EFFECTIVENESS OF SOCIAL SKILLS TRAINING IN TREATING DEPRESSION AMONG UNIVERSITY STUDENTS: A CASE OF SELECTED PUBLIC UNIVERSITIES IN NAIROBI COUNTY, KENYA.

by

Jacinta Ndegwa

A dissertation presented to the School of Human and Social Sciences

of

Daystar University
Nairobi, Kenya

In partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY
in Clinical Psychology

October 2020
APPROVAL

EFFECTIVENESS OF SOCIAL SKILLS TRAINING IN TREATING DEPRESSION AMONG UNIVERSITY STUDENTS: A CASE OF SELECTED PUBLIC UNIVERSITIES IN NAIROBI COUNTY, KENYA.

by

Jacinta Ndegwa
14-0228

In accordance with Daystar University policies, this dissertation is accepted in partial fulfillment of the requirements for the Doctor of Philosophy degree.

Date:

Anne Mbwayo, PhD, Supervisor

Martha Kiarie, PhD, Supervisor

Alice Munene, Psy.D, Coordinator, PhD: Clinical Psychology

Kennedy, Ongaro, PhD, Dean, School of Human and Social Sciences
DECLARATION

EFFECTIVENESS OF SOCIAL SKILLS TRAINING IN TREATING DEPRESSION AMONG UNIVERSITY STUDENTS: A CASE OF SELECTED PUBLIC UNIVERSITIES IN NAIROBI COUNTY, KENYA.

I declare that this dissertation is my original work and has not been submitted to any other college or university for academic credit.

Signed: ___________________  Date: ___________________________
Jacinta Ndegwa
14-0228
ACKNOWLEDGEMENTS

I thank my supervisors, Dr. Anne Mbwayo and Dr. Martha Kiarie, for their dedication, guidance, and positive comments during the process of writing this thesis. To all the others that gave their support who I may not mention by name, please feel acknowledged.
# TABLE OF CONTENTS

APPROVAL ........................................................................................................................................ ii
DECLARATION ..................................................................................................................................... iv
ACKNOWLEDGEMENTS .................................................................................................................... v
TABLE OF CONTENTS ...................................................................................................................... vi
LIST OF TABLES ................................................................................................................................... viii
LIST OF FIGURES ............................................................................................................................ ix
LIST OF ABBREVIATIONS AND ACRONYMS ............................................................................... x
ABSTRACT .......................................................................................................................................... xi
DEDICATION ........................................................................................................................................ xii

## CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY ........................................... 1
   1.1 Introduction ................................................................................................................................ 1
   1.2 Background to the Study ............................................................................................................. 8
   1.3 Statement of the Problem ........................................................................................................... 18
   1.4 Purpose of the Study ................................................................................................................... 19
   1.5 Objectives of the Study .............................................................................................................. 20
   1.5.1 Broad Objective .................................................................................................................... 20
   1.5.2 Specific Objectives ............................................................................................................... 20
   1.6 Research Questions ..................................................................................................................... 20
   1.7 Justification for the Study .......................................................................................................... 20
   1.8 Significance of the Study ........................................................................................................... 21
   1.9 Assumptions of the Study .......................................................................................................... 22
   1.10 Scope of the Study .................................................................................................................... 22
   1.11 Limitations and Delimitations of the Study .............................................................................. 23
   1.12 Operational Definitions of Significant Terms .......................................................................... 23
   1.13 Summary .................................................................................................................................. 25

## CHAPTER TWO: LITERATURE REVIEW ...................................................................................... 26
   2.1 Introduction .................................................................................................................................. 26
   2.2 Theoretical Framework .............................................................................................................. 26
   2.2.1 Lewinsohn’s Behavioral Theory of Depression .................................................................... 26
   2.2.2 Strengths of Lewinsohn’s Behavior Theory of Depression ............................................... 29
   2.2.3 Weaknesses of Lