committing to a major religion (Pillay et al, 2016). The consensus in South African literature was that being religious reduces the risks of depression (Captari et al., 2022; Lucchetti et al., 2021; Pillay et al., 2016; Tomita & Ramlall, 2018). There was limited research exploring the relationship between the presence of depressive symptoms and religiosity among emerging adults in South Africa. It is important to also explore the role of spirituality in fostering hope in individuals facing challenges related to transitioning into adulthood.

2.7 Chapter Conclusion

In summary, the literature review demonstrated how depression continues to have a significant adverse worldwide impact on emerging adults and a heightened global prevalence of depression among young people. There has been a noticeable gap in statistical research focusing on the presence of depressive symptoms among emerging adults, a population that is particularly prone to mental problems, especially because of the unique obstacles faced

during the transition into the full-fledged adulthood stage. Furthermore, the literature review also pointed out high disparity in the vulnerability to depressive symptoms influenced by diverse demographic factors shaping the experiences of emerging adults in this transitional phase. However, this has not been sufficiently explored in literature. This is why the study aimed to conduct a demographic profile of emerging adults who present with different depressive symptoms. The following chapter delves into the methods applied to fulfil this aim.

Chapter 3: Research Methods

3.1 Introduction

The previous chapters demonstrated several gaps in prior literature regarding depression and the importance of this research. This chapter describes the research methodology that was followed to address the research questions. Firstly, the research design will be discussed followed by a description of the strategy methods and the sample that were used. In addition, the chapter will also discuss the instruments that were used as well as the procedure that was followed. Furthermore, the chapter also describes the various statistical analyses that were conducted. Thereafter, the chapter outlines how ethical considerations were met. The conclusion provides a summary of the key issues discussed in the chapter.

3.2 Research Design

This cross-sectional study was based on a quantitative research design. Since the study was descriptive, there was no random sampling and manipulation of variables and hence the research is based on a non-experimental design (Mohajan, 2020). As a cross-sectional study, this research analysed the presence of depressive symptoms across several demographic characteristics of the emerging adult sample in South Africa, with a specific focus on a particular timeframe (Wang & Cheng, 2020). Therefore, this minimised the risk of having external factors related to the context of time. In addition, the research process was very cost-efficient and less time-consuming compared to longitudinal research, however, this study continued to provide great insight into the presence of depressive symptoms among emerging adults.

A quantitative research method utilises numerical data derived from systematic observations that are made to explain or describe phenomena (Taherdoost, 2022). An advantage of this design is that researchers can draw statistical inferences from large datasets to address specific research questions or test hypotheses (Taherdoost, 2022). Similarly, a

quantitative design was ideal for a study conducting demographic profiling because as opposed to a specific focus on a small area of the topic, this research explored diverse aspects of the phenomenon of depression at once. This was accomplished through the investigation of numerous variables that impacted the presence of depression among emerging adults.

Moreover, quantitative research is not only about finding effective scientific ways to refine knowledge and solving research problems using a deductive approach, however there is also an emphasis on rigour, accuracy, reliability, and objectivity (Mohajan, 2020). Correspondingly, the research methods applied in this study prompted a need to be rigorous in the research process to ensure greater accuracy and hence, this research can be effectively replicated to objectively evaluate the presence of depression in other similar studies. Moreover, a non-experimental design in this research was important for providing a description and interpretation of demographic features of emerging adults who present with depression symptoms. Mohajan (2020) stated that non-experimental research enables researchers to determine and describe trends or even differences in populations and describe relationships that exist in objects. While failing to establish causality using the non-experimental approach, the study was still able to effectively illustrate associations between various demographic characteristics and depressive symptoms. As previously mentioned in this research, this holds significance in possibly influencing interventions and policies geared toward specific emerging adults with demographics that have increased vulnerability to depression.

3.3 Data Source

The study was based on an analysis of secondary data that was collected in the *Africa Long Life Study* (ALLS), a longitudinal study that focuses on exploring the development of young adults 18 years and above in Africa (Thalmayer et al., In Review). This would be done by assessing variations in aspects like psychological concepts, life experiences, personality

traits, worldviews and values, cognitive styles and mental health problems, experienced by these individuals. ALLS also sought to represent the African cultural context in the field of psychology by enabling comparative work that will bring in knowledge from this context (Thalmayer et al., In Review). The dataset contained data collected in Namibia, Kenya and South Africa, and yet this study utilised data from the South African sub-sample. Furthermore, ALLS will have ongoing data collection that will be conducted in 10 Waves over five years (Thalmayer et al., In Review). Therefore, data utilised in this study was from Wave 1 and was collected between February and July 2022.

3.4 Research Sample

The South African sample of emerging adults that was recruited in the ALLS project consisted of university students on campuses and youth from local communities in the Gauteng, Free State, and Western Cape provinces of South Africa (Thalmayer et al., 2023). Participants recruited in local communities came from various settings such as church groups, and neighbourhoods.

3.4.1 *Sampling Method*

Several sampling methods such as the non-probability convenience sampling, and snowball sampling techniques were employed to recruit participants for the ALLS project (Thalmayer et al., 2023). Stratton et al. (2021) argued that the non-probability technique allows researchers to have a more flexible approach to selecting participants that will be suitable for the study. In addition, this increases the chances that the participants involved in the research would have met the inclusion requirements. Based on the inclusion criteria in ALLS, participants had to be at least 18 years old at the time of recruitment to ensure that the participants were emerging adults from the start of the project. In addition, participants had to be proficient in speaking and writing in English.

Moreover, convenience sampling relies on participants' willingness to engage in the research to share personal beliefs or opinions about a given topic (Stratton et al., 2021). While this method often introduces biases, it provides ethical benefits as participants take part in the research based on their availability and convenience. One may also argue that these participants may have been more inclined to offer responses that better reflect their subjective mental states and experiences of depressive symptoms, given the nature of their voluntary participation based on convenience. On the other hand, convenience sampling limits the ability to generalize effects and association findings to the target population because of biases that are often present in the sample (Emerson et al., 2021). Despite these limitations, the sample was recruited across three regions in South Africa and different settings, and hence the sample comprises emerging adult participants who represent diverse demographic groups.

The snowball sampling method allowed research assistants to also access other participants through referrals of those who are already participating in the ALLS longitudinal project (Thalmayer et al., 2023). This technique is effective for recruiting participants from populations that are difficult to discover or identify (Berndt, 2020). Emerging adulthood is a distinct development stage that overlaps with adolescence hence, using the snowball technique provided a more efficient way of identifying emerging adults among the vast majority of young people in South Africa.

3.4.2 *Demographics of the Sample*

The initial South African sample from ALLS comprised N= 874 participants. However, participants who were not emerging adults (≥18 years) were excluded. Various participants did not report their age hence there was no way to determine whether individuals were emerging adults. In addition, a very small proportion of the sample fell within the 20-22 age (n=10) and because there was a very limited representation of these age groups, these cases became outliers and were excluded from the analysis. Moreover,

participants with over 50% missing data on the IMHA scale were excluded to ensure an accurate representation of depression levels. The final sample in this study was refined to N= 819 emerging adult participants.

Table 3.1 illustrates the demographic characteristics of the sample that was analysed in this study. The ages of the participants ranged between 18-19 years and the mean age of the participants was 18 years (SD= 0.44). The sample had an unequal gender distribution, majority of the participants identified as females (67.7%), while a few identified as males (31.9%) and other genders (0.5%). The "other" gender category encompassed the variety of minority sexual and gender categories that were not specific in the survey.

The sample also demonstrated linguistic diversity with 14 home languages recorded which included the eleven South African official languages and other African languages. As shown by Table 3.1, English (19.3%), Southern Sotho (18.3%) and Xhosa (25.9%) were the most predominantly spoken languages in the sample. Other languages in the sample include Afrikaans (6.9%), Pedi (3.2%), Swati (2.4%), Tsonga (2.4%), Tswana (6.2%), Venda (2.6), Zulu (11.1%), Portuguese (.1%), Swahili (.1%), Shona (.4%) and Ndebele (.7%).

Table 3.1 also illustrated the geographic distribution of the participants in the sample and a notable portion of the sample resided in cities (23%), suburbs (47.3%) or townships (22.5%) while the minimum proportion came from geographic locations like towns (1.3%), informal settlements (5.3%), rural areas (.4%) or villages (.1%). It is worth noting that there is often an overlap between categories of geographic locations. For instance, there may be informal settlements embedded within certain towns and cities.

Additionally, the terms “rural area” and “village” might be used interchangeably by some individuals. These potential overlaps give rise to a risk of inaccurately self-reporting geographic locations because participants may interpret and categorise their residences differently.

The most reported level of schooling was matric (72.4.7%) although some participants had less than a high school qualification (24.9%). Other participants were either undergraduate students or studying (.6%) or received vocational training after grade 10 (2.1%). In terms of occupation, full-time students made up most of the sample (83%), and a few participants reported as unemployed (8.1%) while others were distributed across various employment statuses.

Moreover, most emerging adults in this research were not seeking additional employment (56.2%). Caregivers of participants displayed diverse educational backgrounds ranging from not having a high school qualification (25.3%), matric (32.8%), and having some after-school training (13.3%), or a diploma (20.9%). Similarly, a small proportion of the participants’ caregivers had postgraduate qualifications (7.7%).

Participants without children (96.1%) outnumbered those who are parents. Among participants with children, most had one child (3.6%) and a small percentage had two or more children (.1%), and more than three (.2%). Furthermore, a substantial group of the emerging adults in this research were not in a relationship (76.7%) and among those who were, most did not live with intimate partners (22.0%). A minimal fraction reported other unspecified relationship statuses (.1%)

A majority of the sample reported facing slight financial difficulties (65.1%), in contrast to those experiencing significant financial challenges (15.1%) or having no financial challenges (15.1%). This was a self-report response and based on the subjective perception of one's financial situation.

Table 3.1

Demographic Characteristics of South African Emerging Adult Sample

Demographic variables		*n*	*%*
Age	18 years	608	74.2
	19 years	211	25.8
	Total	819	
Gender	Female	552	67.6
	Male	260	31.9
	Other	4	.5
	Total	816	
Home language	Afrikaans	56	6.9
	English	158	19.3
	Pedi	26	3.2
	Portuguese	1	.1
	Shona	3	.4
	Southern Sotho	151	18.5
	Ndebele	6	.7
	Swahili	1	.1
	Swati	20	2.4
	Tsonga	20	2.4
	Tswana	51	6.2
	Venda	21	2.6
	Xhosa	212	25.9
	Zulu	91	11.1
	Total	817	

Geographic location	City	177	23
	Informal settlement	41	5.3
	Rural area	3	.4
	Suburb	364	47.3
	Town	10	1.3
	Township	173	22.5
	Village	1	.1
	Total	769	
Employment status	Not paid work currently	66	8.1
	Full-time learner/student	678	83
	Studying and working	31	3.8
	Occasional paid work	14	1.7
	Regular part-time paid work	15	1.8
	Regular full-time paid work	13	1.6
	Total	817	
Seeking (additional) employment	No	455	56.2
	Yes	355	43.8
	Total	810	
Finance	We do not have any financial problems	161	19.8
	Sometimes we have slight financial difficulties	529	65.1
	We have great financial difficulties	123	15.1
	Total	813	
Highest level of schooling	less than high school qualification	200	24.9
	Matric	582	72.4
	Studying/undergrad	5	.6
	Vocational training after grade 10	17	2.1
	Total	804	

Caregiver's highest level of schooling	Less than high school qualification	204	25.3
	Grade 12	265	32.8
	Some after-school training	107	13.3
	Some university diploma	169	20.9
	Post graduate qualification	62	7.7
	Total	807	
Parental status	No	784	96.1
	Yes, 1 child	29	3.6
	Yes, 2 children	1	.1
	Yes, 3 or more children	2	.2
	Total	816	
Relationship status	I do not have a boyfriend/girlfriend	628	76.7
	I am in a relationship but do not live with my partner	180	22.0
	I am in a relationship and live with my partner	10	1.2
	Other	1	.1
	Total	819	

The Family Affluence Scale (FAS II) was used as a supplementary measure and a proxy for participants' socioeconomic status. As shown by Table 3.2, many participants came from households without family cars (41%) while a smaller fraction was from families that own at least one (30.2%) or more family cars (28.9%). Most participants resided in houses or apartments either owned (71.3%) or rented (15.3%) by the individuals or families. A smaller proportion of the sample lived in informal settlements (4.1%) or other people's houses and apartments (9.4%). A larger percentage of the sample had their own bedrooms (57.4%), while the remainder did not (42.6%). Furthermore, most participants had access to running water (87.8%) and electricity (97.8%), while only a few had no access to these amenities (12.2%

and 2.2%). In terms of access to technological devices, had no functioning computer at home (34.7%) although, among those who did, most participants possessed one (29.4%) while others had two (17%) or more in the household. In addition, most participants possessed cellphones (90%) while others did not (10%). Most participants did not travel on holidays in the last twelve months (48.1%), however among those who did majority had travelled once (22.5%) compared to those who travelled twice (14.4%) or more (15%).

Moreover, Table 3.3 presents the descriptive statistics for the Family Affluence Scale (FAS) total. The minimum score was 1 and the maximum score was 24. Overall, the emerging adult sample in the study indicated a high socioeconomic status, with a mean score of 9.94 and a standard deviation of 3.01.

Table 3.2

Frequency Distribution of Socioeconomic Status Among South African Emerging Adults

Family affluence items		*n*	*%*
"Does your family own a car" (FAS1)	No	335	41.0
	Yes, one	247	30.2
	Yes, two or more	236	28.9
	Total	818	
"Do you have your own bedroom for yourself?" (FAS2)	No	348	42.6
	Yes	469	57.4
	Total	817	
"During the past 12 months, how many times did you travel away on holiday with your family?" (FAS3)	Not at all	394	48.1
	Once	184	22.5
	Twice	118	14.4
	More than twice	123	15.0

	Total	819	
"How many functional computers do you have in your household?" (FAS4)	None	283	34.7
	One	240	29.4
	Two	143	17.5
	More than two	149	18.3
	Total	815	
"Do you have running water where you stay" (FAS5)	No	99	12.2
	Yes	714	87.8
	Total	813	
"What kind of structure do you stay in?" (FAS7)	In an informal/non-permanent structure	76	9.4
	Staying in someone else's home	33	4.1
	In a house or apartment that is rented by me and my family	124	15.3

	In a house or apartment owned by me or my family	578	71.3
	Total	811	
“Do you have electricity where you stay?” (FAS8)	No	18	2.2
	Yes	799	97.8
	Total	817	
“Do you have your own phone?” (FAS9)	No	82	10
	Yes	734	90
	Total	816	

Table 3.3

Descriptive Statistics of Family Affluent Scale

Variable	*n*	*M*	*SD*	*Minimum*	*Maximum*
FAS total	795	9.94	3.01	1	24

Another demographic that was explored was religiosity. Based on an analysis of the frequency of participation in organizational religious activities (ORA) among the 819 participants, the results revealed that the majority reported engaging in these activities a few times a year (24.8%) or once a month (18.8%). Approximately 152 participants (18.6%) reported participating in ORA once a week, while 114 participants (13.9%) engaged more than once a week. The percentage of those who never participated (9.5%) or engaged only once a year or less (14.4%) was relatively low. This distribution suggested that there was active participation in organisational activities among most research participants.

In terms of NORA (n = 817), a notable subset of participants comprising approximately 159 individuals (19.5%), reported engaging at least once a day and about 137 participants (16.8%), engaged in NORA more than once a day. There were 119 individuals (14.6%) who never or rarely participated in NORA. Additionally, a considerable number of participants reported engaging in NORA a few times a year (15.7%) or a few times a month (15.1%). Further diversity was observed, with 18.5% of participants reporting engagement in NORA a few times a week.

Table 3.2 illustrated that on average, participants reported high levels of religiosity even across individual measures of religiosity namely, organisational religious activity (ORA) with a mean of 3.64 (SD= 1.52), non-organisational religious activity (NORA) with an average of 3.63 (SD= 1.68), and intrinsic religiosity (IR) with an average of 11.25 and SD of 3.26. On average, the sample had a high average score (M = 18.53 in the overall religiosity scale (DUREL total) and the standard deviation was relatively low (SD = 4.99).

Table 3.4

Descriptive Statistics of Religiosity Among Emerging Adults

Durel items	*n*	*M*	*SD*	*Minimum*	*Maximum*
Organisational religious activity (DUREL1)	819	3.64	1.52	1	6
Non-organisational religious activity (DUREL2)	817	3.63	1.68	1	6
Intrinsic religiosity	808	11.25	3.26	3	15
Durel total	806	18.53	4.99	5	27

Note. Table 3.4 illustrates the descriptive statistics of DUREL. Intrinsic religion encompassed DUREL items 3,4 and 5.

3.5 Instruments

Data was collected using the ALLS Questionnaire which consisted of several scales and the demographic section (see Appendix A). The survey consisted of both open and closed-ended questions, with a total of 179 items. Additionally, the first section comprised questions that collected demographic information from the participants, followed by various instruments including the General Self-Reported Health (GSRH) scale (De Salvo et al., 2006), the Cross-Cultural Big Two (Thalmayer, in preparation), International Mental Health Assessment (IMHA) scale (Thalmayer et al., 2023), Duke University Religion Index (DUREL) scale (Koenig & Büssing, 2010), and the Family Affluence Scale ([FAS II], Boyce et al., 2006) (additional new items added). The last section of the survey consisted of open-

ended questions. In order to address the research questions presented earlier, a demographic questionnaire, and the following scales were utilised: the DUREL scale (Koenig & Büssing, 2010), the FAS scale (Boyce et al., 2006), and the depression subscale in the IMHA measure (Thalmayer et al., 2023). These are discussed further in the subsections in detail below.

3.5.1 Demographic Questionnaire

Demographic information obtained from participants were age, gender, geographic location, home language, level of schooling, ethnicity or racial group, parental status, relationship status, living arrangements, financial income, employment status, and financial status of the participants including whether participants were seeking additional employment (see Appendix A) Additionally, participants also provided information about the highest level of schooling of caregivers. The demographic questions were both open-ended and closed-ended and thus, the research focused on demographic variables that were quantitative. Moreover, these variables were used to describe and characterize the sample as illustrated in Table 3.1.

3.5.2 Duke University Religion Index

DUREL (Koenig & Büssing, 2010) is a five-item measure that also provides an assessment of three key dimensions of religiosity namely: organisational religious activity (ORA), non-organisational religious activity (NORA) and intrinsic religiosity (IR) or one's subjective religiosity (see Appendix A). Each dimension consists of a different subscale. ORA consists of a single item (question about how often the individual attends a church or other religious meeting place) and is measured on a Likert-type scale ranging from 1 = Never to 6 = More than once/week. IR contains three statements (inquiring whether the individual experiences the presence of the Divine like God; whether the individual's religious beliefs lie behind the individual's entire approach to life; and whether the individual tries to carry religious beliefs into every other encounter in life), also measured on a Likert-type scale

ranging from 1 = Definitely not true to Definitely true of me. NORA also consists of one item (asking how often the individual spends time in religious activities that are private such as prayer, meditation, prayer, or Bible study) and is measured on a Likert-type scale ranging from 1= Rarely or Never to 6 = More than once a week.

The overall score for DUREL ranged from 5 to 27. Koenig & Büssing (2010), recommended creating total scores for each subscale independently and running separate analyses of the individual subscales to prevent multiple collinearities affecting the accuracy of the effects of each subscale and eliminating the effects of either subscale. DUREL exhibited high internal validity and reliability across 27 countries, including Namibia, where the measure was evaluated in three local languages and still showed good internal consistency (Toscanelli et al., 2022). A study of young adult students in South Africa found a Cronbach's alpha of .76 (Nkoana et al., 2016). Similarly, DUREL demonstrated acceptable internal consistency with a Cronbach's alpha of .72 in this study.

3.5.3 Family Affluence Scale

The FAS scale was first introduced in the WHO Health Behaviour in School-aged Children Study and the four-item measure assessed family wealth in youth (Boyce et al., 2006) The four items in FAS II (Boyce et al., 2006) involved questions including whether the respondent's family owned a car (or a van or truck), whether respondents had a bedroom of their own, the frequency in which respondents had travelled on a holiday with their family over the past year, and the number of working on computers owned by the family (Boyce et al., 2006) (see Appendix A). ALLS included new items in the scale, which delved into aspects such as individuals' access to tap water, the type of housing structure they resided in, the availability of electricity, and whether respondents owned cell phones. The FAS scale used in ALLS had nine items.

Moreover, one item also inquired about the number of people residing in the household, and this is an open-ended question. Analysis of the FAS measure depends on individuals' responses on a three-point ordinal scale, whereby scores from 0 – 2 indicate low family affluence levels, 3-5 indicate middle family affluence levels, and finally scores from 6 – 9 demonstrate high levels of affluence (Boyce et al., 2006). Previous studies from across several countries pointed out the low reliability of FAS II in measuring socioeconomic status among adolescents. The measure has demonstrated low internal consistency in samples from the United Kingdom (α = .41) (Kehoe & O'Hare, 2010), Canada (α =.31) (Boudreau & Poulin, 2009), Sweden (α=.516) (Corell et al., 2021), and Nigeria (α=.57) (Edet et al., 2023). In this study, the Cronbach's alpha for the FAS scale was .52, alsoindicating low internal consistency reliability.

3.5.4 International Mental Health Assessment

The IMHA measure (Thalmayer et al., 2023) was initially designed as an effective screening tool that operates on three tiers of analysis namely: a P-Factor for overall functioning and tendency toward developing or having disorder; three wide-ranging spectra that investigate internalizing and externalizing tendencies for life challenges; and nine subscales for popular psychological and behavioural health aspects. This would assist in enabling early intervention and prevention measures to be established among the working-class or community adult populations. Furthermore, the scale comprises 54 items in total that explore various categories of behavioural health issues such as depression, anxiety, post-traumatic stress, substance abuse, substance use, anger, relationship conflict, partner conflict, sleep issues, life stress, and work disengagement,

The depression sub-scale that was used in the study contains eight items: (1) "I had difficulty making decisions", (2) "I lose interest or pleasure doing things that I like", 3. "I felt distant or cut off from other people", (4) "I felt sad and unhappy", (5)"I felt hopeless about

the future", (6)"I lacked confidence in myself", (7) "I felt guilty or had a bad conscience", (8)"I wanted to die or thought about killing myself". The responses were structured on a Likert-type scale ranging from "Not in the last month (or never)" to "Daily or almost daily." High scores reflected a higher presence of depressive symptoms and there was no reverse scoring of items. As cited in Thalmayer et al. (2023), the measure is comparable with other reliable mental health screening tools. This study found a Cronbach's alpha of .85 for the depression subscale, implying that the scale was a reliable measure of depression with a high internal consistency.

3.6 Procedure

In ALLS (Thalmayer et al., 2023), Wave One data was collected from participants using surveys that were either accessed online and self-administered or conducted as oral interviews which were carried out by the research assistants. Most participants received links that allowed for the survey to be self-administered on personal devices at a time convenient to the individuals. The oral interviews were conducted in settings that were safe for both the assistants and participants. The surveys were written and conducted in English, and each survey had less than 150 items per survey hence requiring approximately 30 to 40 minutes to complete. The surveys consisted both of closed-ended and open-ended questions. Participants were then offered R40 Shoprite vouchers after participation in Wave One as a gesture of appreciation. Moreover, fifteen research assistants were employed and trained to recruit participants and the assistants were either Psychology postgraduate students from public universities in South Africa, community health workers, or qualified professionals.

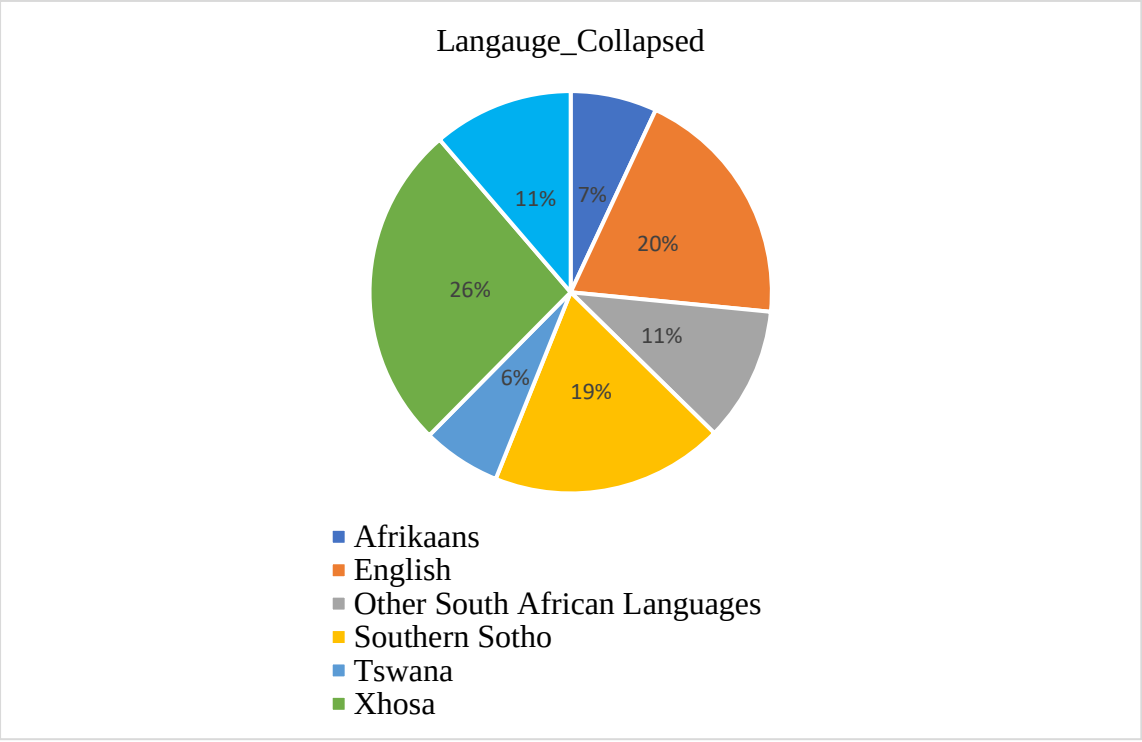
The collected data was coded and cleaned by the ALLS team, thereby becoming accessible for analysis in this study. Additional cleaning was conducted in this study including, the exclusion of data from participants who accidentally captured but were younger than 18 years, as the data would be irrelevant to the context of this study. Moreover,

data cleaning also involved removing outliers that were identified during analysis, as well as addressing extreme missing values, particularly in cases where more than half of the values were missing in the IMHA scale. The researcher also applied validation rules to check for data entry errors and ensure that each value did not exceed the required range. Values that were duplicated were corrected.

Furthermore, as indicated in Figure 3.1, the language variable was collapsed from the original 14 groups to 6 groups. Groups that had a sample size less than n = 50 were grouped into a single group called “Other South African Languages” and this was done to ensure that sample sizes across the groups were all substantial enough for analysis.

Figure 3.1

Pie Chart Illustrating Collapsed Language Variable



3.7 Data Analysis

Data was analysed using the IMB SPSS (Statistical Package for the Social Sciences) version 28 software (IMB Corp, 2021), a statistical software that enables researchers to manage data and conduct advanced analytics to solve various research problems. In the first phase of the analysis, a reliability test was conducted to assess Cronbach's alpha coefficients for the DUREL, FAS II scales, and the depression subscale of the IMHA. These tests aimed to examine the internal consistency of the respective scales. A Cronbach's alpha coefficient of .70 and above indicates that the scale has an acceptable internal consistency (Field, 2013).

Subsequently, descriptive statistics were analysed to offer an overview of the characteristics and trends in the data. This involved an analysis of frequencies, percentages, means, standard deviations, and minimum and maximum of the demographic variables to determine the demographic profile of participants. Additionally, descriptive statistics were run on the depression variables to test the hypothesis that there would be a high presence of depressive symptoms among emerging adults. This included an analysis of skewness to examine the distribution of the data and its appropriateness for parametric tests. Values that are below 3 for skewness and below 10 for kurtosis can be considered acceptable and imply that the data is normally distributed (Matore & Khairani, 2020).

Furthermore, various parametric tests were conducted to determine if the data met the requirements of inferential statistical analyses using various parametric tests. In order to meet these parametric assumptions, the data is normally distributed, demonstrates linearity, is based on independent observations, is interval or ratio data, and for some tests indicates homogeneity of variance (Verma et al, 2019). The normality of the distribution was assessed using measures of skewness and kurtosis, Shapiro-Wilks and Kolmogorov-Smirmrov tests, and using histograms to determine the normality curve. Most of the parametric assumptions were met in this data (see Appendix F).

The second hypothesis was examined using Pearson's Product-Moment Correlation to investigate whether socioeconomic status (which was measured using FAS items 1, 3, 4 and 7) had a significant correlation with the presence of depressive symptoms (1) and whether the relationship is likely to be negative (2). In this study, FAS item 6 ("How many people live in your house") was excluded from analysis because this item was asked as an open-ended question and made anonymised by ALLS primary researchers. Pearson's Product-Moment Correlation is a very comprehensible test for measuring effect sizes that strictly lies between a 0 (no effect) and 1 (perfect effect) (Field, 2013). A *t*-test was used to analyse mean differences in certain socioeconomic markers that were assessed with categorical variables (FAS items 2, 5, 8 and 9).

Furthermore, a similar analysis was conducted to assess the relationship between religiosity and the presence of depressive symptoms. This study hypothesized that there would be a significant negative correlation between religiosity and depression. The relationship was first investigated independently between depression variables and the three DUREL subscales (NORA, OR, and IR) to assess which aspects of being religious are associated with the presence of depressive symptoms.

This research examined the differences in the presence of depressive symptoms across different gender, language, and financial status categories groups using T-tests and Analysis of variance (ANOVA). T-test was employed to examine mean differences across two gender groups namely, male and female. The category of "Other" was excluded because the subsample (n= 4) was substantial enough to be compared with other categories of gender. This included the measure of effect size using Cohen's d, to measure how much of the effect accounted for the total variance (Field, 2013). In addition, effect size was measured using Cohen's *d*. Cohen (1988) suggested that the value of the effect size can be considered either small (r = .10), medium-sized (r = .30) or large (r = .50).

Furthermore, the ANOVA was run on different language groups and categories of financial status to analyse the average differences in the presence of depression symptoms across these groups. The analysis included testing the parametric assumption of homogeneity of variance using Levene's test to examine whether the null hypothesis is that variances in the groups are equal and that there are zero differences in the variances (Levene, 1960). If Levene's test was not significant ($p > .05$), the null hypothesis can be accepted, thus the assumption has been met (Field, 2013). Where the homogeneity of variance assumption was not met for the ANOVA, Welch *F* test was applied as an alternative statistically significant difference. This test provides adjustments to *F* and the residual degrees of freedom to prevent issues caused by the violated assumption (Field, 2013). Moreover, post hoc tests were used to determine where the differences within the groups lay. Field (2013) argued that post hoc tests are essential for pairwise comparisons in the various treatment group combinations, and this manages the familywise error by correcting the significance level for every test to ensure that the Type I error in all the group comparisons is kept at .05. The results from the analyses are presented in the following chapter.

3.8 Ethical Considerations

This study was based on secondary data analysis and hence an Ethics Waiver was granted by the Human Research Ethics Committee (non-medical) at the University of the Witwatersrand (MASPR/23/01W) (Appendix B). Additionally, an ethics certificate was granted based on completion of the necessary ethics training which also ensured that the researcher applied the basic ethics principles while conducting the study (see Appendix C). This research adhered to the fundamental principles of health research by ensuring that research was not harmful to any participants, others also benefit, and confidentiality is maintained (Health Professions Council of South Africa, 2008). To gain access to the Wave 1 dataset, a letter was written to the principal investigators of the ALLS to request permission

to utilise the data (see Appendix D). Moreover, this data was only made available for this study after a confidentiality agreement was between the researcher and the primary investigators and this ensured that confidentiality would be kept as the research was conducted (see Appendix E).

Additionally, a permission letter was granted to the researcher and supervisor to work with the data from ALLS (see Appendix F). In the ALLS study, voluntary informed consent was obtained from participants to collect data for research. Even though participants were not anonymous in the primary study because individuals would be contacted for participation in subsequent Waves, data that was made accessible for this study was anonymised. Furthermore, the data was stored in a password-protected device and vital information about the data was only disclosed between the supervisor and researcher. The research strove to be beneficial by maintaining transparency and objectivity by being explicit in the process of accessing, analysing, as well as reporting findings. This will allow other researchers to replicate and validate the findings from this research or conduct other comparative studies. Therefore, the study contributed to the production and dissemination of knowledge.

3.9 Chapter Conclusion

This chapter delved into the research methodologies utilised in this study, beginning with an overview of the research design followed by the data source. Secondly, the chapter discussed the sample including the sampling methods that were employed in the primary study. Additionally, the chapter discussed the instruments utilised for collecting the analysed data as well as the research procedures followed in both the primary and the current study. Finally, a comprehensive overview of the data analysis process was provided, along with a discussion of the ethical considerations met while conducting this research.

Chapter 4: Results

4.1 Introduction

This chapter provides an overview of the results obtained from the various statistical analyses that were conducted. The chapter also evaluates whether the hypotheses proposed in Chapter 1 were supported by in findings. Firstly, the chapter presents descriptives of the depression scale to demonstrate the presence of depressive symptoms in the emerging adults in the sample. This follows a brief overview of the tests conducted to assess the parametric assumptions on the data. Subsequent sections display the relationship between socioeconomic status and depressive symptoms. FAS interval items were analysed using Pearson's Product-Moment Correlation while categorical variables were analysed using t-tests to compare mean differences in perceived financial status. The results are all presented below. Results from the correlation analyses of religiosity and depressive symptoms are also presented. Furthermore, this chapter also presents results from analyses of significant differences in the presence of depression symptoms across demographic groups like financial status, gender and language.

4.2: The Presence of Depression in Emerging Adults

Descriptive statistics were conducted to examine the presence of depressive symptoms in emerging adults in South Africa. Based on evidence from Table 4.1, most of the scores for depression ranged from a minimum score of 1 and a maximum score of 7 for all the depression items. The average scores were low for six depressive items, namely item 2 (M = 2.98, SD= 2.115), item 4 (M = 3.42, SD = 2.028), item 5 (M = 3.01, SD = 2.121), item 6 (M = 3.24, SD = 2.120), item 7 (M = 2.76, SD = 1.998) and item 8 (M = 1.93, SD = 1.676), thus indicating a lower presence of these depressive symptoms in the sample. Additionally, the average scores were moderate for depression item 1 (M = 3.55, SD = 2.095) and item 3 (M = 3.53, SD = 2.145), implying that these depressive symptoms present in the emerging adult participants at moderate levels. The data was

slightly positively skewed, and all depression items and the depression total score indicated a platykurtic distribution, but item 8 showed a leptokurtic distribution of the data. However, given the sample sizes data was relatively normal based on the central limit theorem. Furthermore, the study found low levels of depression using the depression total scale score (M = 24.29, and SD = 11.35). Therefore, the hypothesis that there would be high levels of depression in emerging adults was not supported by these results.

Table 4.1

Descriptive Statistics of Depressive Symptoms Present in Emerging Adults

Depression items	*n*	*M*	*SD*	*Minimum*	*Maximum*	*Skewness*	*Kurtosis*
I had difficulties making decisions (item 1)	813	3.55	2.095	1	7	0.403	-1.180
I lost interest or pleasure in doing things I used to like (item 2)	813	2.98	2.115	1	7	.737	-.839
I felt distant or cut off from other people (item 3)	811	3.53	2.145	1	7	.338	-1.307
I felt sad and unhappy (item 4)	818	3.42	2.028	1	7	.371	-1.215
I felt hopeless about the future (item 5)	815	3.01	2.121	1	7	.738	-.902
I lacked confidence in myself (item 6)	817	3.24	2.120	1	7	.519	-1.151
I felt guilty or had a bad conscience (item 7)	819	2.76	1.998	1	7	.932	-.469
I wanted to die or thought about killing myself (item 8)	816	1.93	1.676	1	7	1.864	2.259

Depression total score	819	24.29	11.35	7	55	.563	-.570

4.3 Tests of Parametric Assumptions

Parametric tests of correlation analysis require interval or scale data (Field, 2013). Depression items, religiosity and FAS were all measured on an interval scale and hence the data met the parametric assumption of being interval data.

The second parametric assumption is that data must be normally distributed to gain a more accurate analysis of the correlation coefficient (Field, 2013). Based on Shapiro-Wilks and Kolmogorov-Smirmrov test results the data was not normally distributed for the depression subscale, DUREL scale and FAS scale (p<0.01). The histograms and QQ plots also showed slightly skewed data across the variables (see Appendix G). However, despite being slightly skewed, the results from the analyses of skewness and kurtosis fell within acceptable ranges for the depression subscale (see Table 4.1). FAS had a skewness coefficient of .008 and kurtosis of .283, while the Durel scale had a skewness coefficient of -.505 and kurtosis of -.271 respectively. Demir (2022) argued that normality can still be assumed if the ranges of the skewness are below ±2 and kurtosis is below ±7. The skewness and kurtosis fell within acceptable ranges for all the independent (socioeconomic status, and religiosity) and dependent (depression items) variables, implying that the data is relatively normal. The study also applied the central limit theorem whereby a sample size larger than 30 may imply that the distribution is likely to be normal (Field, 2013). This study had a large sample size (N=819) and hence, the data could be assumed relatively normal.

The third assumption is that the variables must demonstrate linearity between the independent and dependent variables (Field, 2013). Based on an examination of the scatter

plot graph, the assumption for linearity was met for FAS variables and depression variables (see Appendix G). In addition, linearity was also found between all the depression variables and religiosity variables.

4.4 The Relationship Between Socioeconomic Status and Depressive Symptoms

Pearson's Product-Moment Correlation coefficient was analysed to determine the relationship between depressive symptoms and socioeconomic status (using FAS1, FAS3, FAS4, FAS7 and FAS total). The depression total scale score was significantly correlated with FAS1 (r =.072, n = 818, p = .040), and FAS3 (r = -.077, n = 819, p =.027), yet these correlations were weak. A higher presence of depression among emerging adults was associated with having more family cars. However, higher depression presence was also associated with travelling less on holiday.

Reviewing correlations in Table 4.2, significant weak positive correlations were found between FAS 1 and depression item 3 ($r_{(808)}$ =.085, p = .016), item 4 ($r_{(815)}$ =.084, p =.017), item 5($r_{(812)}$ = .071, p =.044), item 6 ($r_{(814)}$ = .096, p =.006). This means that having more family cars was associated with an increased presence of difficulties making decisions, sadness and unhappiness, hopelessness, and lack of self-confidence. FAS 3 had a significant negative relationship with depression item 2($r_{(811)}$ = -.075, p = .033), item 8 ($r_{(814)}$ = -.114, n = 816, p = .001). Travelling more on holidays is related to a lower presence of loss of pleasure and thoughts of death or suicide.

No relationship was found with the other depressive symptoms (items 1, 3, 4, 5, 6 and 7) (p>0.05). FAS 4 was also positively correlated with depression item 4 ($r_{(812)}$ = .084, n = 814, p = .017). Having more functional computers was related to higher feelings of sadness. No significant correlations were found with the other depression symptoms (depression items 1, 2,3,5,6,8 and the depression total score) (p>0.05).

FAS7 had a significant weak negative relationship with depression item 8 ($r_{(806)}$ = -.102, p = .004). A better living structure was associated with a lower presence of thoughts of death and suicide. No significant correlations were found with the other depression symptoms (items 1, 2,3,4,5,6,7 and the depression total score) (p>0.05). A significant weak negative correlation was found between FAS total and depression item 8 ($r_{(790)}$ = -.082, p = .022). This means higher levels of socioeconomic status were related to a lower presence of thoughts of suicide and suicide. Overall, the hypothesis of a negative correlation between socioeconomic status was met for all other depressive symptoms except symptoms associated with difficulties with decision-making and feeling distant and cut off from others. In addition, the results indicated weak significant relationships between depressive symptoms and socioeconomic status items, implying that changes in FAS variables may not consistently be related to changes in depression symptoms.

Table 4.2

Pearson's r Correlation Between Depressive Symptoms and Socioeconomic Status

Depression items	FAS1	FAS3	FAS4	FAS7	FAS total
Item 1	.019	-.057	.060	-.007	.006
Item 2	-.006	-.075*	-.038	-.047	-.069
Item 3	.085*	-.024	.066	-.035	.007
Item 4	.084*	-.059	.084*	-.038	.022
Item 5	.071*	-.063	.023	-.009	.003
Item 6	.096**	-.031	.065	-.038	.007
Item 7	.011	.010	.029	-.028	.010
Item 8	.025	-.114**	-.036	-.102**	-.082*
Depression total score	.072*	-.077*	.051	-.050	-.015

Note **. represents significant correlation at $p<0.001$ (2-tailed) and *. represents a $p<0.05$ level (2-tailed).

Table 4.3

Descriptive Statistics of Categorical FAS Variables

Depression items	FAS responses	FAS2			FAS5			FAS8			FAS9		
		n	M	SD	n	M	SD	n	M	SD	n	M	SD
Item 1	No	345	3.66	2.096	99	3.71	2.251	18	3.11	1.967	80	2.99	2.12
	Yes	466	3.48	2.094	708	3.54	2.072	793	3.57	2.098	730	3.61	2.082
Item 2	No	347	3.1	2.17	99	2.92	2.034	18	3.33	2	81	3.38	2.267
	Yes	464	2.9	2.073	708	2.99	2.128	793	2.97	2.115	729	2.93	2.093
Item 3	No	345	3.63	2.163	99	3.52	2.087	18	4.33	2.301	81	3.26	2.149
	Yes	464	3.47	2.132	706	3.54	2.153	791	3.52	2.139	727	3.56	2.141
Item 4	No	348	3.41	2.027	99	3.32	1.999	18	3.11	2.139	81	3.25	2.071
	Yes	468	3.43	2.034	713	3.44	2.033	798	3.43	2.027	734	3.43	2.023
Item 5	No	346	3.05	2.132	97	2.81	2.017	18	3.33	2.275	82	3.05	2.249
	Yes	467	2.97	2.115	712	3.04	2.134	795	3	2.12	730	3	2.111
Item 6	No	347	3.28	2.154	99	3.17	2.286	18	3.61	2.173	81	3.75	2.332
	Yes	468	3.2	2.094	712	3.25	2.099	797	3.23	2.12	733	3.19	2.089
Item 7	No	348	2.76	2.015	99	2.67	1.954	18	2.61	2.062	82	3.09	2.161
	Yes	469	2.76	1.985	714	2.78	2.006	799	2.77	1.999	734	2.73	1.98
Item 8	No	347	2.01	1.782	98	1.92	1.648	18	2.22	1.865	81	2.15	1.838
	Yes	467	1.86	1.595	712	1.93	1.686	796	1.92	1.674	732	1.89	1.645
Depression total score	No	348	24.79	11.404	99	23.96	10.585	18	25.67	10.284	82	24.65	11.719
	Yes	469	23.94	11.323	714	24.38	11.462	799	24.28	11.378	734	24.24	11.323

Note. Table 4.3 depicted descriptives of FAS categorical variables (FAS2, 5, 8, 9)

Table 4.4

Independent Sample T-Test of Comparing the Presence of Depressive Symptoms Among the Categorical FAS Variables

Depression items	FAS2			FAS5			FAS8			FAS9		
	t	*df*	*p*	*t*	*df*	*p*	*t*	*df*	*p*	*t*	*df*	*p*
Item 1	1.226	809	0.11	0.745	805	0.228	-0.914	809	0.181	-2.538	808	0.006*
Item 2	1.361	809	0.087	-0.312	805	0.377	0.724	809	0.235	1.837	808	0.033*
Item 3	1.053	807	0.146	-0.1	803	0.46	1.596	807	0.055	-1.192	806	0.117
Item 4	-0.184	814	0.427	-0.532	810	0.297	-0.656	814	0.256	-0.762	813	0.223
Item 5	0.554	811	0.29	-0.968	807	0.167	0.654	811	0.257	0.186	810	0.426
Item 6	0.491	813	0.312	-0.338	809	0.368	0.752	813	0.226	2.094[a]	94.731	0.019*
Item 7	0.017	815	0.493	-0.516	811	0.303	-0.325	815	0.373	1.526	814	0.064
Item 8	1.253	697.025	.105[a]	-0.086	808	0.466	0.753	812	0.226	1.32	811	0.094
Depression total score	1.06	815	0.145	-0.346	811	0.365	0.511	815	0.305	0.309	814	0.379

Note. [a] Homogeneity assumption was violated, *p* * significant at 0.05.

Reviewing the categorical FAS items (2, 5, 8 & 9), it is evident from Table 4.4 that there is no significant difference on FAS items 2, 5, 8 (P>0.05) for all depression items as well as the total depression score. FAS9, produced a significant difference on depression items 1, 2 and 6 (P<0.05). For item 1, Individuals who had their own cell phone (M=3.61, SD=2.082) had more difficulties in making decisions than those who did not have a phone (M=2.99, SD= 2.12), with a small effect size (r = 0.299). For item 2, individuals who did not have cell phones (M=3.38, Sd=2.267) had increased loss of interest or pleasure when compared to those who owned a cell phone (M=2.93, SD=2.093), with a small effect size (r= 0.215). Lastly, individuals who did not have a cell phone (M=3.75, SD=2.332) had a higher lack of confidence than those who owned a cell phone (M=3.19, SD=2.089) with an effect size of 0.268.

4.5 The Presence of Depressive Symptoms Across Financial Statuses

An analysis of variance (ANOVA) was conducted to examine the presence of depressive symptoms across different financial status categories. The other parametric assumptions were met except the assumption of homogeneity of variance was violated for several depression variables. Levene's test of equality of variance was significant for depressive variables, item 1 ($F_{(2, 804)} = 11.30$, $p < .01$), item 2 ($F_{(2, 804)} = 8.81$, $p < .01$), item 3 ($F_{(2, 802)} = 3.80$, $p = .023$), item 5 ($F_{(2, 806)} = 14.36$, $p < .01$) item 6 ($F_{(2, 808)} = 5.78$, $p = .003$) item 7 ($F_{(2, 808)} = 3.85$, $p = .022$), item 8 ($F_{(2, 807)} = 6.14$, $p = .002$), and the depression total score ($F_{(2, 810)} = 2.93$, $p < .01$). These variables were analysed using the Welch's F test (Welch ANOVA). However, equality of variances was assumed for the depression variable, item 4 ($F_{(2, 809)} = 1.40$, $p = .247$), hence the One -way ANOVA was conducted on this item

As indicated by Table 4.5, results from the ANOVA revealed that there were statistical significant differences in the financial status categories when it came to the presence of all depression symptoms namely, depression item 1($F_{(2, 274.58)} = 19.233$, $p<.001$)

at an effect size of .007, item 2 ($F_{(2, 271.69)} = 13.16$, $p<.001$) at an effect size of .005, item 3 ($F_{(2, 262.66)} = 11.90$, $p<.001$) at an effect size of .009, item 4 ($F_{(2, 809)} = 9.14$, $p<.001$) and the effect size is .003, item 5 ($F_{(2, 272.82)} = 16.99$, $p<.001$) and the effect size is .002, item 6 ($F_{(2, 268.33)} = 7.17$, $p<.001$) with an effect size of .01, item 7, ($F_{(2, 266.63)} = 6.09$, $p = .003$) and the effect size is .002, item 8 ($F_{(2, 269.87)} = 6.09$, $p = .008$) with an effect size of .002, and the depression total score ($F_{(2, 269.14)} = 4.97$, $p<.001$) with an effect size of .005. Overall, the effect sizes were very small (r <.1).

Based on the post hoc tests, the Fisher's LSD revealed higher average scores on depressive symptoms for participants with slight financial difficulties than those with no financial difficulties. For item 1 a mean difference of 1.035 was found (M = 3.77, SD = 2.134 and M = 2.74, SD =1.796). For item 2 a mean difference of .774 was found (M = 3.10, SD = 2.161 and M = 2.32, SD = 1.784). Item 3 had a mean difference of .865 was found (M = 3.70, SD = 2.152 and M = 2.83 SD = 2.016). Item 4 had a mean difference .774 (M = 3.59, SD = 2.026 and M = 2.81, SD =1.927). Item 5 had a mean difference of .996 (M = 3.20, SD =2.157 and M = 2.23, SD =1.795). Item 6 had a mean difference of .654 (M = 3.36, SD = 2.159 and M = 2.71, SD = 1.926). Item 7 had a mean difference of .552 (M =2.86, SD = 2.021 and M = 2.30, SD = 1.837). Item 8 had a mean difference of .389 (M = 1.98, SD = 1.715 and M = 1.59, SD = 1.420). Depression total score had a mean difference of 6.017 (M = 25.43, SD = 11.377and M = 19.42, SD = 9.991).

Furthermore, higher mean scores were found among emerging adults having high financial difficulties and no financial difficulties in all depressive symptoms. Item 1 had a mean difference of .962 was found (M = 3.70, SD = 2.052), item 2 had a mean difference of 1.037 was found (M = 3.36, SD = 2.173), item 3 had a mean difference of .947 was found (M = 3.78, SD = 2.123), item 4 had a mean differences .651 (M = 3.46, SD = 2.042), item 5 had a mean difference of .956 (M = 3.19, SD = 2.140) item 6 had a mean difference of .677

(M = 3.39, SD =2.126), item 7 had a mean difference of .655 (M = 2.96, SD = 2.054), item 8 had a mean difference of .488 (M = 2.08, SD = 1.756), and the depression total score had a mean difference of 6.389 (M = 25.80, SD =11.344). The results supported the hypothesis that higher a higher socioeconomic status was related to a lower presence of depressive symptoms.

Table 4.5

ANOVA and Welch Test Results Demonstrating Significant Differences in the Presence of Depressive Symptoms Across Different Perceived Financial Statuses

Depression items	*F*	η^2	*df1*	*df2*	*p*
Item 1	19.23	.007	2	274.575	<.001
Item 2	13.159	.005	2	271.685	<.001
Item 3[a]	11.899	.009	2	262.664	<.001
Item 4	9.142	.003	2	809	<.001
Item 5	16.999	.002	2	272.823	<.001
Item 6	7.170	.01	2	268.334	<.001
Item 7	6.087	.002	2	266.627	.003
Item 8	4.973	.002	2	269.140	.008
Depression total score	22.639	.005	2	269.868	<.001

Note. [a] Depressive item 3 was analysed with classical One-Way ANOVA.

4.6 The Relationship Between Religiosity and Depressive Symptoms

As shown by Table 4.6, ORA correlated with seven depressive symptoms (depression items 1, 2, 4, 5, 6, 7, 8) including the depression total score. A weak negative correlation was found between ORA and depression symptoms, item 1 ($r_{(811)}$= -.080, p = 0.02), item 2 ($r_{(811)}$ =-.077, p = .027); item 4 ($r_{(816)}$ = -.120, p =.001), item 5 ($r_{(813)}$ = -.105, p = .003), item 6 ($r_{(815)}$ = -.079, p =.024), item 7, ($r_{(817)}$ = -.085, p =.015) and item 8 ($r_{(814)}$ = -.099, p = .005). This indicated that increased engagement in ORA was related to lower difficulties in making decisions, loss of pleasure, sadness and unhappiness, hopelessness, lack of confidence, guilt, and thoughts of death or suicide. Overall, ORA had a weak negative correlation with the depression total score ($r_{(817)}$ = -.122, p<.001). Similarly, increased ORA engagement is associated with lower depression levels. No correlation was found between ORA and depression item 3 (p>0.05).

Table 4.6 demonstrates that NORA was related to six depressive symptoms (depression items 1, 2, 4, 5, 7, and 8). A weak negative correlation was found between NORA and depression symptoms, item 1 ($r_{(809)}$ = -.075, p =.033), item 2 ($r_{(809)}$ = -.080, p = 022) item 4 ($r_{(814)}$ = -.099, p =.005), item 5 ($r_{(811)}$ = -.134, p<.001), item 7 ($r_{(815)}$ = -.094, p =.007) and item 8 ($r_{(812)}$ = -.110, p = .002). Increased engagement in NORA was related to lower difficulties in making decisions, loss of pleasure, sadness and unhappiness, hopelessness, guilt, and thoughts of death or suicide. NORA was not related to depression item 3 and item 6 (p>0.05). Overall, there was a weak negative relationship between NORA and depression total, meaning that increased NORA was also related to lower depression levels among emerging adults, ($r_{(815)}$ = -114, p= .001).

As shown in Table 4.6, intrinsic religion was related to three depressive symptoms (items 2, 5 and 7). There was a weak negative correlation between IR and depression variables, item 2, $r_{(801)}$ = -.073, p = .039, item 5 and item 7, $r_{(804)}$ = -.069, p= .049. Higher levels of intrinsic religiosity were related to lower levels of hopelessness, loss of pleasure,

guilt feelings. No relationship was found between IR and depression items 1, 3, 4, 6, 8 and the depression total score (p>0.05).

Furthermore, DUREL total was related to five depressive symptoms (depression item 2, 4, 5, 7 and 8) including the depression total score. A weak negative correlation was found between DUREL total and dependent variables namely item 2, $r_{(799)}$ = -.095, p = .007; item 4, $r_{(803)}$ = -.077, p =.029; item 5, $r_{(804)}$ = -.118, p<0.01; item 7, $r_{(804)}$ = -.111, p =.015; and item 8, $r_{(801)}$ = -.097, p = .006. This indicated that higher religiosity was related to lower levels of loss of pleasure, sadness and unhappiness, hopelessness, guilt and thoughts of death or suicide. No relationship was found between DUREL TOTAL and items 1,3 and 6 (p>0.05). In addition, DUREL total had a weak negative correlation with the depression total score, $r_{(804)}$ = -.110, p=.002. This means that the hypothesis that higher religiosity is related to a lower presence of depressive symptoms may be accepted.

Table 4.6

Pearson's r Correlation Between Religiosity and Depressive Symptoms

Variables	ORA	NORA	IR	DUREL total
Item 1	-.080*	-.075*	.013	-.035
Item 2	-.077*	-.080*	-.073*	-.095**
Item 3	-.050	-.056	-.004	-.033
Item 4	-.120**	-.099**	-.015	-.077*
Item 5	-.105**	-.134**	-.069*	-.118**
Item 6	-.079*	-.013	-.042	-.054
Item 7	-.085*	-.094**	-.087*	-.111**
Item 8	-.099**	-.110**	-.057	-.097**
Depression total score	-.122**	-.114**	-.062	-.110**

Note **. represents significant correlation at $p<0.001$ (2-tailed) and *. represents a $p<0.05$ level (2-tailed).

4.7 Gender Differences in the Presence of Depression Symptoms

An independent samples *t*-test was used to analyse significant differences in the presence of depressive symptoms between males and females. The results revealed that there were significant differences between genders and six depressive symptoms (depression items 1, 3, 4, 5, 6 and 8) (p<0.05). There were no statistically significant gender differences in the presence of depression symptom item 7 (p = .086) and item 2 (p =.111).

As shown in Table 4.7, the independent samples *t*-test indicated a significant difference in the presence of depression item 1 (difficulties making decisions) (t(804), 4.317, p<.001), which was higher in females (M = 3.78, SD = 2.1) compared to males (M = 3.10, SD = 2.02 and the effect size was medium (r = .33). There was a significant difference in the presence of depression item 3 t(540.184), 3.451, p<0.010, and females (M = 3.71, SD = 2.19) presented higher greater feelings of being distant or cut off from others than males (M = 3.17, SD = 2.01), and the effect size low to medium (r = .253). Females (M = 3.64, SD = 2.03) also had higher mean scores of item 4 (sadness and unhappiness) compared to males (M = 2.98, SD = 1.98) (t(809), 4.299, p<0.01), with a medium effect size r = .323. Statistically significant differences were found in the presence of depression item 5, and on average, females (M = 3.21, SD = 2.15) exhibited a higher presence of hopelessness compared to males (M = 2.55, SD = 1.96) (t(551.704), 4.333, p<0.01), with a medium effect size r = .316.

In depression item 6, a significant mean difference was found (t(565.826) = 4.789, p<0.01), also indicating a greater presence of lack of confidence among females (M = 3.48, SD = 2.17) compared to males (M = 2.76, SD = 1.92), with a medium effect size r = .346. A significant difference was found for depressive item 8 (t(589.775) = 2.595, p = .010), indicating a greater presence of thoughts of death or suicide among females (M = 2.02, SD = 1.75) than males (M = 1.72, SD = 1.48), and the effect size was small r = .184. Overall,

female participants (M=25.61, SD = 11.59) presented higher levels of depression compared to males (M = 21.61, SD = 10.37), and this difference was statistically significant, $t(561.914) = 4.933$, $p<0.01$, with a medium effect size $r = .35$. No significant gender differences were found in the presence of depression items 2 and 7 ($p>0.01$).

Table 4.7

Descriptives and Independent Sample T-Test Results Indicating Gender Differences in the Presence of Depressive Symptoms

Depression items	Females		Males		*t*	*df*	*p*	*Cohen's d*
	M	*SD*	*M*	*SD*				
Item 1	3.78	2.099	3.10	2.015	4.317	804	<.001	.326
Item 2	3.07	2.186	2.83	1.962	1.595	559.05	.111	.116
Item 3	3.71	2.185	3.17	2.013	3.451	540.184	<.001	.253
Item 4	3.64	2.027	2.98	1.979	4.299	809	<.001	.323
Item 5	3.21	2.154	2.55	1.959	4.333	551.704	<.001	.316
Item 6	3.48	2.169	2.76	1.929	4.789	565.826	<.001	.346
Item 7	2.84	2.048	2.59	1.877	1.721	549.487	.086	.125
Item 8	2.02	1.751	1.72	1.471	2.595	589.775	.010	.184
Depression total score	25.61	11.590	21.61	10.371	4.933	561.914	<.001	.357

Note. In items 2, 3, 5, 6, 8 and depression total, homogeneity of variance was not assumed, Levene's test was significant (p<0.05).

4.8 The Presence of Depressive Symptoms Across Languages

All the parametric assumptions were met for running the ANOVA. Levene's test of homogeneity of variance revealed non-significant results for all depression items (P> 0.05), item 1, F(6, 794) = .724, p =.630) , item 2 (F(6, 794) = .685, p =.661), item 3, F(6, 792) = .604, p = .728), item 4, $F(6, 798) = .604$, $p = .728$, item 5, F(6, 795) = .758, p = .603), item 6, F(6, 797) = 1.005, p = .421), item 7 ($F(6, 799) = 1.037$, $p = .399$, item 8 ($F(6, 796) = .673$, $p = .672$), and depression total ($F(6, 799) = 1.628$, $p = .136$).

As shown in Table 4.8, results from the ANOVA revealed no statistically significant differences across language groups all depressive symptoms including depression total ($p>0.05$). This means that the hypothesis that there would be no differences in the presence of language may be accepted.

Table 4.8

One-Way ANOVA Results Indicating the Presence of Depressive Symptoms Across Language Group

Dependent Variables	*F*	η^2	*df1*	*df2*	*p*
Item 1	.961	.007	6	794	.451
Item 2	.640	.005	6	794	.698
Item 3	1.247	.009	6	792	.280
Item 4	.409	.003	6	798	.873
Item 5	.325	.002	6	795	.924
Item 6	1.348	.010	6	797	.233
Item 7	.330	.002	6	799	.921
Item 8	.264	.002	6	796	.954
Depression total score	.613	.005	6	799	.720

4.9 Chapter: Conclusion

Several analyses were conducted to investigate the impact of different demographic characteristics on the presence of depressive symptoms. Firstly, descriptive statistics showed low levels of depression in the sample but a moderate presence of some depressive symptoms. Evidence indicated that the data met parametric assumptions. The following sections entailed correlation analyses between depressive symptoms and demographic variables and results showed weak significant relationships between a few depressive symptoms and socioeconomic status and religiosity. In terms of socioeconomic status, some of these associations were positive while others were negative. Religiosity correlated negatively with depression. Evidence from the ANOVA found significant differences across finance statuses in the presence of all depressive symptoms. In terms of gender, statistically significant differences were found, and females demonstrated a greater presence of most depressive symptoms. No significant differences were across language groups. The following section provides a detailed discussion of the results and contextualises these findings.

Chapter 5: Discussion

5.1 Introduction

This chapter entails a discussion of the findings of this study by reflecting to gain an in-depth understanding of what these findings mean in the broader scope of the research. Despite the plethora of research on the mental health of emerging adults in the Western context (Doyle et al., 2023), there has been a dearth of research on South African emerging adults who present depressive symptoms. In addition, research on mental health in South Africa has given attention to both adolescent and young adult samples (Scardera et al. 2022; Varma et al., 2021), yet there is often a strong overlap between these developmental stages. This hindered the ability to investigate challenges that are specific to emerging adulthood and how these impacted individuals' vulnerability to the mental disorder. Therefore, the study aimed to conduct demographic profiling of emerging adults in South Africa who present with depressive symptoms. The goal of this chapter is to provide an interpretation of the findings in relation to existing literature, thus using the links to explore the role of demographic characteristics in the presence of depressive symptoms.

5.2 The Presence of Depressive Symptoms in Emerging Adults

The first research question inquired about the depressive symptoms that are present in South African young adults. The current research found low levels of depression in the emerging adult sample from South Africa. This was similar to several studies that previously found a mild presence of depression in the majority of young adults from Ethiopia (Mokona et al., 2020), Vietnam and Peru (Porter et al., 2021). Posel and colleagues (2021) also found low levels of depression among Africans in South Africa compared to non-Africans. One possible explanation for these similarities is that the samples in these studies (Mokona et al., 2020; Posel et al., 2021) comprised largely of mostly educated samples. The sample in this

research mostly consisted of full-time university students (82.8%) who possessed a high school qualification (71.6%).

Similarly, Onuh et al. (2021) found that having access to high school or tertiary education was among the factors that increase the presence of low depression among South African adults. Thapar and colleagues (2022) argued that educational connections promote resilience against depression in adolescents. Education may serve as a buffer from the effects of psychosocial challenges (Niemeyer et al., 2019) and promote an optimistic outlook where individuals may foresee positive outcomes through educational opportunities. Furthermore, this also fosters hope because individuals have a greater chance to achieve financial independence and explore endless possibilities (Arnett, 2000; 2004; 2007). This could account for the low presence of symptoms like hopelessness, sadness and suicidal or death thoughts. The results reflected the significance of psychosocial factors explained by BPSS model (Hatala, 2013). Most of the sample overlapped between late adolescence and emerging adulthood. Despite the presence of biological factors that have been found to increase the presence of depression in adolescents (Thapar et al., 2022), lower depression levels were still observed in this educated sample, reflecting the protective role of psychosocial factors. This further justified the importance of a BPSS approach which extends focus beyond biomedical components that influence depression.

Furthermore, unlike the low presence of depression found in this research, previous research on depression has predominantly reported a high prevalence of depression among young adults worldwide (Varma et al., 2021; WHO, 2022; Onuh et al., 2021). Most studies that found a moderate or high presence of depression in emerging adults in South Africa were largely focused on samples drawn from populations that were either socioeconomically disadvantaged (Mngoma et al., 2021; Theron et al., 2023), living with HIV (Too et al., 2021) or residing in informal settlements (Gibbs et al., 2018).

Diverting from the bulk of previous research, this research consisted largely of participants from suburbs (47.3%), cities (23%), or townships (22.5%). The findings were similar to those of studies that found low depression among people living in urban areas (Ibgoeli et al., 2021; Onuh et al, 2021). One may argue that the low presence of depression may be attributed to the fact that most of these emerging adults lived in environments with greater access to resources and opportunities that promote growth and exploration. However, the findings contradicted research which showed higher depression in adolescents between (15-19 years) from urban areas compared to their urban counterparts Ajaero et al. (2018). The study comprised participants younger than this sample and falling exclusively in the adolescent stage. Hence, this high presence of depressive symptoms could be related to high emotional or behavioural problems that are more profound in that developmental period (Thapar et al., 2022).

Moreover, using hierarchical cluster analysis, Onuh et al., (2021) found a relatively high prevalence of low levels of depression in urban participants (25 – 65 years) in the Northern Cape and Western Cape as well as a moderate prevalence of depression in provinces like Gauteng, Free State. Despite using descriptives and focusing on the emerging adults from all three provinces combined, this research also consistently found low levels of depression. Similarly, another study found respondents from all South African provinces indicated a significant proneness to depression except for the Western Cape. This highlighted the need for further research to also explore demographic profiles of emerging adults in the three provinces to determine whether results could be similar.

The low presence symptoms might be attributed to the encouragement of greater interdependence and a sense of community for emerging adults through embracing concepts like *Ubuntu* in the South African context (Moodley et al., 2020; Naudé, 2022). Therefore, emerging adults who practice Ubuntu would have greater odds of accessing support from

family structures, peers and various community members (Tefera et al. 2023). This collective support plays an imperative positive role in enabling emerging adults to cope with challenges associated with the transition into adulthood and this may mitigate the effects and presence of depression. Similarly, a recent study found that emerging adults in South Africa with low levels of depression recognised active pleasure-seeking and interpersonal support as protective factors against depression (Theron et al., 2023).

This research found a moderate presence of depressive symptoms such as feelings of being distant from others and difficulties making decisions. The moderate levels of loneliness can also be related to the aftermath of the COVID–19 pandemic in the country which affected many interpersonal relationships and exposed many of these emerging adults to extended periods of isolation (Listista et al., 2020). Even though the South African lockdown restrictions were lifted when the data was collected, there may still have been lingering effects of the virus. A bulk of research has shown that many young adults in South Africa presented depression during the onset of the pandemic (Gittings et al.,2021; Fancourt et al., 2021; 2021; Vurma et al., 2021) and high levels of loneliness among young people (Listista et al., 2020; Padmanabhanunni & Pretorius, 2021). However, one may argue that the moderate feelings of being distant from others could reflect a decline in symptoms like loneliness as young people adapt to the challenges that were caused by the pandemic (Fancourt et al., 2021).

The moderate presence of difficulties in making decisions among participants in this study reflected the norms of this development period. As much as individuals would have begun exploring independent decision-making, these emerging adults would still experience high levels of ambivalence and uncertainty caused by the surplus of opportunities (Arnett, 2000; 2004; 2007; Nelson & Barry, 2005; Adams et al., 2018; Naudé & Piotrowski, K. 2023). Participants were between 18-19 years old, and the majority were either both working and

studying or just employed. The remaining few had no occupation (8.1%). Research demonstrated that individuals between 18 and older are typically transitioning between high school on tertiary institutions or in the early stages of developing careers and love (Arnett, 2000; Nelson & Barry, 2005). However, multiple studies highlighted that decision-making skills become more advanced as individuals progress in emerging adulthood (Potterton et al., 2020; Steinberg et al., 2018). Overall, the findings in this study highlighted the importance of encouraging policies targeted at restructuring physical, societal and economic features of the environments experienced by South African emerging adults to promote mental health among individuals (WHO, 2022).

5.3 The Relationship Between Socioeconomic Status and Depressive Symptoms

The second question in this study inquired about the relationship between demographic variables like socioeconomic status and the presence of depressive symptoms in emerging adults. This research found that socioeconomic status is a very crucial factor for mental health among emerging adults in South Africa. The results indicated that socioeconomic status (FAS total) had a weak negative relationship with the presence of thoughts of death or suicide among the emerging adult sample. This was consistent with a vast majority of literature that has pointed out a link between socioeconomic difficulties and suicidal ideation in South African youth (Mngoma et al., 2021; Orri et al., 2022; Pillay, 2021; Rousseau et al., 2021). The results emphasized the importance of establishing interventions that increase socioeconomic conditions for emerging adults as a strategy for decreasing cases of suicide. This would also be an essential step towards fulfilling the Sustainable Development Goal of decreasing the rate of suicide-related deaths to a third by 2023 (WHO, 2022).

In addition, a weak negative relationship was also found between the type of living structure and the presence of thoughts of death and suicide in this study. There were limited

comparable studies on suicide ideation and the quality of dwelling in South Africa and may be a possible research area for future research to explore. A study in Korea found that functional problems (noise, congestion, and limited access to adequate light) were related to depression in females while males were more likely to develop depression because of structural challenges (like whether the place provides permanent residence) (Lee, 2022). Additionally, Lee (2022) pointed out that young adults living in poorer housing structures exhibited more sensitivity and greater risks of suicidal behaviour. Another study found depression, PTSD, and comorbid PTSD – depression among women residing in informal settlements in Durban, South Africa (Ndungu et al., 2020). Even though the mentioned represented female samples, the results would be less applicable to the majority of the sample who either lived in houses that were rented (15.3%) or bought by families (71.3%). Conversely, a lower presence of thoughts of death and suicide would be expected in this sample because many individuals reside in formal residences and on average, had a high level of socioeconomic status.

Among the pertinent things that were observed in this study were significant positive relationships between certain items measuring socioeconomic status and depressive symptoms (owning a family car with four depressive symptoms and having a household functional with one symptom). This contrasted the bulk of literature that indicated a negative relationship between socioeconomic status and depression (Bantjes et al., 2018; Guan et al., 2022; Gibbs et al., 2018; Igboeli et al., 2021). Findings were however similar to a study of rural and urban South African adolescents that reported higher depression among individuals with a higher financial income (Ajearo et al, 2018). This was explained by misperceptions about one's wealth and an inability to maintain the demands associated with higher affluence levels (Ajearo et al, 2018). Similarly, this study found a higher presence of depressive symptoms was related to owning more possessions like cars and functioning computers. Both

owning a family car and a functioning computer had similar weak correlation coefficient (r= .084) in relation to feelings of sadness. This suggested that, although significant associations were found, the practical effect of FAS items on depressive symptoms was weak, therefore implying a possibility that an increase in those resources may not have a substantial effect on depressive symptoms.

This research found that emerging adults who had travelled on holiday more often in the last 12 months were likely to present with lower depressive symptoms related to loss of pleasure and suicidal thoughts. While there was no prior research to compare the results against, these findings could be related to the theory of emerging adulthood (Arnett, 2000; 2004; 2007). Holidays are not only leisurely experiences that contribute to increased pleasure among emerging adults, but these experiences yield opportunities for emerging adults to explore different environments. The process of exploring becomes key to identity development and exposure to a range of possibilities beyond one's environment (Arnett, 2004; 2007). This, in turn, fosters more positive prospects in emerging adults (Naudé and Piotrowski, 2022), and reduces the desire to die or commit suicide.

This research found mixed results about the effects of possessing technological devices like functional computers and cell phones on the presence of depressive symptoms. Firstly, this study found that the more emerging adults owned functional computers, the more likely individuals presented feeling sad and unhappy. This is consistent with research that previously pointed out a greater presence of depressive symptoms among adolescents and young adults who had greater usage of technology (Kreski et al., 2021; Shin et al., 2022; Tang et al., 2021; Twenge, 2020). The findings highlighted the importance of accessible and affordable digital mental health care to reduce the adverse mental problems that are created by the continuous use of technology.

However, participants who had no cell phones were found to have a higher loss of pleasure compared to those who owned cell phones. Another study also found a weak correlation between of screen time (on devices like computers, smartphones and gaming devices) and depressive symptoms (Tang et al., 2021). However, the results varied according to the type of device and its function (Tang et al., 2021). A systematic review using meta-analysis found a weak bi-directional relationship between the usage of online media and depressive symptoms in young people, aged 10- 24 (Shin et al., 2022). One may argue that with the high consumption of technology and social media in this population (WHO, 2022), lacking a personal device like a cell phone or computer reduces chances for emerging adults to gain broader exposure to the world. In addition, this increases the likelihood of struggling with mundane tasks like communication that have become more efficient through technology. This may also explain the loss of pleasure and lack of confidence among those without cell phones. The findings emphasize the importance of mental health strategies that also bridge the digital gap among Southern African emerging adults as a way of promoting mental health.

Moreover, this research found that those who had cell phones experienced greater difficulties making decisions compared to those who did not. This corresponds with the notion that emerging adulthood is marked by heightened experimentation and a range of possibilities that increase the level of ambiguity and instability in emerging adults (Arnett, 2000; 2004; 2007). In addition, this would be more relevant among emerging adults who use cell phones for social media. Poter et al. (2020) argued that digital communication technology has facilitated greater exploration of relationships and cultures at a global level. Naudé (2022) argued that social media promotes the active formation of an array of identities among emerging adults. In the emerging adulthood stage, people neither feel like adolescents nor full-fledged adults, hence this phase is marked by high ambiguity (Arnett, 2007). The

confusion with one's identity because of feeling in-between development period may be enhanced by an even broader exposure to possibilities and this may influence indecisiveness.

While the findings were mostly consistent with previous literature that lower socioeconomic status is associated with higher depression in South African emerging adults (Onuh et al., 2021; Posel et al., 2021). The results still indicated very weak effect sizes in all the significant depression and FAS items. This could be because FAS was found to be a less reliable measure of socioeconomic status in this study and had low internal consistency (Cronbach's alpha of .52). The results concurred with a study of adolescents aged 11- 20 years olds in Nigeria (Edet et al., 2023). This suggests that the measure requires better adaptation for use in the African context.

5.4 Differences in the Presence of Depressive Symptoms in Different Financial Statuses

Perceived financial status was analysed to supplement the FAS and thus, measuring perceived financial status also provided insight into how emerging adults in the sample perceived their socioeconomic situation and how this affected the presence of depressive symptoms. Findings in this research indicated that both emerging adults who had moderate or severe financial difficulties had a significantly greater presence of depressive symptoms compared to those with no financial difficulties This was similar to a study that reported lower depression in people earning middle-income (Tomita et al. 2017).

Furthermore, even though effect sizes were very small ($r<.1$) the results highlighted a positive directional trend where greater financial difficulties are related to a greater presence of depressive symptoms. The findings correspond with what was reported by (Ajearo et al, 2018; WHO (2022). Moreover, both FAS and perceived financial status point out a relationship between socioeconomic status and depression, which is consistent with literature (Bantjes et al., 2018; Guan et al., 2022; Gibbs et al., 2018; Igboeli et al., 2021). The results

also concurred with the theory of emerging adults whereby a higher income would have provided greater access to opportunities, hence enabling individuals to explore multiple possibilities (Arnett, 1997; 2000; 2004; 2007). Based on the theory, a majority of South African emerging adults living in poverty would also be suffering from depression. However, the theory was developed in the Western context and may be perceived to place more emphasis on socioeconomic factors. The BPSS model (Hatala, 2013) however provides a good example of how despite having a low socioeconomic status, other factors may also influence greater wellbeing among emerging adults.

Mental health organisations and policymakers should therefore consider promoting socioeconomic development that empowers emerging adults through skill development and employment to enable better financial income and access to socioeconomic resources. This may alleviate the increase in depression prevalence in the population.

5.5 The Influence of Religiosity on Depressive Symptoms

This research also investigated the relationship between religiosity and the presence of depressive symptoms. Firstly, the study found a significant negative relationship between being religious (DUREL total) and presenting with depression (depression total score). Findings were consistent with previous literature (Gwin et al., 2020; Pillay, 2016; Tomita & Ramlall, 2018) and particularly studies of young adults and adolescents (Hamdan & Peterseil-Yaul, 2020; Koenig et al., 2020). These findings were supported by literature that emphasised the importance of religion in fostering better mental well-being among emerging adults.

The BPSS model (Hatala, 2013) offered a broad approach to understanding depression and highlighted the significant role of spirituality and religiosity in reducing depression. The findings emphasised the need for adopting more comprehensive approaches

when establishing preventative and treatment interventions for depression. Practically, the National Mental Health Policy Framework and Strategic Plan 2023 – 2030 (National Department of Health, 2023) seeks to enhance mental health care by incorporating traditional and spiritual methods of healing to foster all-inclusive mental health services in South Africa. Therefore, the findings in this study along with similar findings from other research on religiosity promote integration of religion into conventional psychotherapeutic approaches.

ORA was negatively correlated with seven depressive symptoms (difficulties in making decisions; loss of pleasure, sadness and unhappiness, hopelessness, lack of confidence, guilt, and thoughts of death or suicide). ORA was also correlated with lower levels of depression (using depression total). The findings were similar to other several studies (Gwin et al., 2020; Hamdan & Peterseil-Yaul, 2020). Even though this current research exclusively focused on attending organisational activities like church and meetings, findings still demonstrated lower symptoms of sadness and unhappiness about ORA. Lower depressive symptoms may also be attributed to the social connections established through engaging in similar religious activities with others. The interpersonal relationships also serve as a buffer from depression (Koenig et al., 2020).

On the other hand, ORA did not correlate with feeling distant and cut off from others and this could be attributed to typical attitudes held by emerging adults during the developmental stage. Arnett and Jensen (2002) described emerging adulthood as a self-focused and explorative period during which individuals are invested in personal growth and finding stability. Several studies found high levels of loneliness and depression among emerging adults (Listista et al., 2020; Padmanabhanunni & Pretorius, 2021) and this was not the case for those who engaged in ORA in this research. According to the emerging adulthood theory (Arnett, 1997; 2000; 2004; 2007), individuals use social relationships as a source of self-exploration and hence engaging in ORA would not have a significant effect on

emerging adults' feelings of loneliness, however the increase in happiness, decision-making capabilities confidence could reflect the benefits of religiosity in fostering a platform to establish stable identity and a sense of spiritual growth.

Furthermore, this research also found a negative relationship between specific symptoms such as hopelessness, loss of pleasure, guilt feelings and IR but no association was found with depression (depression total). As opposed to findings in Hamdan & Peterseil-Yaul, (2020), which pointed out a relationship between perceiving religion as significant and suicide, this research did not find an association an association between IR and suicidal thoughts. However, higher intrinsic religiosity may have contributed to more positive appraisals of life events and challenges in a way that makes life seem more enjoyable for emerging adults. This notion corresponds with Voytenko et al. (2022) who argued that beliefs in a divine power are related to better religious coping in emerging adults, which promotes a sense of hope (Saad and colleagues, 2017). Overall, findings suggest that while merely adopting an inherent commitment and value for religion could promote hope and more positive experiences (with increased pleasure), increased active engagement in organisation or personal religious activities would decrease depression altogether. Future research can also explore how exploration among emerging adults contributes to the development of IR.

This research found a lower presence of guilt feelings among emerging adults with higher IR. Gwin et al. (2020) attributed the inverse association between IR and depressive symptoms to lower intrapersonal conflict among emerging adults who have higher IR. Emerging adults who engage in more self-focused exploration (Arnett 2002) may fail to align with traditional childhood religious systems and worldviews. The adoption of IR is personal and enables emerging adults to assume a religious identity that is consistent with one's personal beliefs and values. Hence, this would result in less feelings of guilt and lack of self-confidence, as shown in this study.

Furthermore, NORA was significantly correlated with six depressive symptoms (difficulties in making decisions, loss of pleasure, sadness and unhappiness, hopelessness, guilt, and thoughts of death or suicide). Additionally, higher NORA was significantly correlated to lower levels of depression (depression totals score), akin to prior research (Gwin et al., 2020; Rose et al. 2020). This research also found several similarities in a study that has explored the roles of non-organisational religious activities like prayer, meditation and church attendance on depression. Gwin et al. (2020) found that prayer was related to lower sadness. Captari and colleagues (2022) argued that prayer, meditation and scriptures allowed people to manage difficulties during the pandemic by exposing individuals to theoretical truths. Similarly, findings reflected the humanistic view of the BPSS model (Hatala, 2013). Lower depression levels among those who engaged in NORA showed how religiosity and spirituality can be used as personal strengths that promote well-being among emerging adults. Considering that many emerging adults are often unable to access and afford psychotherapy, exploring how religious beliefs and practices offer healing or hope among emerging adults could also be beneficial.

Moreover, individuals who interacted with God (while engaging in NORA) to improve community crises during the pandemic experienced fewer feelings of being disoriented, hopeless, and in despair (Captari and colleagues 2022). This suggested that along with NORA, personal motivation and beliefs about religion (IR), along with having a religious structure (ORA) may all influence one's response to difficulties and therefore buffer against depressive symptoms. Furthermore, most participants in this study reported engaging in NORA at least once a day (19.4%) and even demonstrated high levels of religiosity in related to NORA. This implies that the low presence of depression may also be accounted for by the frequent engagement in NORA which essentially helps emerging adults to manage the vast challenges and demands associated with the emerging adulthood stage (Adams et al.,

2018). However, there has been limited recent South African research on the relationship between NORA and depression in South African young adults. The vast majority of research on NORA and depression is mostly conducted in the Western context (Gwin et al., 2020; Rose et al. 2020). Additionally, Theron et al., (2023) pointed out the shortage of literature on religiosity and spirituality in South African emerging adults despite these being widely considered fundamental aspects of living. This was a shortfall in this study because there was limited comparable research in this context to effectively compare these research findings.

A limitation of the BPSS (Hatala, 2013) was that the conceptual framework was applied too broadly to discuss the role of religiosity on depression. This hindered the researcher from pinpointing specific religious activities that have the strongest effect on depression. Additionally, religion and spirituality are experienced in diverse ways in South Africa. Some emerging adults identify as spiritual and not religious. The findings therefore reflected the complexity and multidimensionality of religiosity, using IR, ORA and NORA. The biopsychosocial model (Engel, 1977) could also be developed further to explore religion as a component. On the other hand, this emphasised the importance of this research which is to demonstrate the effect of religiosity on depression. This has been neglected in recent South African literature.

5.6 The Presence of Depressive Symptoms Between Males and Females

This research also investigated the significant gender differences in the presence of depressive symptoms. Findings from this study indicated significant gender differences in the presence of six depressive symptoms. On average females demonstrated a greater presence of depressive symptoms such as difficulties in making decisions, feeling distant from others, sadness and unhappiness, hopelessness, lack of self-confidence and thoughts of death and suicide. Additionally, a greater presence of depression was found in females compared to males using the total depression score. This is consistent with the bulk of literature that found

higher rates of depression among female adolescents or emerging adults (Hamad et al., 2007; Herman et al., 2009; Porter et al., 2021; Strebel et al., 1999; Thapar et al., 2022; WHO, 2022).

The findings in this research contradicted several studies that reported a high prevalence of depression in adolescents and emerging adult men (Ajaero et al, 2018; Masemola et al., 2022; Mngoma et al., 2021; Ndaba, 2022). However, most studies only focused on the male populations, unlike this current research which compared between the genders. In addition, research has pointed to lower risks of suicide in females compared to males (Bantjes et al., 2022; Carcedo et al., 2020; Ndaba, 2022). On the contrary, this research indicated a higher presence of thoughts of death and suicide in females. In addition, a study showed a high presence of emotional challenges in female adolescents (Carcedo et al., 2020). Similarly, this research found a higher presence of symptoms like feelings of sadness and unhappiness. This may be related to social issues that increase vulnerability to emotional symptoms and suicidality.

Moreover, the majority of participants in this sample were unemployed. Some studies have pointed out that females who are socioeconomically disempowered experience a higher presence of depression (Nyahunda et al., 2021). In this current study, significant gender differences were found in the majority of psychological symptoms such as problems with decision-making, feeling distant from others, hopelessness, lacking self-confidence, and having thoughts of death or suicide. The findings corresponded with a study that has highlighted lower decision-making abilities and depression among females in sub-Saharan Africa caused by a range of contextual factors including gender-based violence and unemployment (Muluneh et al., 2021).

One may argue that the financial burden being unemployment while having several financially straining commitments may have affected females' ability to feel empowered,

thereafter contributing to the presence of those psychological symptoms. This may also influence poor cognitive appraisal and therefore higher presence of hopelessness (Padmanabhanunni & Pretorius, 2021). Overall, the findings in the study emphasised prioritising mental health interventions among female young adults. This may be accompanied by programs that facilitate the empowerment of female emerging adults in South Africa. In addition, depression rates among female emerging adults can be decreased by promoting gender equity in different sectors of the country (WHO, 2022).

5.7 Differences in Depressive Symptoms Across Language Groups

This research also compared the presence of depression across several African language groups. Based on the findings, there were no significant differences among different language groups These results suggested that the type of home language spoken did not affect the presence of depressive symptoms, which did not correspond with prior research (Bach & Louw, 2010; Baron et al., 2017). On the contrary, the findings are similar to Elwell-Sutton et al., (2019) who found no direct correlation between language and depression.

There are several possible explanations. Firstly, language is often considered a proxy for culture thus, there may also be scant cultural differences in the presence of depressive symptoms as a result of the high syncretism within the highly diverse context. Adams and colleagues (2018) found that emerging adults from the Zulu ethnic groups displayed more openness in contacting other groups and had stronger out-group positioning but an average in-group orientation. This may be similar for other South African cultures enabling emerging adults who speak a particular home language to also adopt practises and systems of other cultures that may serve as psychological buffers from depression.

Another possible explanation for these results may be the broader cultural orientation in the South African context. The concept of *Ubuntu* is very common in South Africa

(Moodley et al., 2020; Naudé, 2022) such that *Ubuntu* is often embraced across various cultural or language groups. Emerging adults who have a sense of belonging to certain cultural groups would have a sense of community (Adams et al., 2018) and inarguably perceived access to support (Mora, 2019; Tefera et al. 2023). The increased sense of community serves as a protective factor that reduces the presence of mental health problems like depression in emerging adults.

Furthermore, the majority of the sample have matric, are pursuing further studies, and have cell phones and computers hence presumably, most emerging adults in the study have access to the internet. Research also highlighted that through a process like globalization, acculturation also takes place at an international level whereby many emerging adults from South Africa have become exposed to American cultures through food, art, and mass media (Ferguson & Adams, 2016). Therefore, there would be insignificant differences across those cultures because emerging adults would have developed diverse cultural identities. Therefore, the effect of language on the presence of depression may be either mediated by several variables mentioned above or observable over an extended period (Elwell-Sutton et al., 2019). Therefore, this necessitates further investigation of differences in the presence of depressive symptoms across South African languages using longitudinal methods. This may yield insight into differences across cultural groups as well.

5.8 Chapter Conclusion

This chapter discussed the results found in this research in the context of broader existing research. A low presence of depression was found in this research, and this was attributed to several biopsychosocial factors and having a religious sample. Both measures of family affluence and perceived financial income demonstrated that socioeconomic status had a significant effect on the presence of depressive symptoms. This highlighted the importance of addressing depression using interventions that will alleviate socioeconomic challenges that

increase depression vulnerability in emerging adults. The study also showed how several psychosocial challenges in females promoted gender differences in depression presence. Moreover, issues like acculturation and *Ubuntu* were proposed as possible explanations for the lack of significant differences in different language groups. Overall, this discussion emphasised the importance of conducting a demographic profile to understand specific demographic characteristics that are associated with greater proneness to depression in South African emerging adults. This is pivotal for the establishment of effective mental health interventions in vulnerable populations.

Chapter 6: Conclusion

6.1 Introduction

This research conducted demographic profiling of emerging adults in South Africa who presented depressive symptoms. The study first analysed the presence of depressive symptoms among emerging adults and results indicated a low presence of depression and a moderate presence of symptoms of decision-making difficulties and feelings of being distant from others. Despite contradicting existing research about the high prevalence of depression in the cohort, these results highlighted the importance of biopsychosocial-spiritual factors in mitigating the presence of depression among emerging adults. Religiosity, education, a good perceived financial status and socioeconomic status were among the protective factors that served as buffers against depression in this sample. These findings showed how different demographic characteristics can exacerbate challenges inherent in emerging adulthood, thereby causing variations in the vulnerability to depression among emerging adults. Therefore, this can encourage mental health policy to promote better public strategies or mental healthcare facilities that will cater for those who exhibit greater mental health vulnerability (WHO, 2022). This would also align with the third Sustainable Development Goal to achieve improved mental health and well-being (WHO, 2022).

Even though intrinsic religiosity was not significantly associated with lower depression akin to engaging in non-organisational religious and organizational religious activity, several significant relationships were between all three types of religiosities and several depressive symptoms. Given the dearth of research on religiosity and depression in emerging adults (Theron et al., 2023), these findings may be a starting point for further research to explore religiosity more broadly and in the context of depression or other mental health disorders in the South African context. These findings can raise awareness about

religion and encourage the incorporation of a range of religious activities into therapeutic approaches that treat depression.

In addition, this research can influence the development of initiatives in local South African communities that promote increased engagement in religious activities among emerging adults to damper the effects of depressive symptoms among individuals who cannot afford formal mental healthcare. This would be consistent with the community care value in the National Mental Health Policy Framework and Strategic Plan 2023 – 2030 (National Department of Health, 2023) that supports using the biopsychosocial-spiritual approach to improve community-based programs that facilitate psychosocial rehabilitation.

Family affluence and perceived financial status were measured as proxies for socioeconomic status, and both yielded several significant results suggesting negative associations between socioeconomic status and the presence of depressive symptoms. The findings gave insight into the different socioeconomic factors that contribute to depression. This could be effective by contributing to the establishment of interventions that promote socioeconomic empowerment among emerging adults. A higher presence of depressive symptoms in females compared to males underscored the importance of empowering women in the non-context through various socioeconomic opportunities. These results may potentially inform the establishment of social development programs as well as mental health initiatives that buffer the presence of depression in female emerging adults in South Africa. The following sections discuss the strengths and limitations of this research and recommendations for future research. This is followed by concluding remarks that sum up pertinent matters related to this research.

6.2 Strengths and Limitations

This research previously noted the limited research non-WEIRD samples of emerging adults experiencing depression (Höltge et al., 2021; Muthukrishna et al., 2020), however, one

of the shortfalls of this research is that the majority of the sample was educated (mostly with a minimum high school qualification) relatively affluent and sample. This meant that the research was less representative of most emerging adults who experience socioeconomic problems. However, the study still demonstrated the relationship between socioeconomic status and depression even in a more affluent and advantaged sample.

One of the strengths of this study was being able to demonstrate how demographic variables played an essential role in increasing depression vulnerability among emerging adults in South Africa. In addition, the study also pointed out variations among different demographic groups of emerging adults. Therefore, the study met its objective. Moreover, the study also provided practical suggestions on how mental health can be improved among emerging adults, hence disseminating knowledge generated by the research can have a practical benefit for emerging adults.

A methodological limitation is that this research was essentially descriptive, hence despite its ability to describe and demonstrate associations between variables, the study failed to establish causality. According to Grosz (2020), the randomization and the presence of control conditions in experimental research are supposed to completely eradicate external variables that could otherwise explain results, thus allowing for causality to be inferred. The use of a non-experimental design meant that the research could not eliminate the presence of extraneous variables. In addition, although the study had a large sample size, this was relatively small in comparison to the wider South African emerging adult population the study aimed to represent. This had implications for the generalisation of the findings as well.

Data collection in the primary study was conducted using online and hardcopy surveys. On one hand, having research assistants collect the data may have increased the risk of social desirability bias among the participants. On the other hand, the self-report surveys

were conducted voluntarily and hence this may have motivated participants to provide accurate responses. This means that there was no way for this study to ascertain that the responses provide an accurate reflection of the participants mental state, particularly among those who were interviewed by research assistants.

Furthermore, a shortfall of this research was the inability to effectively assess the correlation between socioeconomic status on emerging adults. As previously mentioned, the FAS measure was a less reliable measure of family affluence and socioeconomic status because the scale had a low Cronbach's alpha coefficient. Furthermore, FAS 6 was not analysed which may impacted the overall results. There were also very imbalanced samples within the FAS items, which may have impacted the results. One limitation of the IMHA scale was that the tool was recently developed hence there were limited studies for comparison to evaluate the reliability of the tool. Despite being used for the first time on the emerging adult sample, the measure still demonstrated acceptable internal consistency in the study.

Another shortfall of the research is that although the BPSS model (Hatala, 2013) was applied, the research failed to prove whether disparities between males and females could be attributed to biological factors as well. However, the research emphasized the role of socioeconomic and psychological factors, which are very relevant in the South African context. Considering the overlap between adolescents and emerging adulthood, the research did not examine the mental health histories of participants to determine what psychological or biological factors also affected the presence of depression among emerging adults. The BPSS model (Hatala, 2013) is comprehensive, and this prevented the researcher from thoroughly studying and gaining insight into the relationship between specific variables and depression.

Another limitation of the study was the inability to compare findings in this study to other studies due to the scarcity of research on variables like non-organisation religious activity in the non-western context. Previous research extensively explored depression in both younger adolescents and young adults (Scardera et al. 2022; Varma et al., 2021). This created challenges in determining whether findings could be associated with a particular developmental period. Since emerging adulthood spans from late teenage years to the early twenties (Arnett & Jensen, 2002), participants in the study were in the early stages of emerging adulthood and even late adolescence. There may be biases from generalising findings to even later stages of emerging adulthood. On the other hand, this study contributes to literature on emerging adults by exploring the concept and its relevance in the non-Western context. Lastly, the study made use of a more holistic approach to understanding depression by applying the BPSS model (Hatala, 2013) and considering how religiosity contributes to the mental health of emerging adults. The research also took a humanistic stance by applying this model (Hatala, 2013) which demonstrated how personal attributes and qualities like one's intrinsic religiosity can buffer depression. The ability to demonstrate how religiosity can act as a personal strength for reducing the presence of depressive symptoms is key towards promoting cost-effective mental health interventions that can be accessible even to those who are unable to afford mental healthcare services.

6.3 Recommendations for Future Research

Literature on depression in emerging adults is still growing in South Africa. Considering the overemphasis of research on adolescent mental health, future research may delve into the presence of other common mental illnesses among emerging adults in the country. This will facilitate greater comparisons across research and enhance the ability to determine common trends or patterns in this population. This could assist researchers, therapists, policymakers and mental health organisations to better understand the range of

factors that influence mental health problems in this cohort. In addition, comparing the presence of depression between younger and older emerging adults could be a possible avenue for future research to explore.

Furthermore, future research can also explore the presence of depressive symptoms among emerging adults who identify with diverse gender minority groups. This population has a high vulnerability to depression (Henry et al., 2021). Levels of vulnerability may be elevated by also being in emerging adulthood, and hence such research would provide valuable insight. Lastly, research may also explore how African spirituality influenced depressive symptoms among South African emerging adults. This may be explored in the context of intrinsic religiosity.

6.4 Concluding Remarks

In sum, this research aimed to conduct demographic profiling of young adults who present depressive symptoms in South Africa. The study utilised Wave 1 secondary data from the ALLS to explore the presence of depression among emerging adults and whether demographic variables (socioeconomic status and religiosity) correlated with depressive symptoms and to compare how different demographic groups (perceived financial statuses, gender and language groups). Various sampling strategies like a snowball and convenience sampling methods and both methods. Both methods were non-probability methods, which implicated the ability to draw causal conclusions in the study. The use of secondary data was associated with lower ethical risks hence this study and yet the primary study ensured that voluntary informed consent was obtained. Furthermore, data was analysed using descriptive statistics, Pearson's Product-Moment Correlation, t-tests, and ANOVA.

Overall, a low presence of depression was found in the sample, however, participants scored high on religiosity and socioeconomic status. Furthermore, significant associations we

between socioeconomic status and depressive symptoms as well as religiosity and depressive symptoms. This highlighted the need to improve the socioeconomic circumstances of emerging adults living in poverty, and religious activities to reduce the effects of depressive symptoms. Positive correlations were also found, and this pointed out the possible negative impacts of certain possessions associated with higher socioeconomic status. Moreover, significant gender differences in the presence of depression highlighted the importance of empowering emerging adult females in the non-Western context.

Despite language yielding no differences, this study proposed further research on how concepts like *Ubuntu* and acculturation may influence the presence of depression. The application of the biopsychosocial-spiritual model in this study allowed the research to explore different factors that influence depression. In addition, the adoption of religiosity also promoted the protective role of reliance and hope. The endorsement of these virtues may also buffer the effects of developmental challenges that emerging adults frequently encounter. The use of Arnett's Theory of Emerging Adulthood (Arnett, 1997; 2004; 2007) enabled the researcher to explore the obstacles associated with the developmental stage. Furthermore, the integration of the two theories therefore provided a broader perspective of understanding how depression can develop through the interactions of several adverse factors that interfere with the developmental processes of becoming an adult. In turn, the integration of the theories essentially showed how transcending religious relationships can protect emerging adults from depression. Lastly, mental health interventions should adopt comprehensive approaches that incorporate aspects of religiosity and spirituality to buffer against the presence of depressive symptoms among emerging adults.

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Appendix A: The ALLS Questionnaire

Version 4

A1. **Please enter your participant ID.**

A2. **What is your age?**

A3. **What is your gender?**

- Female ☐
- Male ☐
- Other ☐

A4. **Please answer the questions below.**

What is your home / first language? ☐☐☐☐☐☐☐☐☐☐

What other languages do you speak? ☐☐☐☐☐☐☐☐☐☐

A5. **To what racial group do you belong?**

A6. **What is the highest level of education that you have completed?**

- Less than a high school qualification ☐
- High school qualification ☐
- Some after school training ☐
- Degree ☐
- Postgraduate qualification ☐

A7. **What is your mother's or female caregiver's level of schooling?**

- Less than a high school qualification ☐
- High school qualification ☐
- Some after school training ☐
- Degree ☐
- Postgraduate qualification ☐

A8. **What is your relationship status?**

- I am single. ☐
- I am in a relationship and live with my partner. ☐
- I am in a relationship but do not live with my partner. ☐

A9. **Do you have children?**

- Yes, one child ☐
- Yes, two children ☐
- Yes, three or more children ☐
- No ☐

A10. **What is your living arrangement? Who do you stay with?**

A11. **Who bears the financial responsibility for providing your home and for food?**

Version 4

Version 4

A12. Which best describes your current work situation?

- Full time learner/student ☐
- Studying and working ☐
- No paid work currently ☐
- Occasional paid work ☐
- Regular part-time paid work ☐
- Regular full-time paid work ☐

A13. About how much money in South African Rands do you receive each month from work, family, and other sources?

☐

A14. How would you describe the financial situation of your household?

- We do not have any financial problems, our financial situation is good. ☐
- Sometimes we have slight financial difficultics, but our financial situation is average. ☐
- We have great financial difficulties, our financial situation is bad. ☐

A15. Are you currently seeking (additional) paid work?

- Yes ☐
- No ☐

A16. In general, would you say your health is...

- Excellent ☐
- Very Good ☐
- Good ☐
- Fair ☐
- Poor ☐

Version 4

	Very inaccurate	Moderately inaccurate	Slightly inaccurate	Slightly accurate	Moderately accurate	Very accurate	I do not know this word
I tend to be benevolent.	☐	☐	☐	☐	☐	☐	☐
I tend to be honest.	☐	☐	☐	☐	☐	☐	☐
I tend to be clever.	☐	☐	☐	☐	☐	☐	☐
I tend to be compassionate.	☐	☐	☐	☐	☐	☐	☐
I tend to be naive.	☐	☐	☐	☐	☐	☐	☐
I tend to be aggressive.	☐	☐	☐	☐	☐	☐	☐
I tend to be sad.	☐	☐	☐	☐	☐	☐	☐
I tend to be hot-tempered.	☐	☐	☐	☐	☐	☐	☐
I tend to be determined.	☐	☐	☐	☐	☐	☐	☐
I tend to be arrogant.	☐	☐	☐	☐	☐	☐	☐
I tend to be shy.	☐	☐	☐	☐	☐	☐	☐
I tend to be respectful.	☐	☐	☐	☐	☐	☐	☐
I tend to be inhumane.	☐	☐	☐	☐	☐	☐	☐
I tend to be humane.	☐	☐	☐	☐	☐	☐	☐
For this item, please tick the box for "moderately accurate".	☐	☐	☐	☐	☐	☐	☐
I tend to be modest.	☐	☐	☐	☐	☐	☐	☐
I tend to be kind.	☐	☐	☐	☐	☐	☐	☐
I tend to be happy.	☐	☐	☐	☐	☐	☐	☐
I tend to be timid.	☐	☐	☐	☐	☐	☐	☐
I tend to be bold.	☐	☐	☐	☐	☐	☐	☐
I tend to be gossipy.	☐	☐	☐	☐	☐	☐	☐
I tend to be unhappy.	☐	☐	☐	☐	☐	☐	☐
I tend to be industrious.	☐	☐	☐	☐	☐	☐	☐
I tend to be courageous.	☐	☐	☐	☐	☐	☐	☐
I tend to be lively.	☐	☐	☐	☐	☐	☐	☐
I tend to be cowardly.	☐	☐	☐	☐	☐	☐	☐
I tend to be generous.	☐	☐	☐	☐	☐	☐	☐
I tend to be a loner.	☐	☐	☐	☐	☐	☐	☐

Version 4

	Very inaccurate	Moderately inaccurate	Slightly inaccurate	Slightly accurate	Moderately accurate	Very accurate	I do not know this trait
I tend to be cheerful.	☐	☐	☐	☐	☐	☐	☐
I tend to be brave.	☐	☐	☐	☐	☐	☐	☐
I tend to be quiet.	☐	☐	☐	☐	☐	☐	☐
I tend to be hotheaded.	☐	☐	☐	☐	☐	☐	☐
I tend to be peaceful.	☐	☐	☐	☐	☐	☐	☐
I tend to be active.	☐	☐	☐	☐	☐	☐	☐
I tend to be confident.	☐	☐	☐	☐	☐	☐	☐
I tend to be self-confident.	☐	☐	☐	☐	☐	☐	☐
I tend to be bad.	☐	☐	☐	☐	☐	☐	☐
I tend to be faithful.	☐	☐	☐	☐	☐	☐	☐
I tend to be polite.	☐	☐	☐	☐	☐	☐	☐
I tend to be dynamic.	☐	☐	☐	☐	☐	☐	☐
I tend to be pessimistic.	☐	☐	☐	☐	☐	☐	☐
I tend to be good-natured.	☐	☐	☐	☐	☐	☐	☐
I tend to be bashful.	☐	☐	☐	☐	☐	☐	☐
I tend to be friendly.	☐	☐	☐	☐	☐	☐	☐
I tend to be obedient.	☐	☐	☐	☐	☐	☐	☐
I tend to be calm.	☐	☐	☐	☐	☐	☐	☐

C1. Think back over the last month. How often was the following true for you?

	Not in the last month (or NEVER)	Once a month	About twice a month	Once a week	About twice a week	More than twice a week but not daily	Daily or almost daily
I had difficulty falling asleep.	☐	☐	☐	☐	☐	☐	☐
I used weed.	☐	☐	☐	☐	☐	☐	☐
I had an upsetting dream.	☐	☐	☐	☐	☐	☐	☐
I felt afraid.	☐	☐	☐	☐	☐	☐	☐
I had 3 or more alcoholic beverages in a day.	☐	☐	☐	☐	☐	☐	☐
I got dizzy or lightheaded.	☐	☐	☐	☐	☐	☐	☐
I argued with friends or family.	☐	☐	☐	☐	☐	☐	☐
Stressful things (family illness, financial setbacks, accidents) occurred in my life.	☐	☐	☐	☐	☐	☐	☐

Version 4

Version 4

	Not in the last month (or NEVER)	Once a month	About twice a month	Once a week	About twice a week	More than twice a week / Half the days	Daily or almost daily
I had difficulty making decisions.	☐	☐	☐	☐	☐	☐	☐
A friend, partner, or family member treated me poorly.	☐	☐	☐	☐	☐	☐	☐
I woke up too early or had trouble staying asleep.	☐	☐	☐	☐	☐	☐	☐
I felt angry with someone at work, at school, or at church.	☐	☐	☐	☐	☐	☐	☐
Not getting enough sleep interfered with my daily activities.	☐	☐	☐	☐	☐	☐	☐
There was more I needed to do than could fit into the day.	☐	☐	☐	☐	☐	☐	☐
I got bad news about something important in my life.	☐	☐	☐	☐	☐	☐	☐
It was hard to control my worrying.	☐	☐	☐	☐	☐	☐	☐
When I got up in the morning, I did not feel well-rested.	☐	☐	☐	☐	☐	☐	☐
I avoided a situation that made me nervous or anxious.	☐	☐	☐	☐	☐	☐	☐
I had so many responsibilities that there was no time to relax.	☐	☐	☐	☐	☐	☐	☐
Medical issues (my own or those of someone close) caused stress in my life.	☐	☐	☐	☐	☐	☐	☐
I used a stimulant, like cocaine.	☐	☐	☐	☐	☐	☐	☐
I felt jumpy or easily startled.	☐	☐	☐	☐	☐	☐	☐
I lost interest or pleasure in doing things I used to like.	☐	☐	☐	☐	☐	☐	☐
For this item, please tick box for "about twice a week".	☐	☐	☐	☐	☐	☐	☐
I felt distant or cut off from other people.	☐	☐	☐	☐	☐	☐	☐
My heart beat fast (not due to exercise/sports).	☐	☐	☐	☐	☐	☐	☐
I had disturbing memories, thoughts, or images of a stressful experience from the past.	☐	☐	☐	☐	☐	☐	☐
My worrying got in the way of doing something I intended to do.	☐	☐	☐	☐	☐	☐	☐
I felt shaky or trembly.	☐	☐	☐	☐	☐	☐	☐
I argued with someone at work, at school, or at church.	☐	☐	☐	☐	☐	☐	☐
For this item, please tick box for "once a month".	☐	☐	☐	☐	☐	☐	☐
I avoided an activity or situation that reminded me of a stressful experience from the past.	☐	☐	☐	☐	☐	☐	☐
Someone I'm close to made me feel badly about myself.	☐	☐	☐	☐	☐	☐	☐
I felt sad and unhappy.	☐	☐	☐	☐	☐	☐	☐
I yelled at someone at work, at school, or at church.	☐	☐	☐	☐	☐	☐	☐
I had difficulty breathing (not due to a medical condition).	☐	☐	☐	☐	☐	☐	☐

Version 4

	Not in the last month (or NEVER)	Once a month	About twice a month	Once a week	About twice a week	More than twice a week / Half the days	Daily or almost daily
I expressed anger at someone I encountered in public/stranger.	☐	☐	☐	☐	☐	☐	☐
I got so angry I threatened someone.	☐	☐	☐	☐	☐	☐	☐
I had physical reactions (heart pounding, trouble breathing, sweating) when something reminded me of a stressful experience from the past.	☐	☐	☐	☐	☐	☐	☐
I felt hopeless about the future.	☐	☐	☐	☐	☐	☐	☐
I suddenly felt or acted as if a stressful experience were happening again (as if I were reliving it).	☐	☐	☐	☐	☐	☐	☐
I lacked confidence in myself.	☐	☐	☐	☐	☐	☐	☐
I missed two hours or more of work, school, or other commitments due to personal problems.	☐	☐	☐	☐	☐	☐	☐
I got so angry I broke something.	☐	☐	☐	☐	☐	☐	☐
I felt that someone could hear my thoughts, or that I could hear what another person was thinking.	☐	☐	☐	☐	☐	☐	☐
I felt guilty or had a bad conscience.	☐	☐	☐	☐	☐	☐	☐
It was difficult to do my job or meet my responsibilities due to personal problems.	☐	☐	☐	☐	☐	☐	☐
When I had a task that required a lot of thought, I avoided or delayed getting started.	☐	☐	☐	☐	☐	☐	☐
I drank alcohol to the degree that I felt intoxicated.	☐	☐	☐	☐	☐	☐	☐
I fidgeted or squirmed with my hands or my feet when I had to sit down for a long time.	☐	☐	☐	☐	☐	☐	☐
I had difficulty getting things in order when I had to do a task that required organisation.	☐	☐	☐	☐	☐	☐	☐
I had problems remembering appointments or obligations.	☐	☐	☐	☐	☐	☐	☐
I felt overly active and compelled to do things, like I was driven by a motor.	☐	☐	☐	☐	☐	☐	☐
I wanted to die or thought about killing myself.	☐	☐	☐	☐	☐	☐	☐
I heard things other people can't hear, such as voices even when no one was around.	☐	☐	☐	☐	☐	☐	☐
I thought I should cut down on my drinking or drug use.	☐	☐	☐	☐	☐	☐	☐
I drank enough to pass out.	☐	☐	☐	☐	☐	☐	☐
I forgot things I did while using alcohol or drugs.	☐	☐	☐	☐	☐	☐	☐
I felt guilt or remorse after drinking or using drugs.	☐	☐	☐	☐	☐	☐	☐
Family or friends suggested I should cut down on my drinking or drug use.	☐	☐	☐	☐	☐	☐	☐
I failed to do what was normally expected from me because of drinking or drug use.	☐	☐	☐	☐	☐	☐	☐

C2.

	Not in the last month (or never)	Once a month	About twice a month	Once a week	About twice a week	More than twice a week (but not daily)	Daily or almost daily
Arguments with my romantic partner went unresolved.	☐	☐	☐	☐	☐	☐	☐
My romantic partner insulted me or made me feel bad about myself.	☐	☐	☐	☐	☐	☐	☐
I felt afraid of my romantic partner.	☐	☐	☐	☐	☐	☐	☐
My romantic partner threatened me.	☐	☐	☐	☐	☐	☐	☐
My romantic partner physically hurt me.	☐	☐	☐	☐	☐	☐	☐

D1. How often do you attend church, mosque, temple, or other religious services/meetings?

- ☐ Never
- ☐ Once a year or less
- ☐ A few times a year
- ☐ A few times a month
- ☐ Once a week
- ☐ More than once a week

D2. How often do you spend time in private religious activities, such as prayer, meditation, or study of religious scriptures?

- ☐ Never or rarely
- ☐ A few times a year
- ☐ A few times a month
- ☐ A few times a week
- ☐ Once a day
- ☐ More than once a day

D3. How true is each of the following three statements, in describing you?

	Definitely untrue	Somewhat untrue	Neither true nor untrue	Somewhat true	Definitely true
In my life, I experience the presence of the Divine.	☐	☐	☐	☐	☐
My religious beliefs are what really lie behind my whole approach to life.	☐	☐	☐	☐	☐
I try hard to carry my religion over into all other dealings in life.	☐	☐	☐	☐	☐

E1. Does your family own a car?

- ☐ No
- ☐ Yes, one
- ☐ Yes, two or more

E2. Do you have your own bedroom for yourself?

- ☐ No
- ☐ Yes

E3. Do you have running water where you stay?

- ☐ Yes
- ☐ No

E4. **During the past 12 months, how many times did you travel away on holiday with your family?**

- ☐ Not at all
- ☐ Once
- ☐ Twice
- ☐ More than twice

E5. **How many functional computers do you have in your household?**

- ☐ None
- ☐ One
- ☐ Two
- ☐ More than two

E6. **How many people live in your household?**

E7. **What kind of structure do you stay in?**

- ☐ In an informal/non-permanent structure.
- ☐ Staying in someone else's home.
- ☐ In a house or apartment that is rented by me or my family.
- ☐ In a house or apartment owned by me or my family.

E8. **Do you have electricity where you stay?**

- ☐ Yes
- ☐ No

E9. **Do you have your own phone?**

- ☐ Yes
- ☐ No

E10. **We have asked you many things about yourself today. Do you have any questions for us?**

E11. **Is there anything that you would like to know about other 18-year-olds in South Africa? What questions would you add to our study?**

Appendix B: Ethics Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: MASPR/23/01W**
PROJECT TITLE:	Depression demographic profiling of young adults in South Africa.
INVESTIGATOR	Bambo Matsidiso (1412190)
SCHOOL/DEPARTMENT OF INVESTIGATOR	SHCD/Psychology
DATE CONSIDERED	01 June 2023
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	No Risk
EXPIRY DATE	31 December 2025
ISSUE DATE OF CERTIFICATE 03 June 2023	**CHAIRPERSON** _____ (Dr Aline Ferreira Correia)

cc: Dr Tasneem Hassem (Supervisor)

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved, I/we undertake to submit an amendment of the protocol to the Committee.

_____ **Signature**

06 / 07 / 2023 **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix C: Ethics Training Certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT
PSYCHOLOGY

This is to certify that

Matsidiso Bambo
Student Number: 1412190

Participated in Research and Ethics Training as part of the Masters research module module PSYC7022A for the Masters in Social and Psychological Research

Held between the 6th and the 10th of February 2023 at the Department of Psychology, University of the Witwatersrand

Areas of training included:

- Writing a Research Proposal
- Writing a Literature Review
- Data Collection and Instrument Design
- Qualitative Methods of Data Collection
- Quantitative Methods of Data Collection
- Research Ethics
- Plagiarism
- Library and Zotero Training
- Research Presentation

Research Ethics Chair

Head of the Psychology Department

Appendix D: Letter to Principal Investigator in South Africa

MA Social and Psychological Research Student
Psychology - School of Human and Community Development
University of the Witwatersrand
Private Bag 3
WITS, 2050
Johannesburg, South Africa

Professor Amber Gyle Thalmayer
University of Zurich,
Department of Rämistrasse 71
8006 Zürich,
Switzerland

19th April 2023

Dear Professor Thalmayer.

Re: Permission to utilize data from the Africa Long Life Study (ALLS)

My name is Matsidiso Princess Bambo, a Master of Arts student from the University of the Witwatersrand in South Africa under the supervision of Dr Tasneem Hassem. The title of my research project is Depression Demographic Profiling of Young Adults in South Africa.

The aim of my study is to conduct demographic profiling of emerging adults in South Africa who are vulnerable to depression. In addition, the study will compare depression symptoms among emerging adults in South Africa using various demographic variables. I am writing to you to kindly ask for permission from both of you as the Primary Investigator, to access and utilize the Wave 1 data from the Africa Long Life Study (ALLS) for my research report. I am particularly requesting access to the demographic variables and data from the CMHA depression subscale.
As a researcher, I intend to use the data wisely and maintain good ethical conduct. I will ensure data privacy by safeguarding the data and storing the data in a password-protected laptop. I will also be transparent about the way in which data is used and will only use it for research purposes. Moreover, I will ensure confidentiality is kept such that the participant's information will be respected. An Ethics Waiver form will be completed and sent to the ethics committee at the University of the Witwatersrand to ensure I follow the ethical guidelines during the research process.

If you require any further information or have questions, please do not hesitate to contact me.

Thank you for your time and consideration.

Kind Regards,

Matsidiso Princess Bambo

0738631582

1412190@students.wits.ac.za

Supervisor, Dr Tasneem Hassem

0117179999

Tasneem.Hassem@wits.ac.za

Appendix E: Confidentiality Agreement

Data confidentiality agreement

This confidentiality declaration must be signed by all persons who, in the capacity of their professional role or studies have access to data from the Africa Long Life Study (ALLS), which is subject to the duty of confidentiality. It prohibits the disclosure of facts that are neither public knowledge nor generally accessible, but that are confided in the context of the person's position, or that have become known to the person while carrying out this role.

Person subject to the duty of confidentiality

Last name	Bambo
First name	Matsidiso
Affiliation	University of the Witwatersrand
Student number	1412190
Date of birth	28/09/1997
E-mail	Matsidiso.bambo mb@gmail.com

Supervisor

Name	Tasneem Hassem
Affiliation	University of Witwatersrand

By signing this form, I _____ Matsidiso Princess Bambo _____ agree that:

- I have been provided with an ALLS dataset in electronic format for the sole purpose of conducting an analysis of the data.
- The dataset remains the property of the ALLS leadership team, which includes my supervisor.
- I may not present or publish or claim rights to authorship of research pertaining to or based on the dataset without a separate explicit signed agreement established with my supervisor and the ALLS leadership team.
- I will not share the whereabouts or content of the data set with anybody other than my supervisor.
- I will not distribute or pass the data set on to other individuals for any reason whatsoever, without the written permission of my supervisor.
- No information or personal data is to be made accessible to third parties, either in full or in part, in any shape or form, regardless of the storage medium (e.g., hard copy, CD, memory chip), either as an original or a copy, without the express permission of my supervisor.
- I am aware of the ethical requirement of maintaining data confidentiality. I undertake to do so at all times, and I will take all necessary measures for data protection.
- The only course-related output based on this data set that I will produce will be a research report or thesis to be submitted for examination at my university as defined above.

- The production of any further research outputs (such as conference presentations or publications) based on access to this data will require a separate and explicit authorship agreement between myself and my supervisor.
- I will credit my supervisor (as well as any other researchers specified by my supervisor) for data access in the research report.

_Johannesburg_____ 25 April 2023

Place Date

Matsidiso



Student Name Signature

Tasneem Hassem



Supervisor Name Signature

Appendix F: Permission Letter

University of Zurich[UZH]

Department of Psychology
Personality, Mental Health, and Culture

University of Zurich
Department of Psychology
Personality, Mental Health, and Culture
Binzmuehlestrasse 14, Box 19
CH-8050 Zurich

www.psychology.uzh.ch/psyges

UZH, Department of Psychology, Personality, Mental Health, and Culture, Binzmuehlestrasse 14, Box 19, CH-8050 Zurich

Prof. Amber Gayle Thalmayer
Phone +41 44 635 72 49
amber-gayle.thalmayer@psychologie.uzh.ch

Zurich, April 27, 2023

RE: Africa Long Life Study Data Access

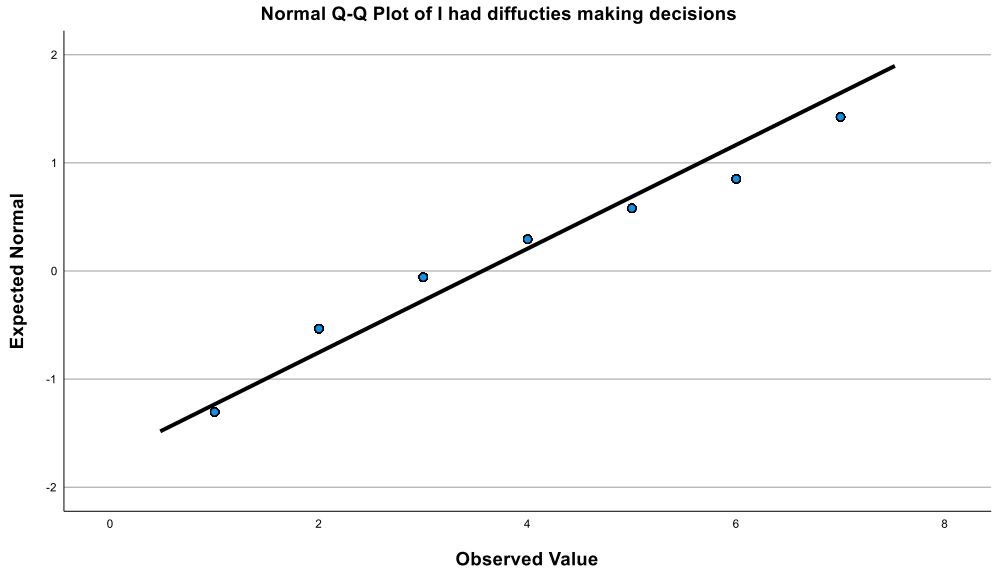
This letter serves to confirm that Matsidiso Bambo and Tasmeen Hassem have been granted permission to conduct research with the Africa Long Life Study (ALLS) participants over the age of 18 using already collected data from South Africa, Kenya, and Namibia. The title of this research project is Depression Demographic Profiling of Young Adults in South Africa. The researchers have undertaken to ensure the safety of data collected.

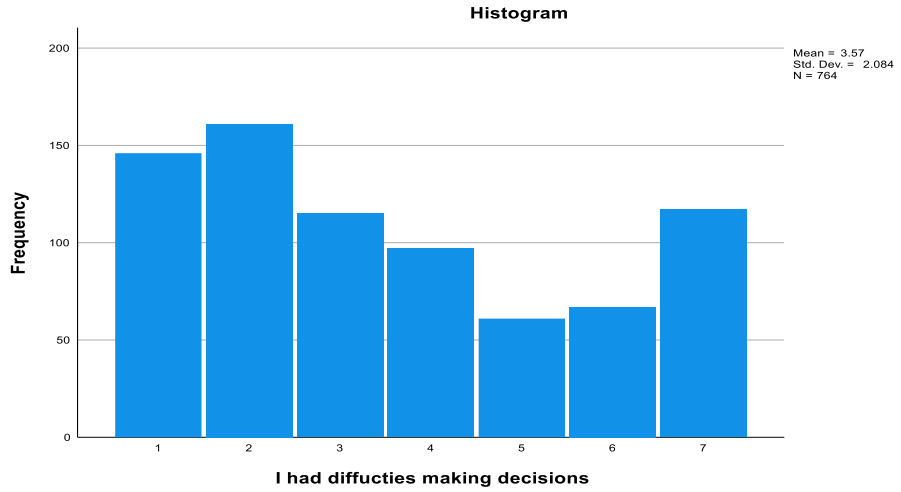
Sincerely

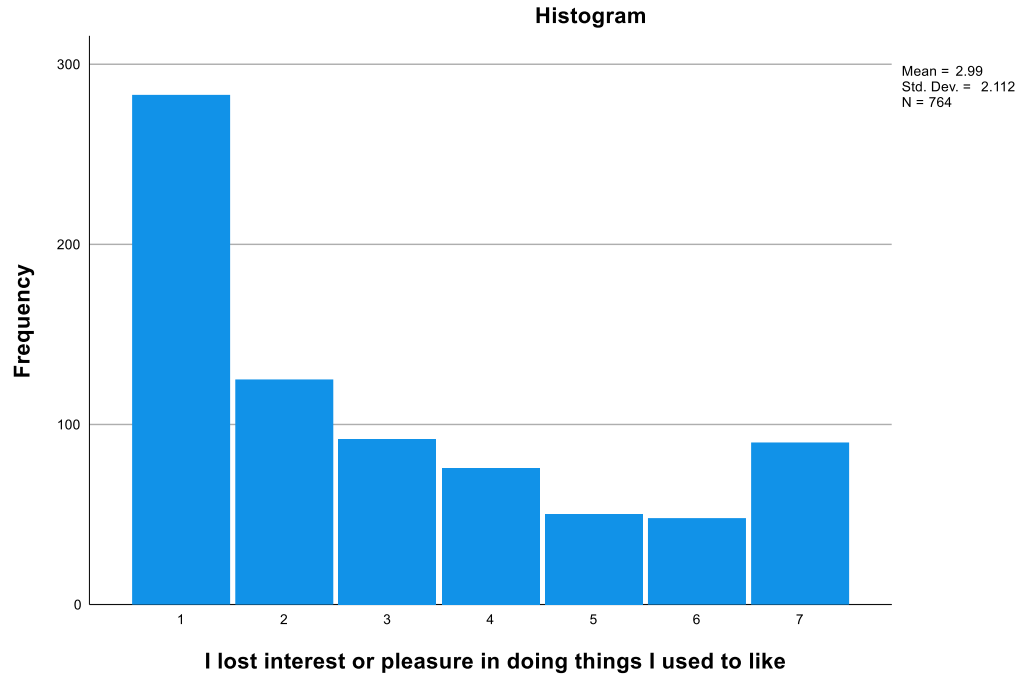
Prof. Amber Gayle Thalmayer
Department of Psychology
University of Zurich

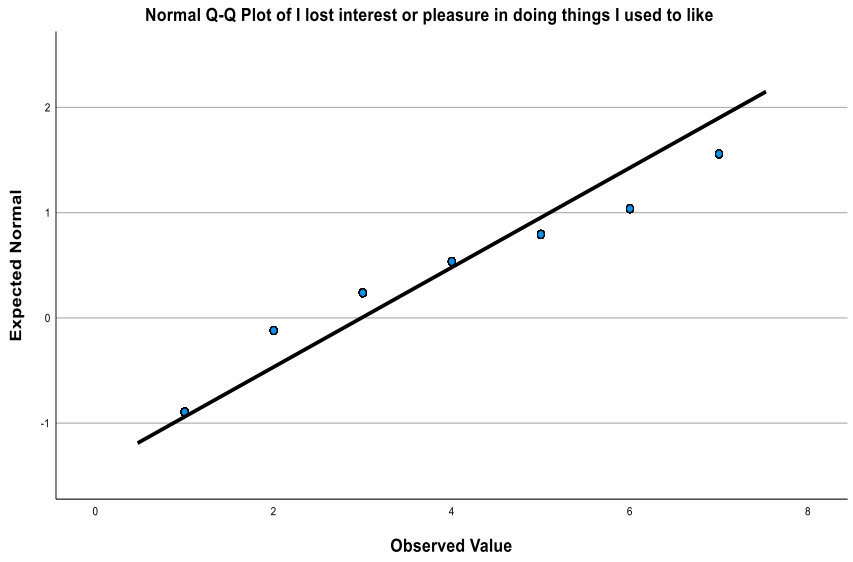
Appendix G: Tests for Parametric Assumptions

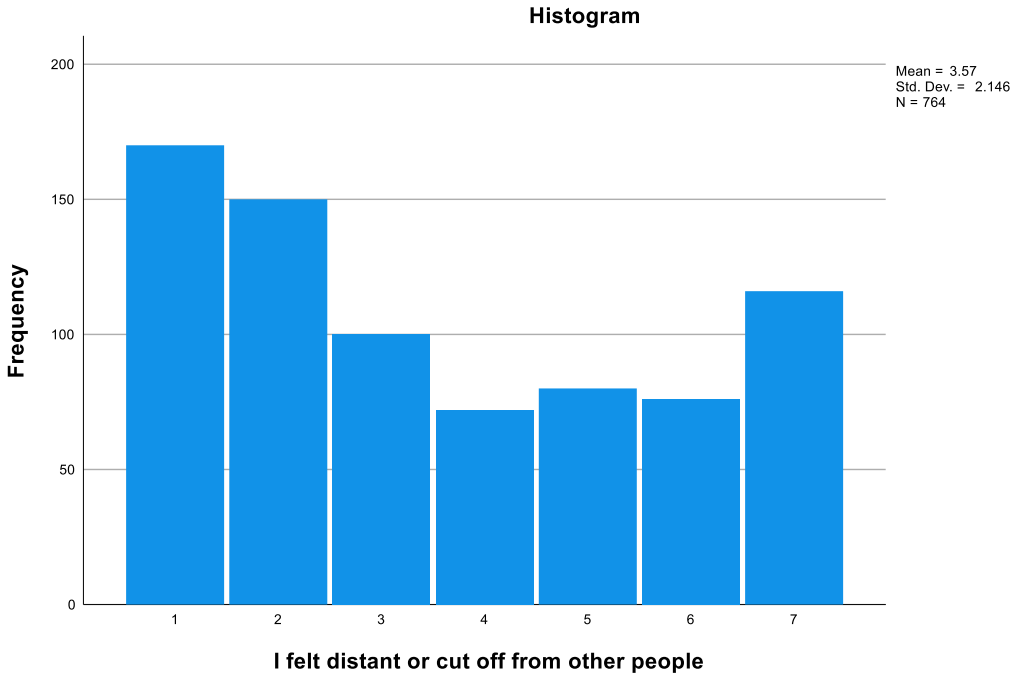
Histograms And Q-Q Plots Illustrating the Distribution of the Sample.





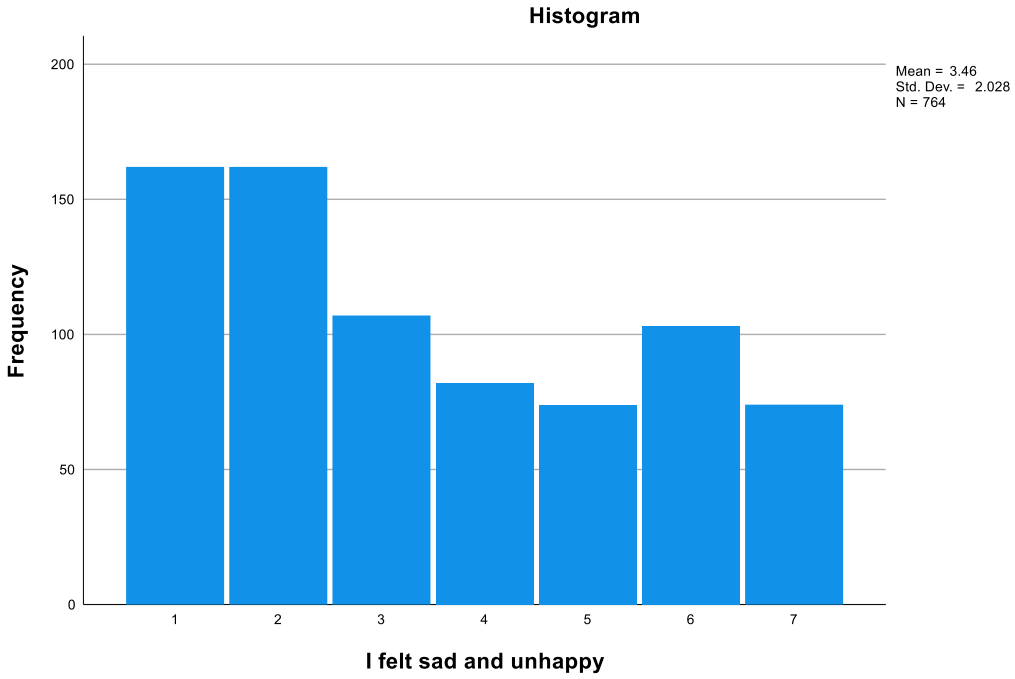

Histogram
Mean = 2.99
Std. Dev. = 2.112
N = 764
Frequency
300
200
100
0
1
2
3
4
5
6
7
I lost interest or pleasure in doing things I used to like


Normal Q-Q Plot of I lost interest or pleasure in doing things I used to like
Expected Normal
2
1
0
-1
0
2
4
6
8
Observed Value

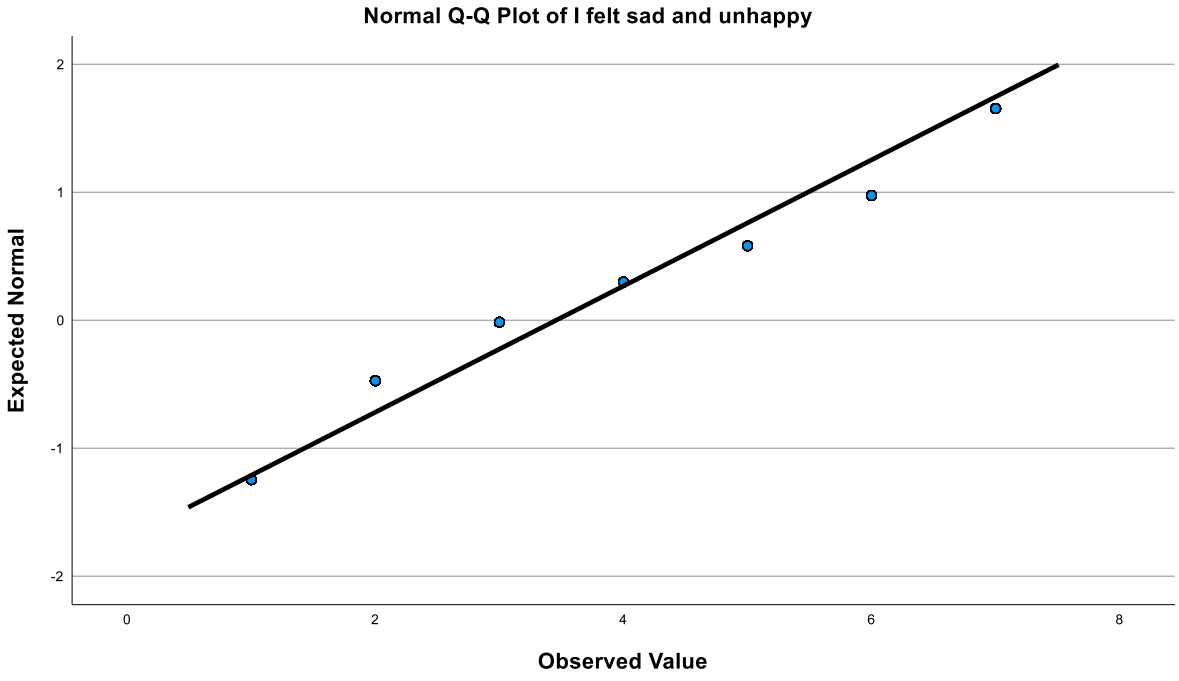

Histogram
Mean = 3.57
Std. Dev. = 2.146
N = 764
Frequency
200
150
100
50
0
1
2
3
4
5
6
7
I felt distant or cut off from other people

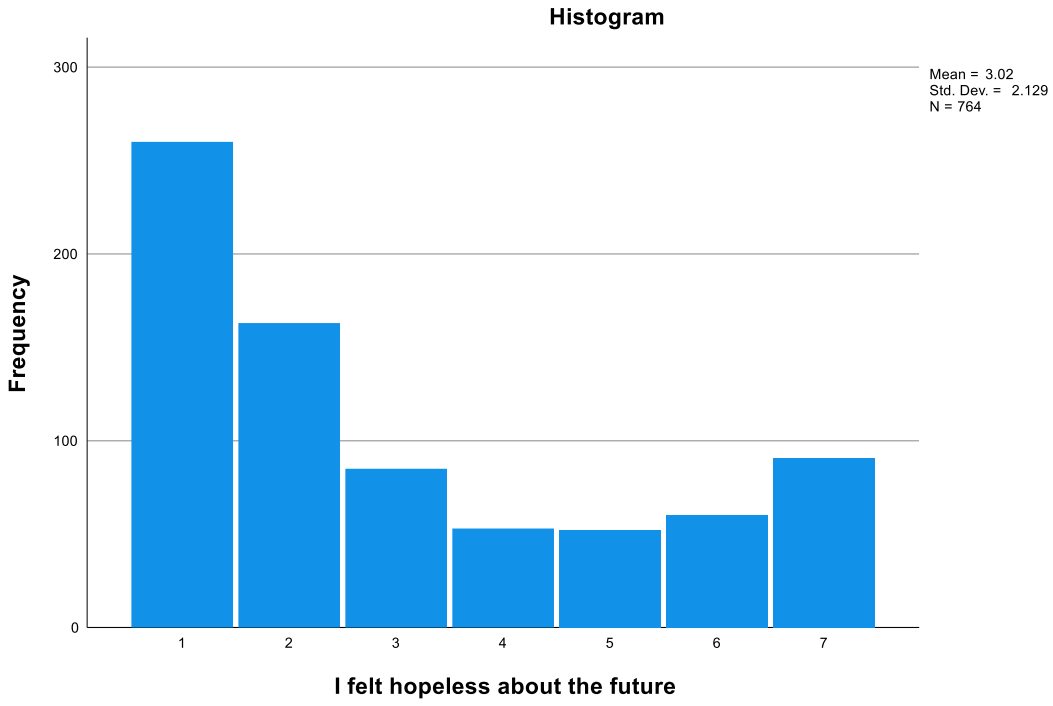

Normal Q-Q Plot of I felt distant or cut off from other people
Expected Normal
2
1
0
-1
-2
0
2
4
6
8
Observed Value

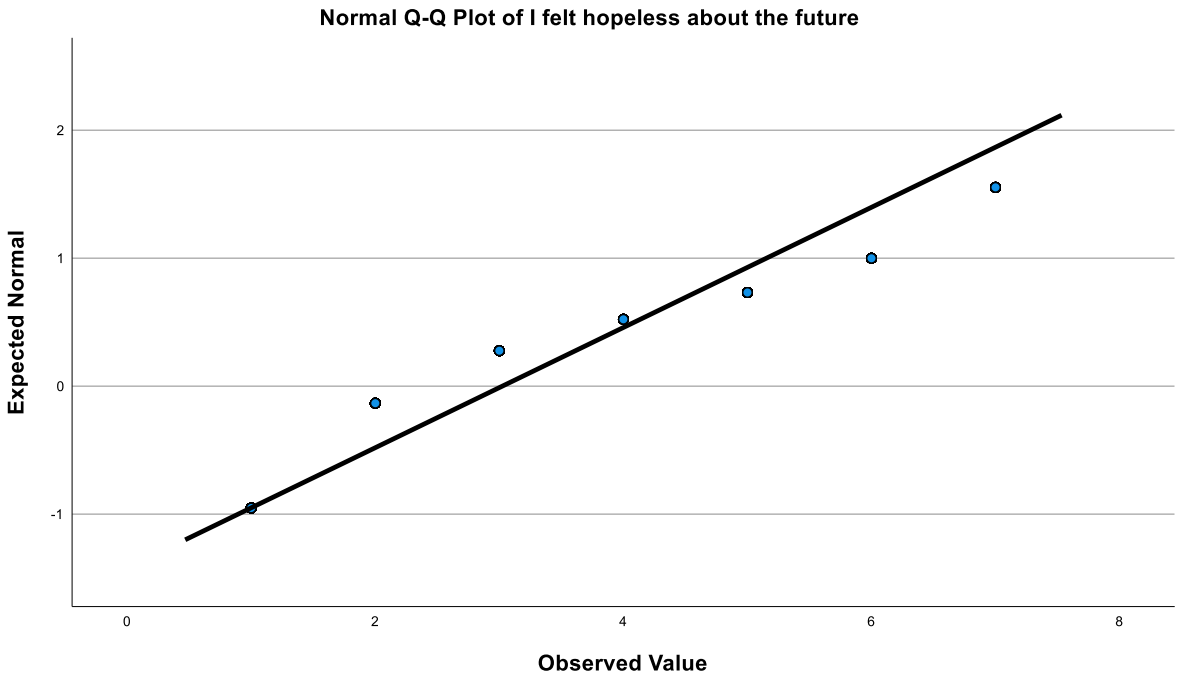
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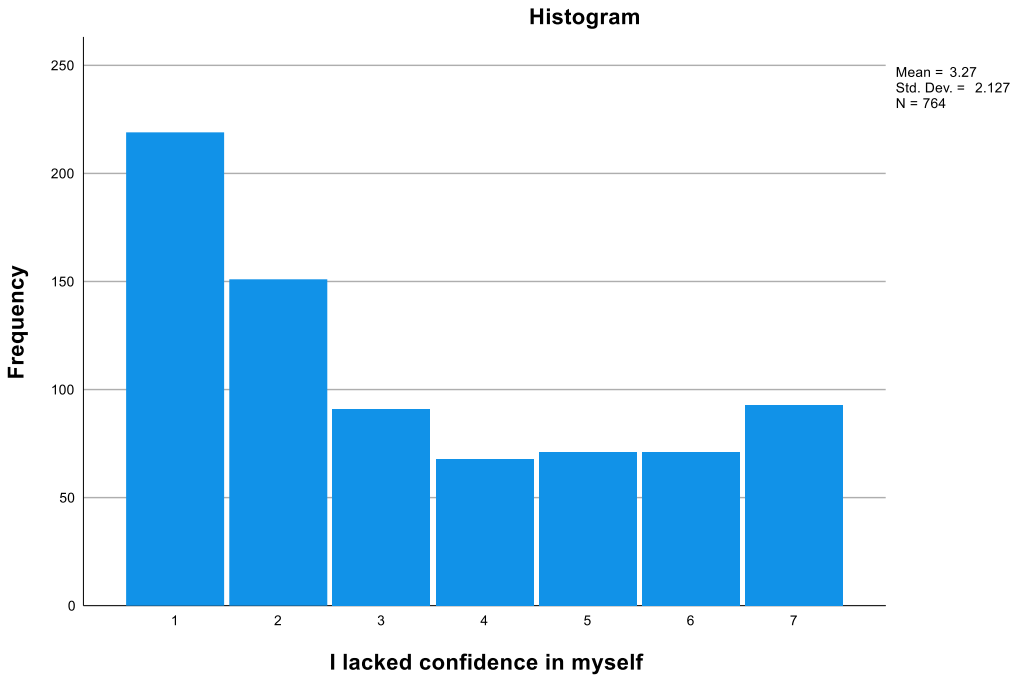

Histogram
Mean = 3.46
Std. Dev. = 2.028
N = 764
Frequency
200
150
100
50
0
1
2
3
4
5
6
7
I felt sad and unhappy

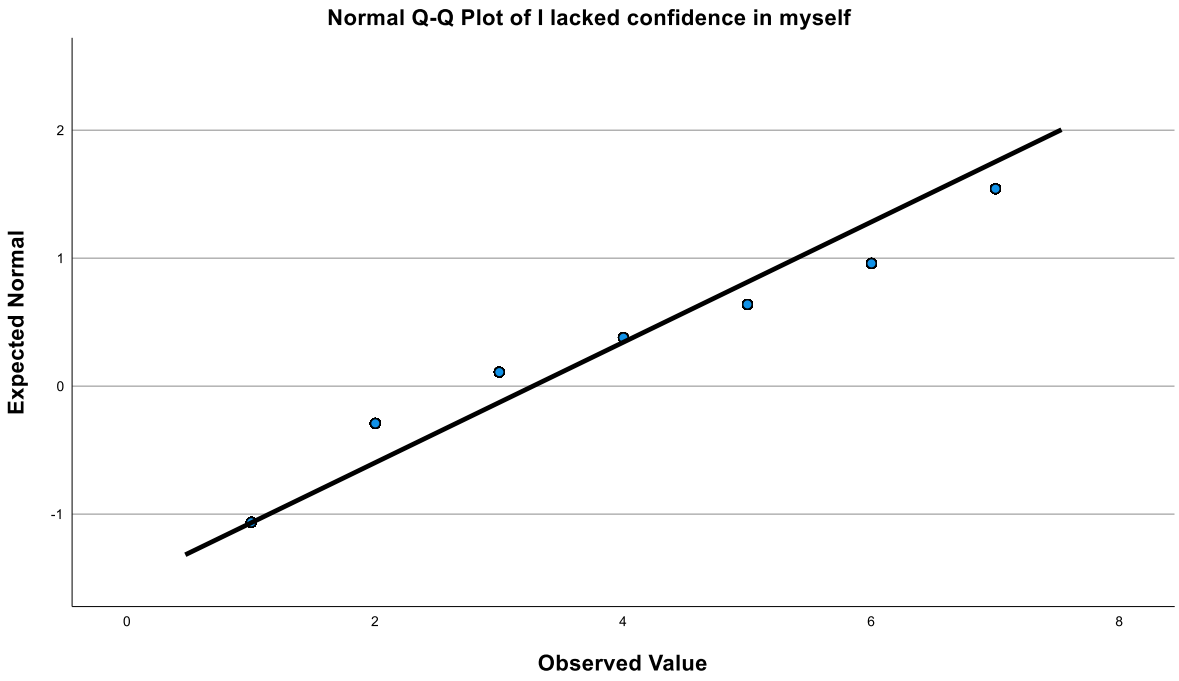
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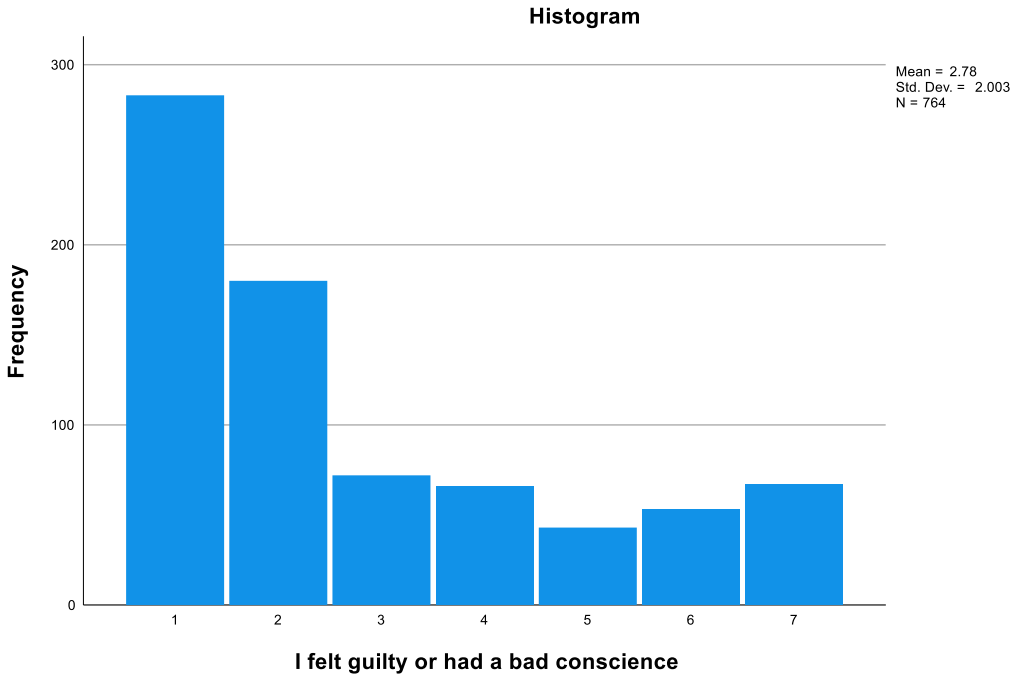

Normal Q-Q Plot of I felt sad and unhappy
Expected Normal
2
1
0
-1
-2
0
2
4
6
8
Observed Value


Histogram
Mean = 3.02
Std. Dev. = 2.129
N = 764
Frequency
300
200
100
0
1
2
3
4
5
6
7
I felt hopeless about the future

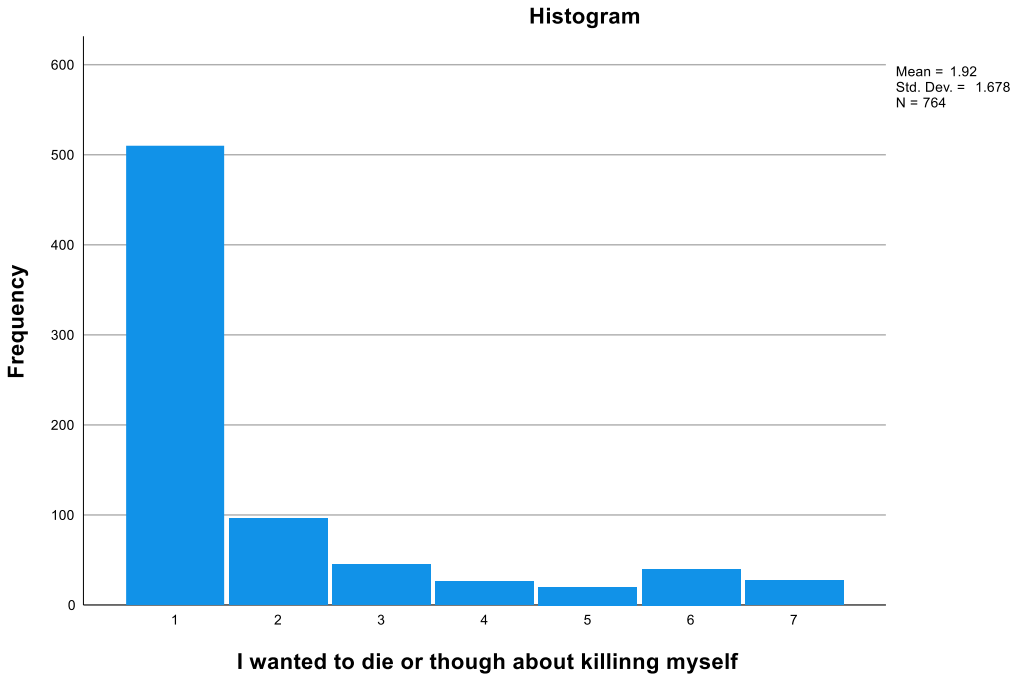

Normal Q-Q Plot of I felt hopeless about the future
Expected Normal
2
1
0
-1
0
2
4
6
8
Observed Value

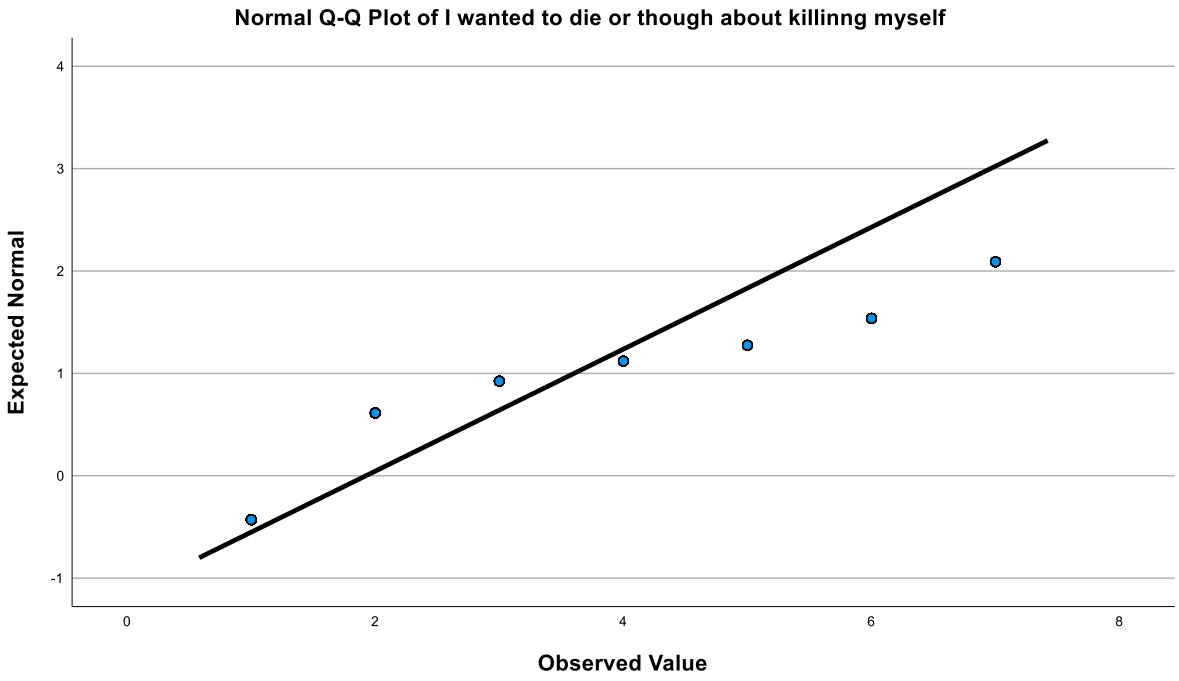

Histogram
Mean = 3.27
Std. Dev. = 2.127
N = 764
Frequency
250
200
150
100
50
0
1
2
3
4
5
6
7
I lacked confidence in myself

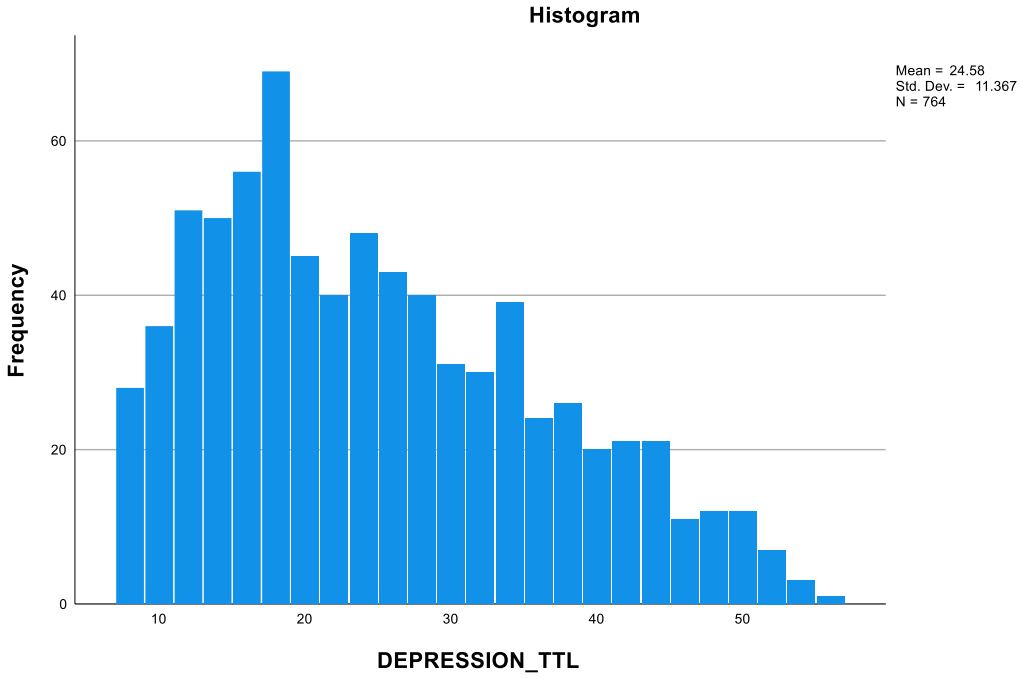

Normal Q-Q Plot of I lacked confidence in myself
Expected Normal
2
1
0
-1
0
2
4
6
8
Observed Value

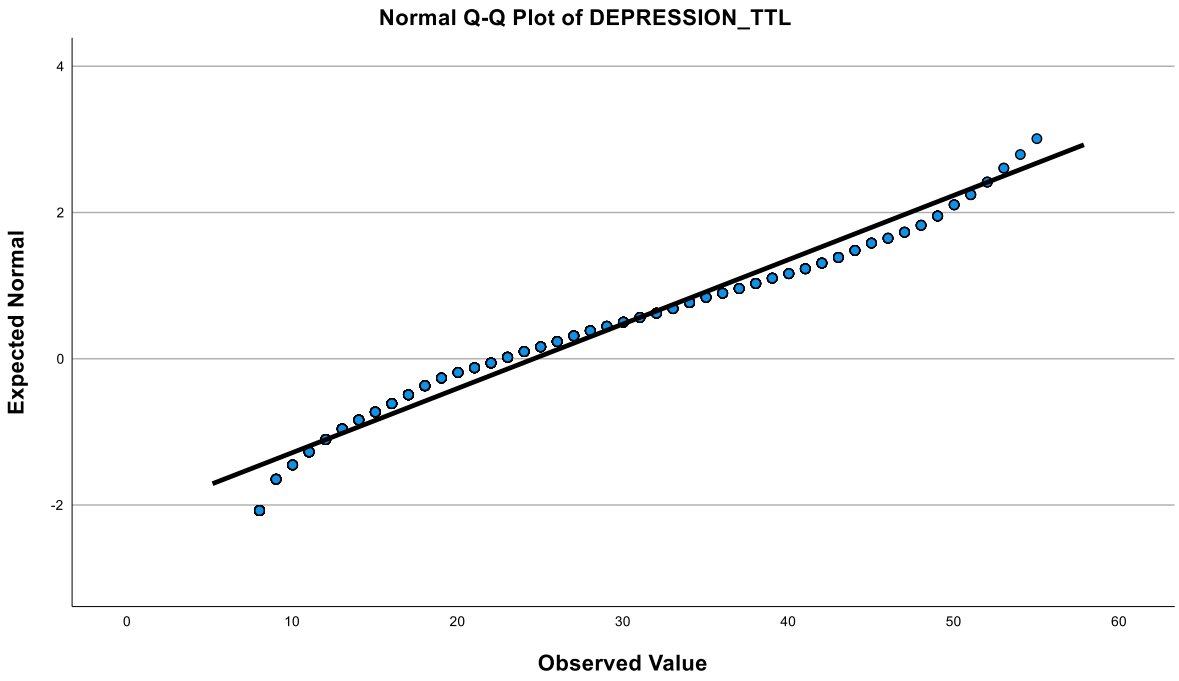

Histogram
Mean = 2.78
Std. Dev. = 2.003
N = 764
Frequency
300
200
100
0
1
2
3
4
5
6
7
I felt guilty or had a bad conscience

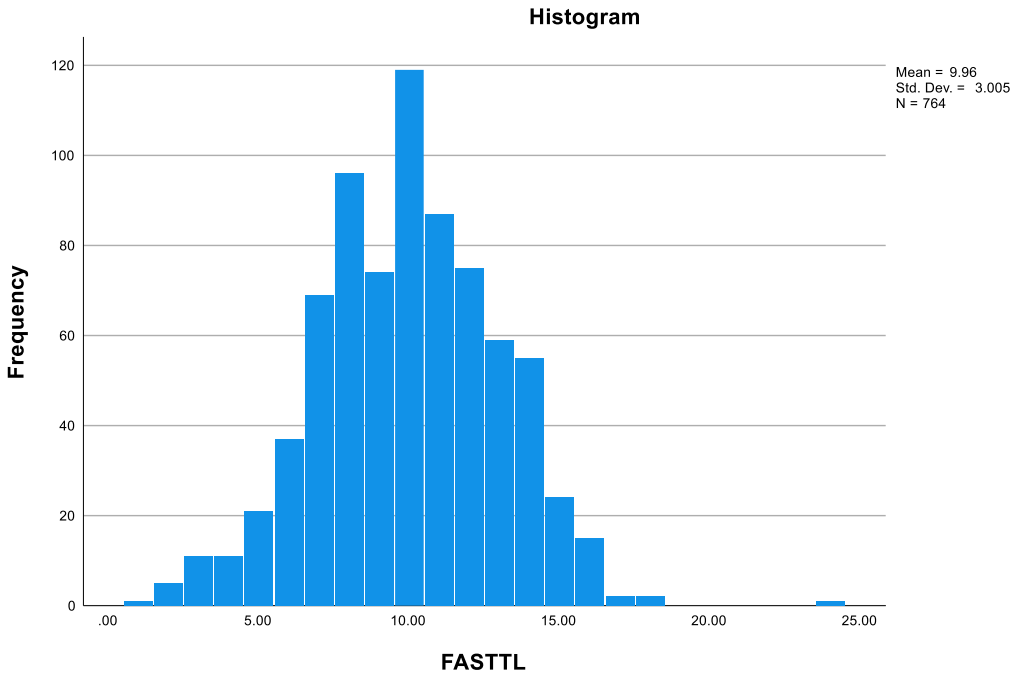

Normal Q-Q Plot of I felt guilty or had a bad conscience
Expected Normal
2
1
0
-1
0
2
4
6
8
Observed Value

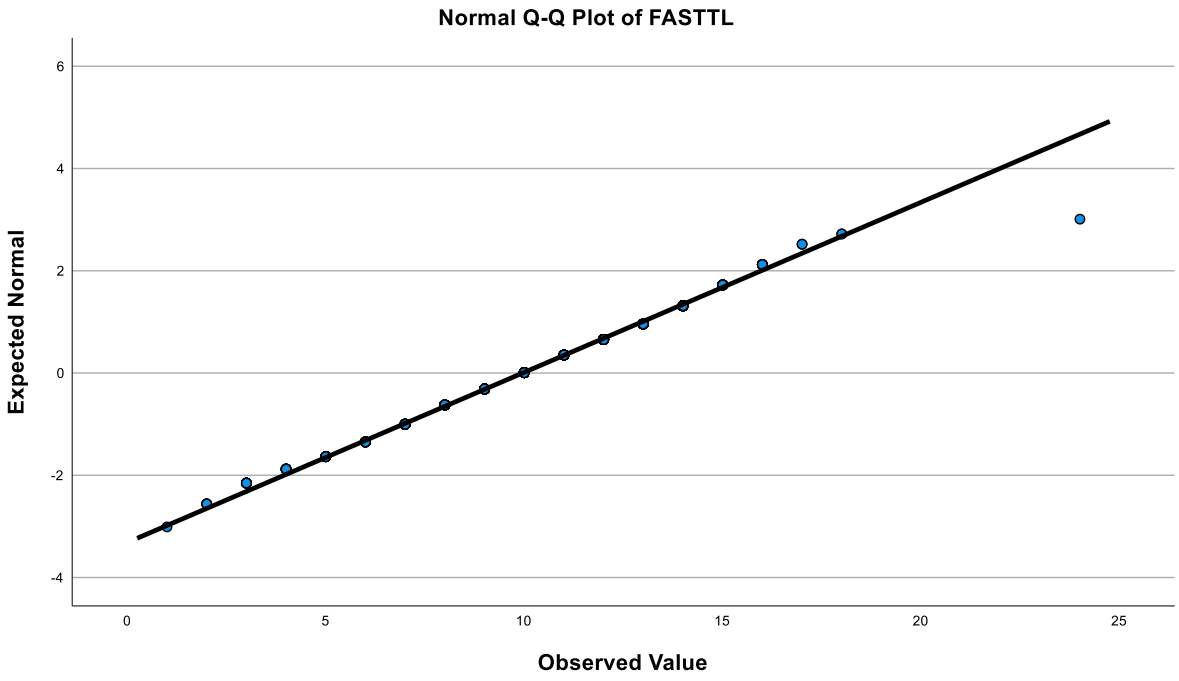

Histogram
Mean = 1.92
Std. Dev. = 1.678
N = 764
Frequency
600
500
400
300
200
100
0
1
2
3
4
5
6
7
I wanted to die or though about killinng myself

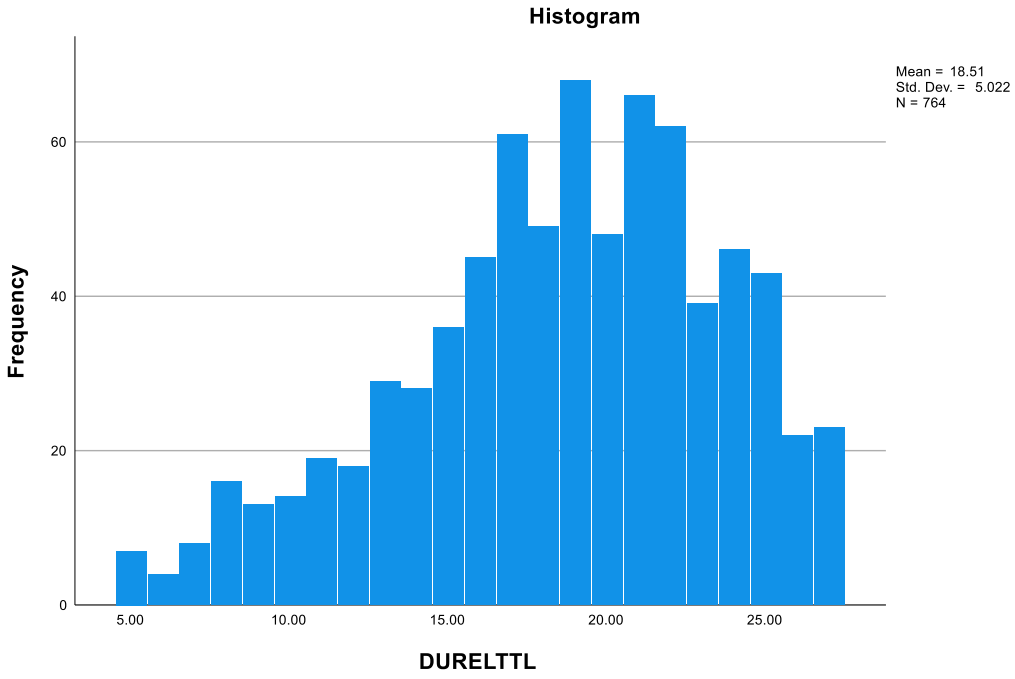

Normal Q-Q Plot of I wanted to die or though about killinng myself
Expected Normal
Observed Value
4
3
2
1
0
-1
0
2
4
6
8

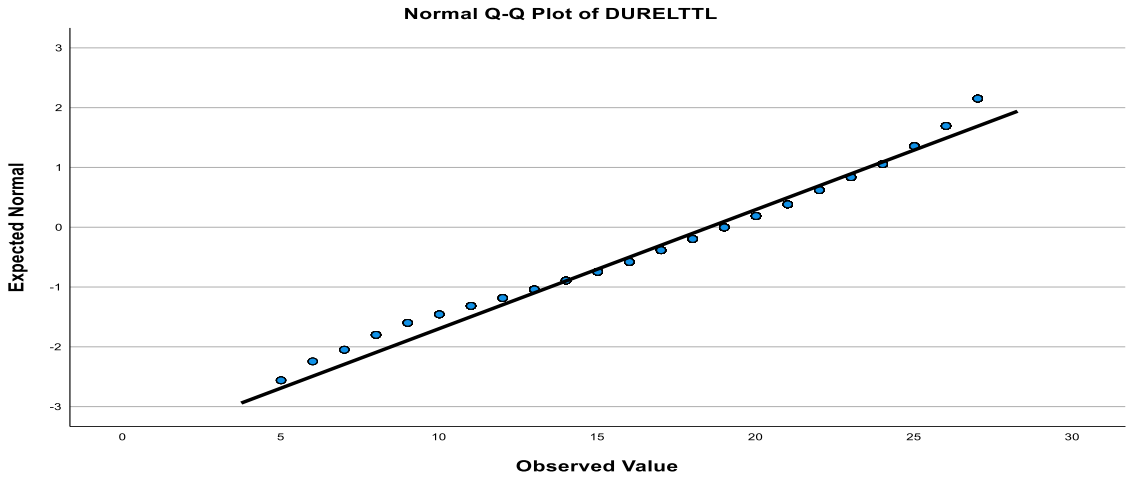

Histogram
Mean = 24.58
Std. Dev. = 11.367
N = 764
Frequency
DEPRESSION_TTL
60
40
20
0
10
20
30
40
50


Normal Q-Q Plot of DEPRESSION_TTL
Expected Normal
Observed Value
4
2
0
-2
0
10
20
30
40
50
60

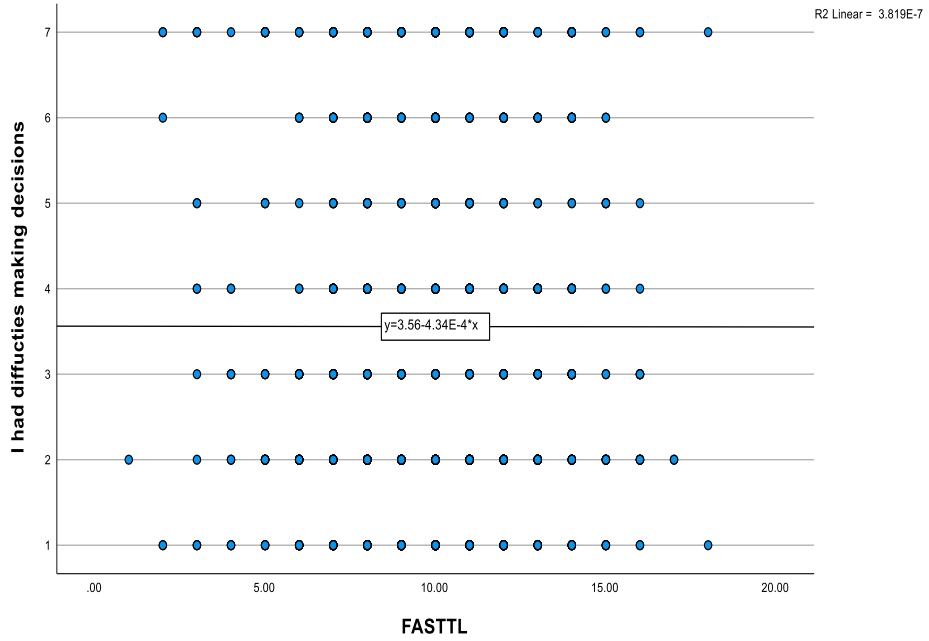

Histogram
Mean = 9.96
Std. Dev. = 3.005
N = 764
Frequency
FASTTL
120
100
80
60
40
20
0
.00
5.00
10.00
15.00
20.00
25.00

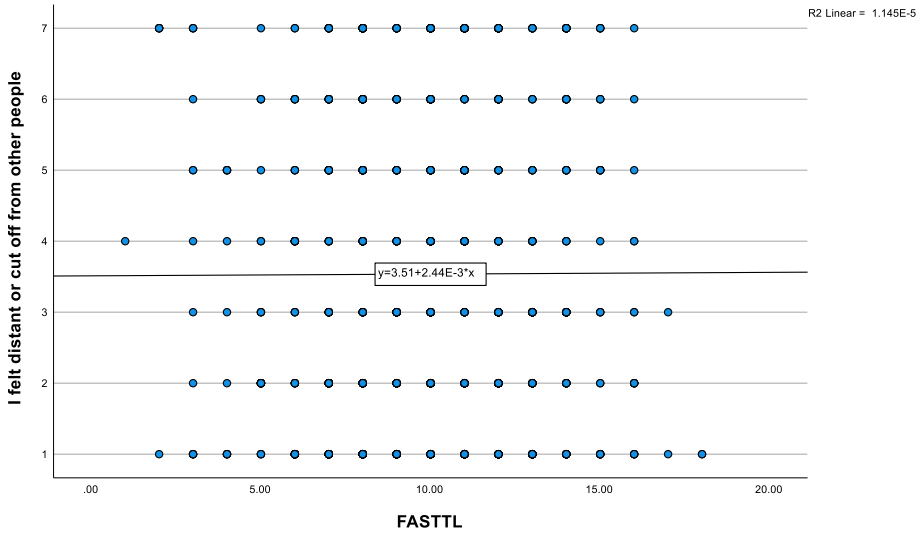

Normal Q-Q Plot of FASTTL
Expected Normal
6
4
2
0
-2
-4
0
5
10
15
20
25
Observed Value

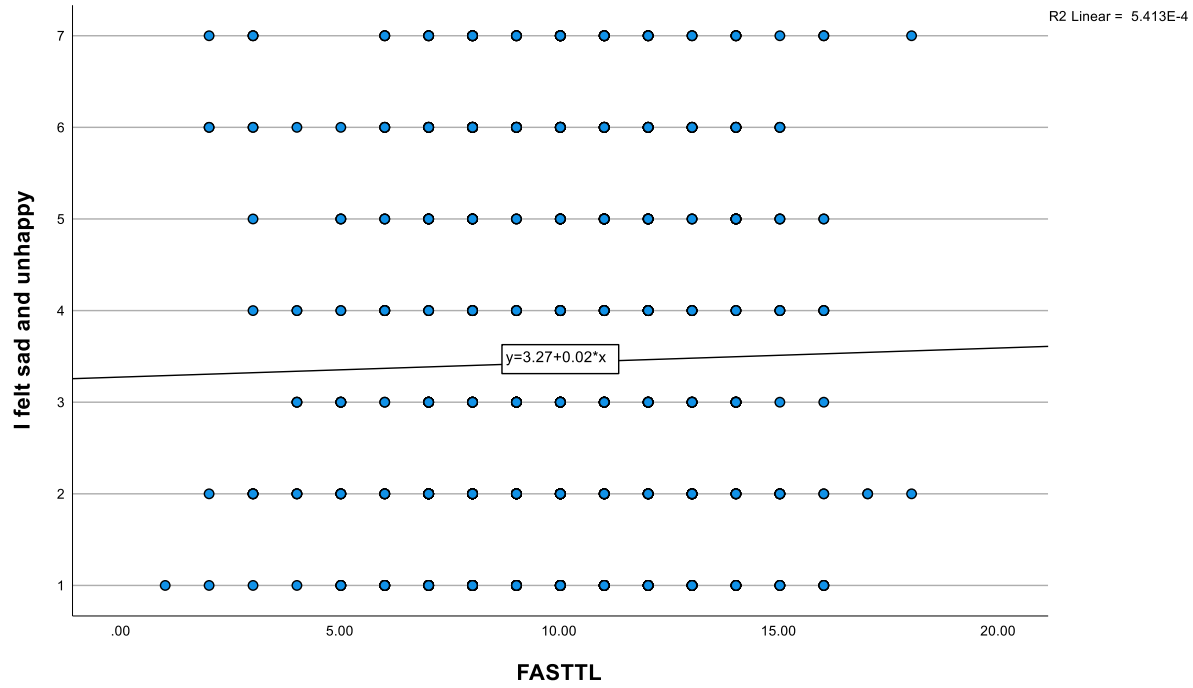

Histogram
Mean = 18.51
Std. Dev. = 5.022
N = 764
Frequency
60
40
20
0
5.00
10.00
15.00
20.00
25.00
DURELTTL

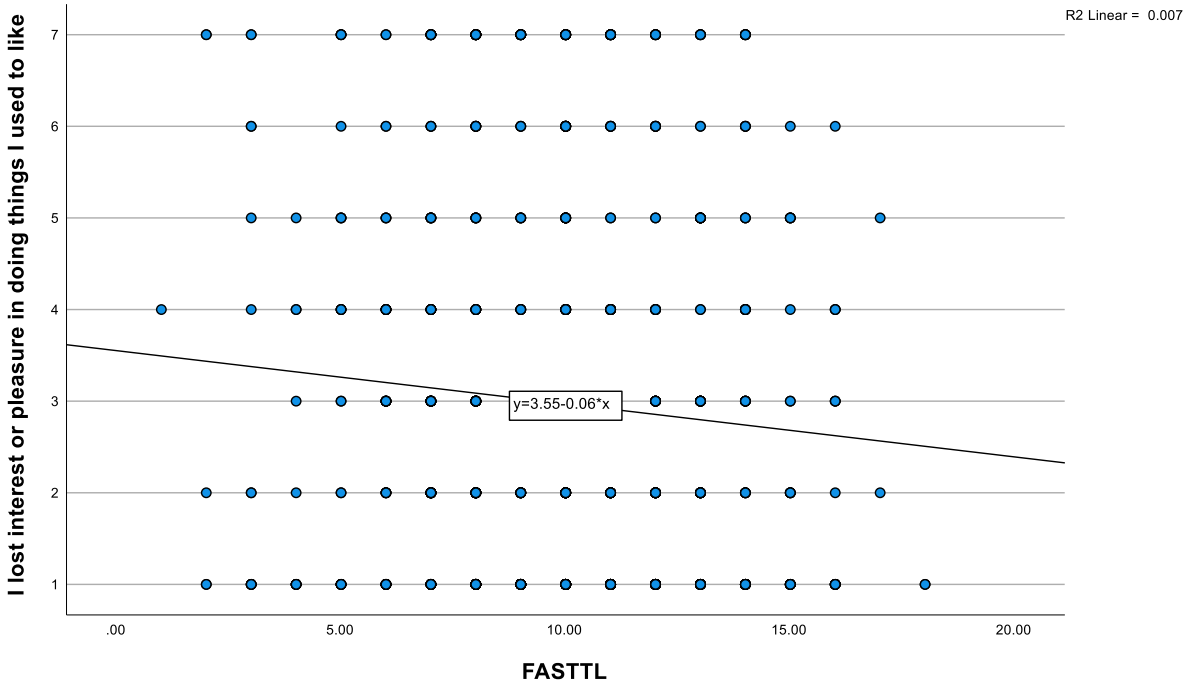


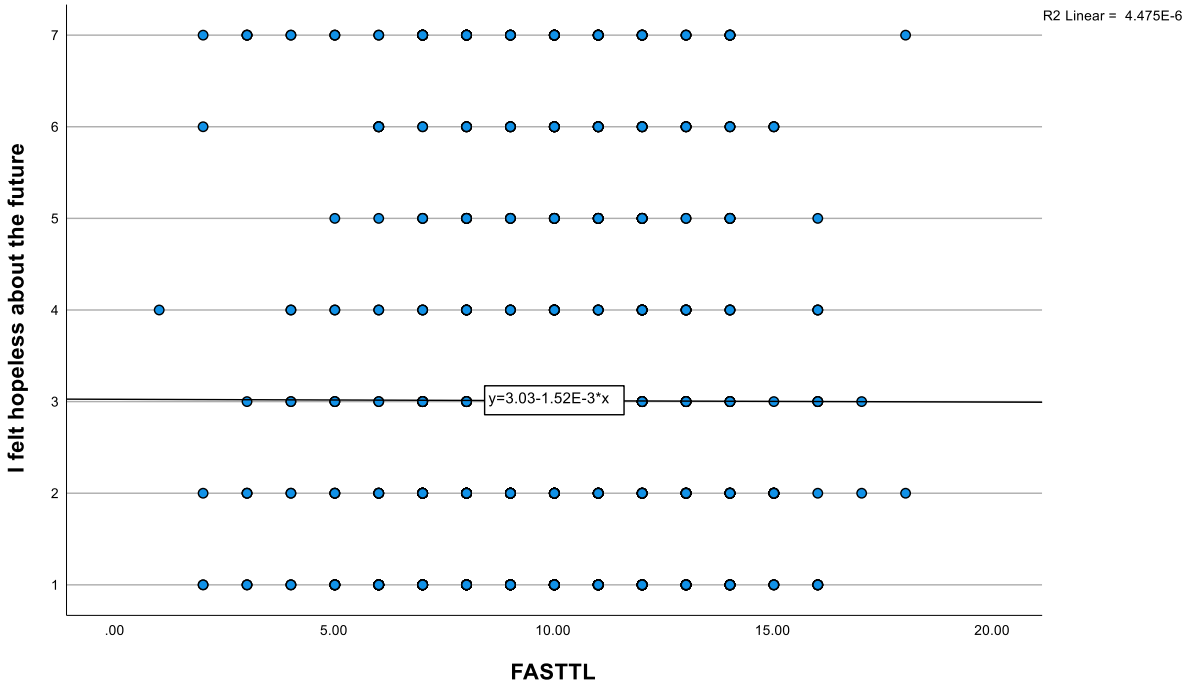
Scatterplots exploring the linear relationship between interval independent and dependent variables

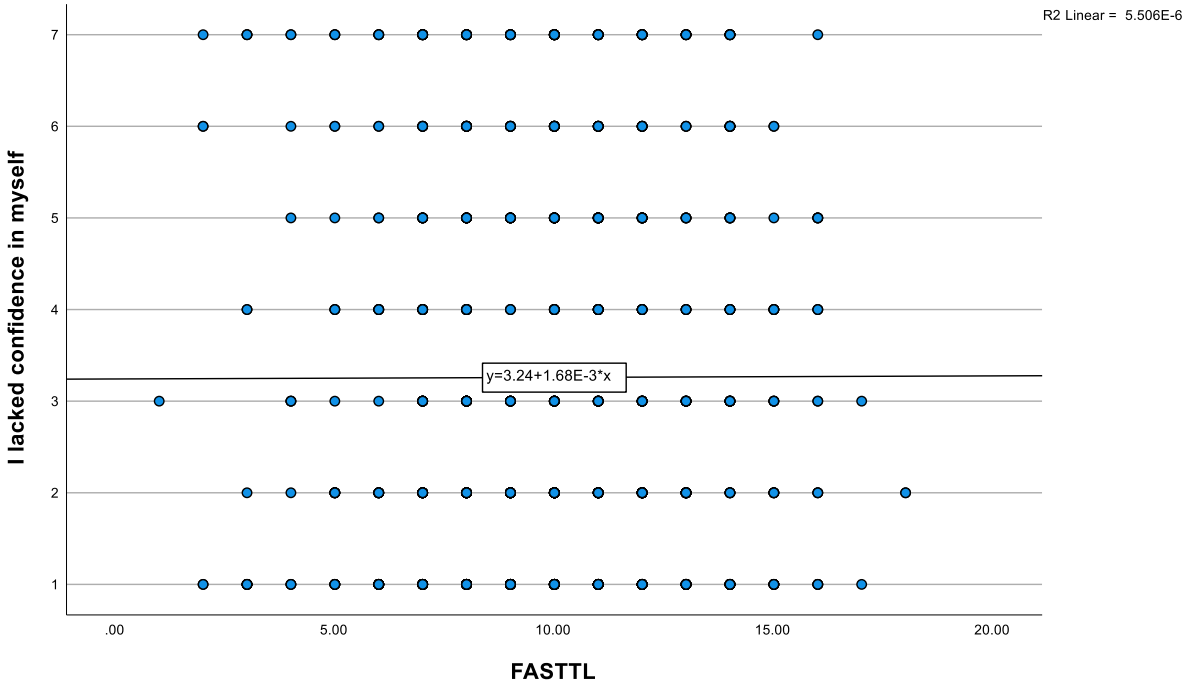


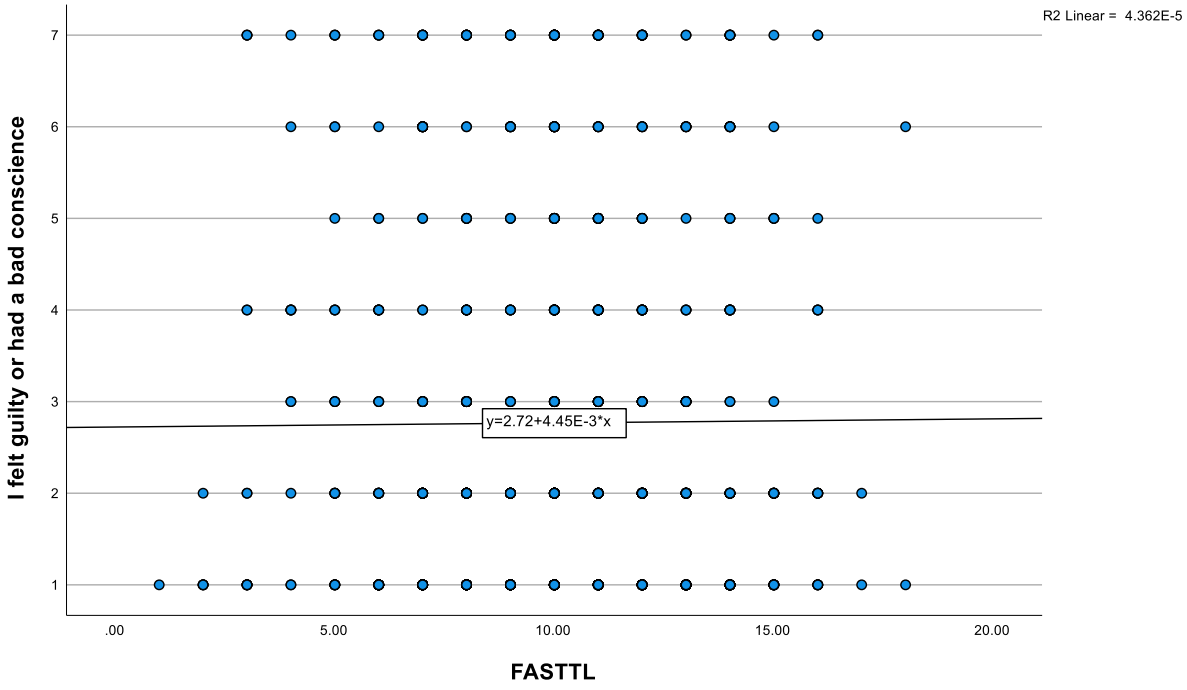

R2 Linear = 1.145E-5
I felt distant or cut off from other people
y=3.51+2.44E-3*x
FASTTL
7
6
5
4
3
2
1
.00
5.00
10.00
15.00
20.00

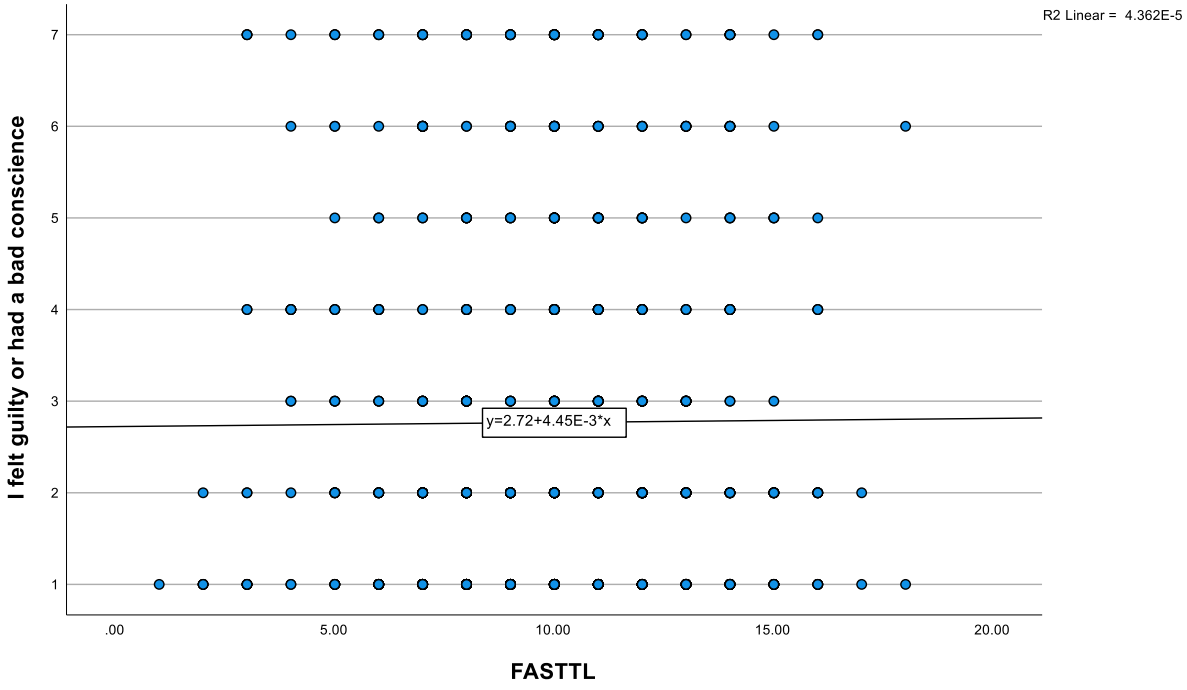

R2 Linear = 5.413E-4
I felt sad and unhappy
y=3.27+0.02*x
FASTTL
7
6
5
4
3
2
1
.00
5.00
10.00
15.00
20.00

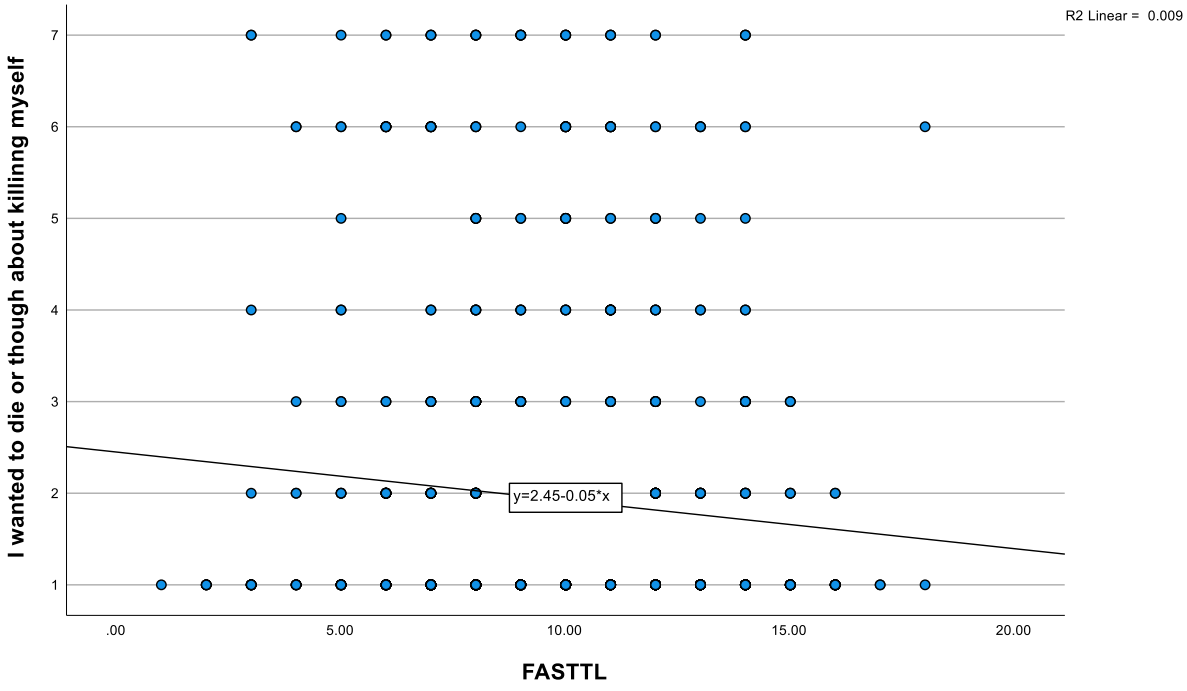

R2 Linear = 0.007
I lost interest or pleasure in doing things I used to like
7
6
5
4
3
2
1
y=3.55-0.06*x
.00
5.00
10.00
15.00
20.00
FASTTL

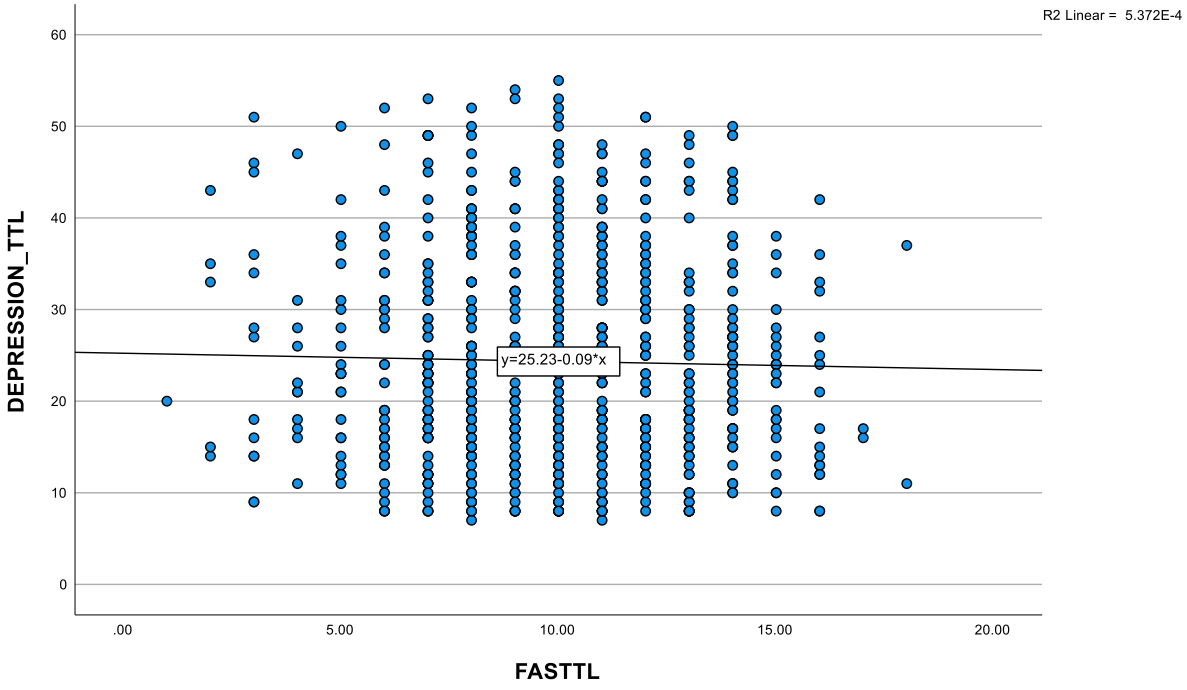

R2 Linear = 4.475E-6
I felt hopeless about the future
7
6
5
4
3
2
1
y=3.03-1.52E-3*x
.00
5.00
10.00
15.00
20.00
FASTTL

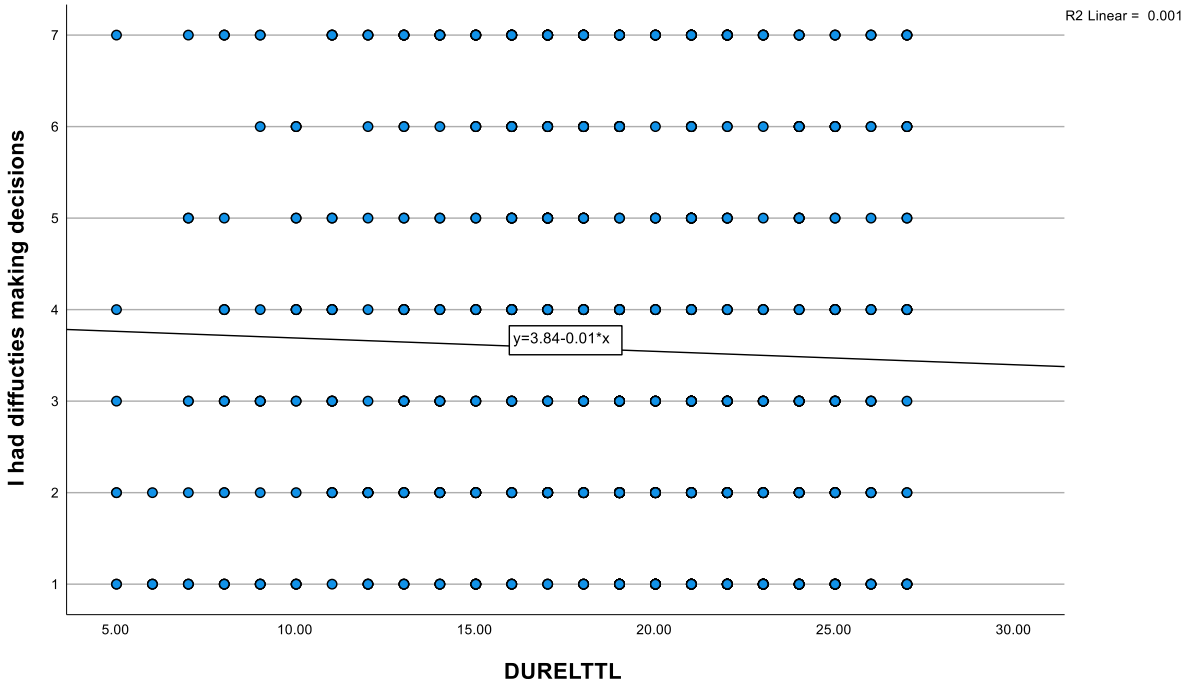

R2 Linear = 5.506E-6
I lacked confidence in myself
7
6
5
4
3
2
1
y=3.24+1.68E-3*x
.00
5.00
10.00
15.00
20.00
FASTTL

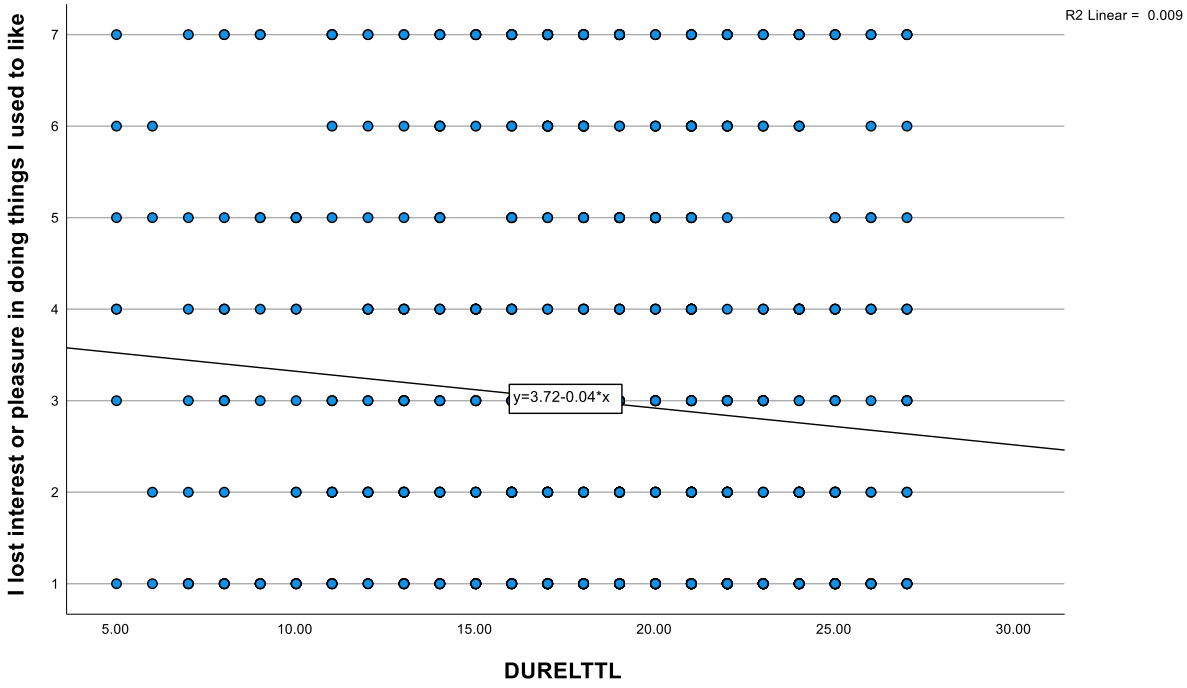

R2 Linear = 4.362E-5
I felt guilty or had a bad conscience
7
6
5
4
3
2
1
y=2.72+4.45E-3*x
.00
5.00
10.00
15.00
20.00
FASTTL

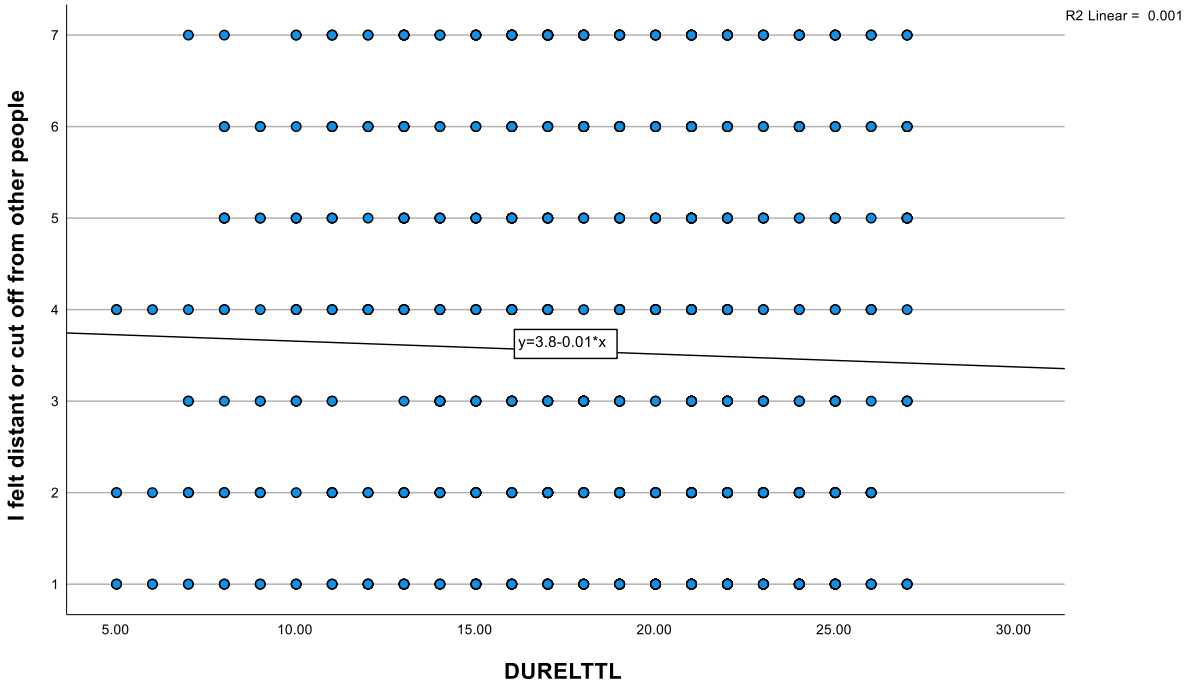

R2 Linear = 4.362E-5
I felt guilty or had a bad conscience
7
6
5
4
3
2
1
y=2.72+4.45E-3*x
.00
5.00
10.00
15.00
20.00
FASTTL

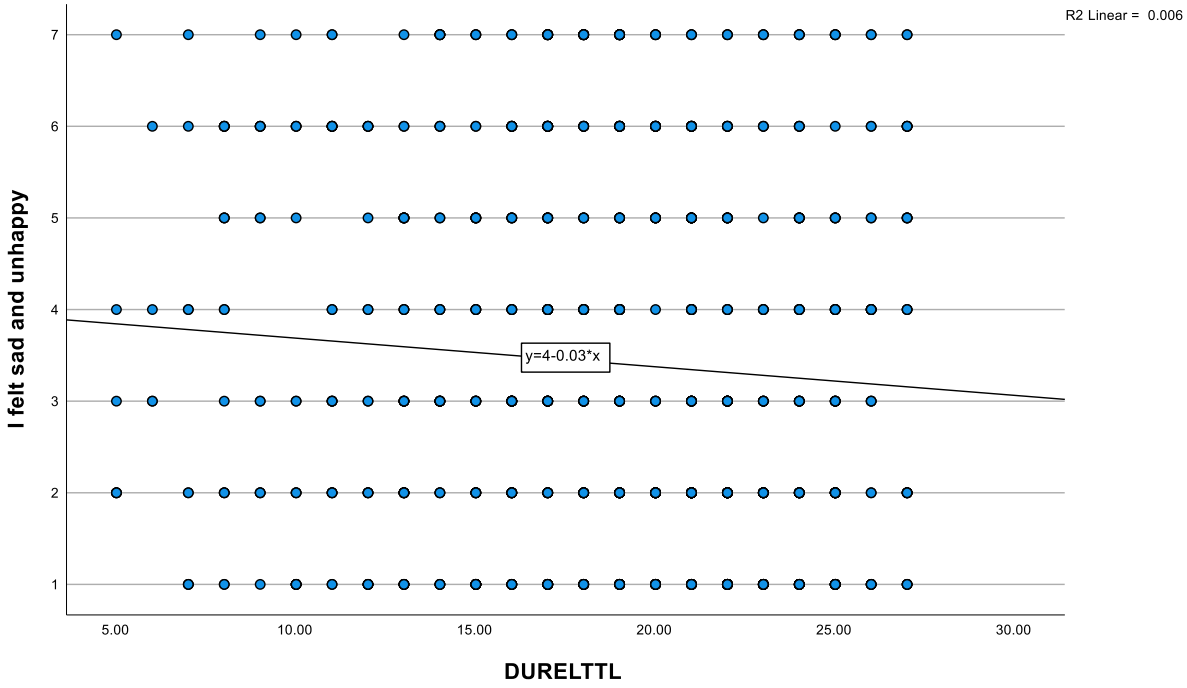

R2 Linear = 0.009
I wanted to die or though about killinng myself
7
6
5
4
3
2
1
y=2.45-0.05*x
.00
5.00
10.00
15.00
20.00
FASTTL

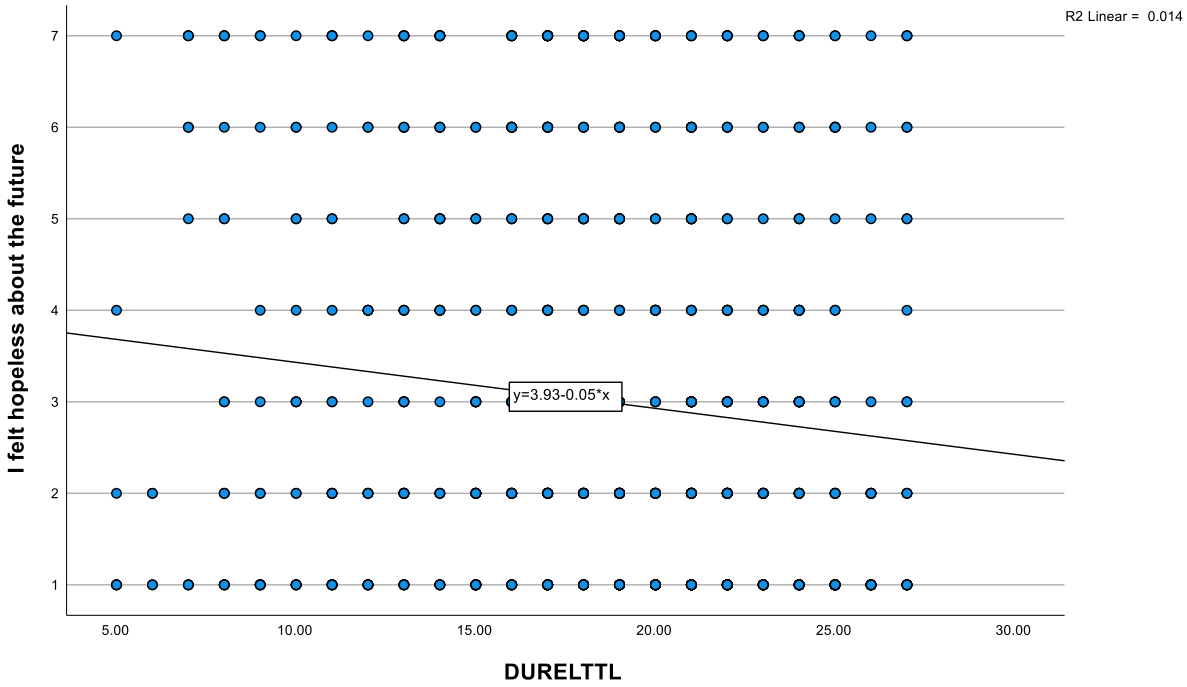

R2 Linear = 5.372E-4
DEPRESSION_TTL
60
50
40
30
20
10
0
y=25.23-0.09*x
.00
5.00
10.00
15.00
20.00
FASTTL

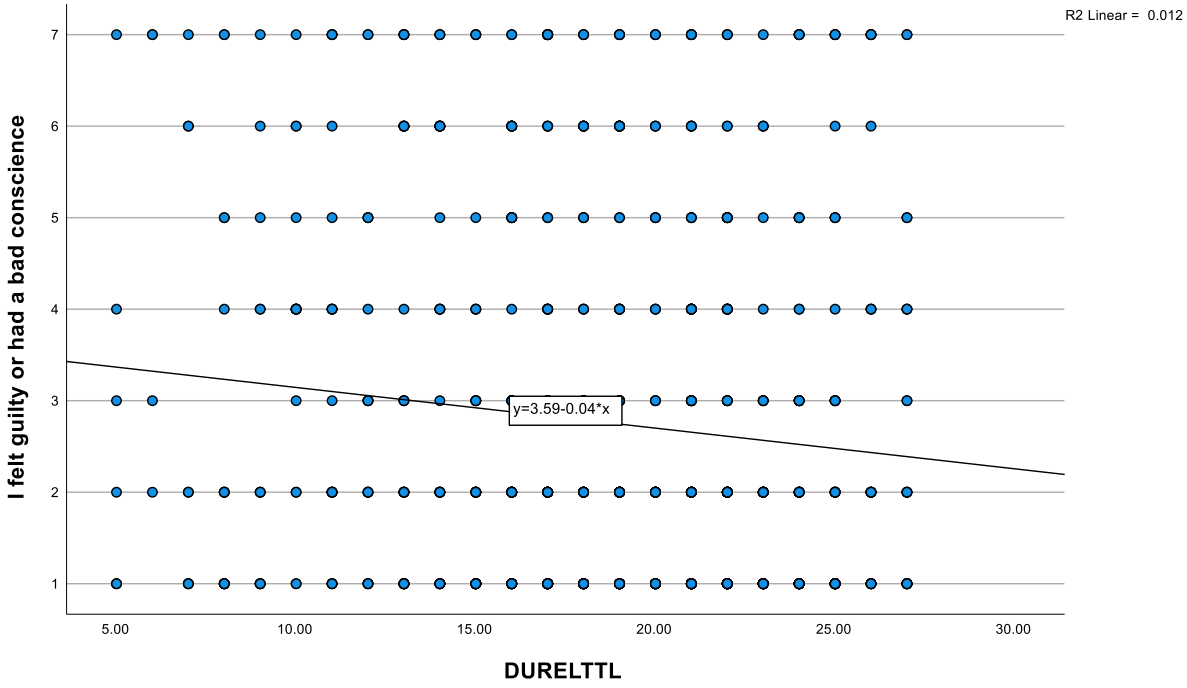

R2 Linear = 0.001
I had diffucties making decisions
7
6
5
4
3
2
1
y=3.84-0.01*x
5.00
10.00
15.00
20.00
25.00
30.00
DURELTTL

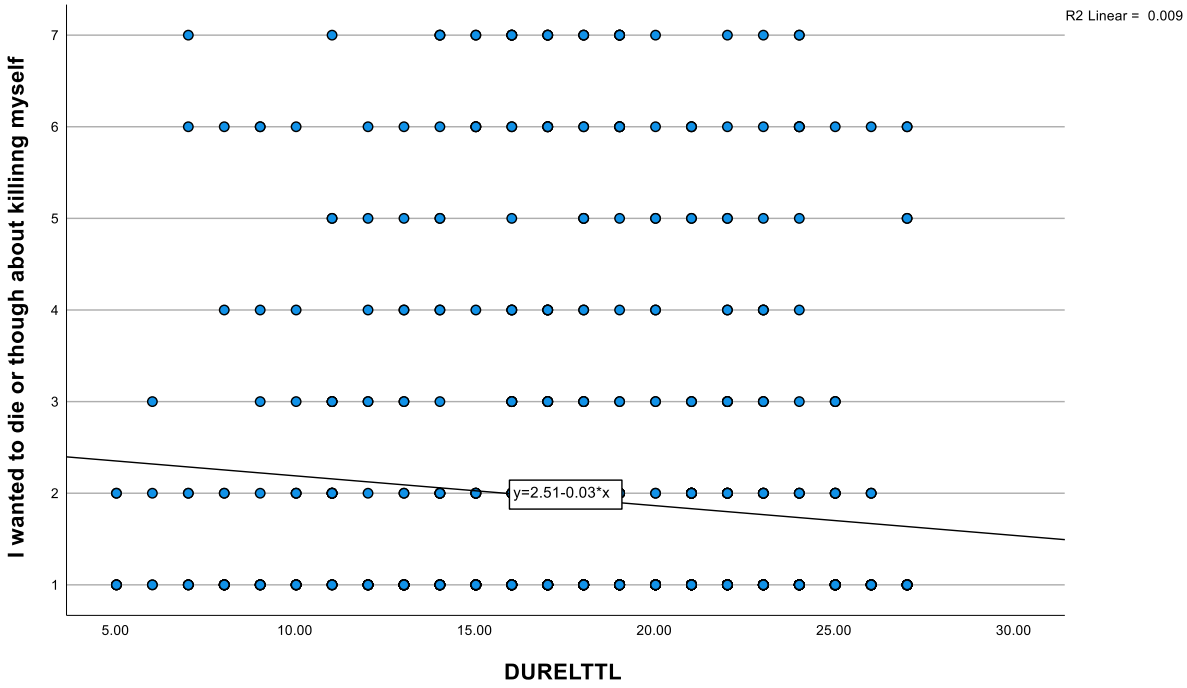

R2 Linear = 0.009
I lost interest or pleasure in doing things I used to like
y=3.72-0.04*x
DURELTTL

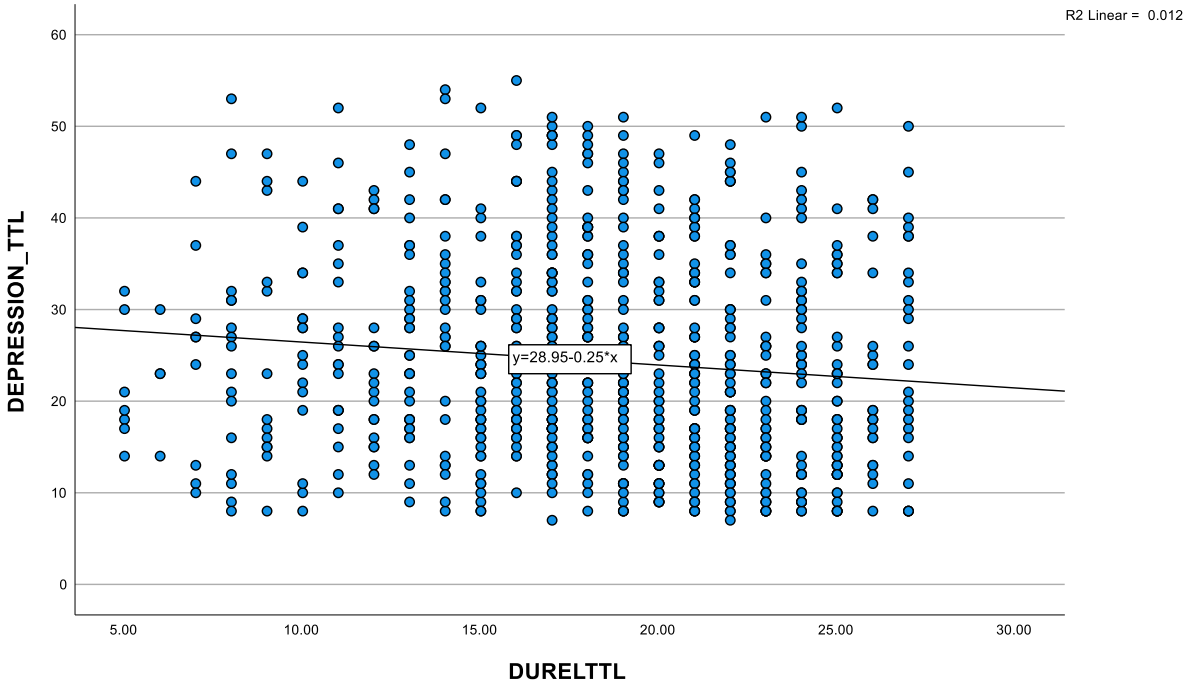

R2 Linear = 0.001
I felt distant or cut off from other people
y=3.8-0.01*x
DURELTTL


R2 Linear = 0.006
I felt sad and unhappy
y=4-0.03*x
DURELTTL
7
6
5
4
3
2
1
5.00
10.00
15.00
20.00
25.00
30.00


R2 Linear = 0.014
I felt hopeless about the future
y=3.93-0.05*x
DURELTTL
7
6
5
4
3
2
1
5.00
10.00
15.00
20.00
25.00
30.00


R2 Linear = 0.012
I felt guilty or had a bad conscience
y=3.59-0.04*x
DURELTTL
1
2
3
4
5
6
7
5.00
10.00
15.00
20.00
25.00
30.00


R2 Linear = 0.009
I wanted to die or though about killinng myself
y=2.51-0.03*x
DURELTTL
1
2
3
4
5
6
7
5.00
10.00
15.00
20.00
25.00
30.00


R2 Linear = 0.012
DEPRESSION_TTL
60
50
40
30
20
10
0
y=28.95-0.25*x
5.00
10.00
15.00
20.00
25.00
30.00
DURELTTL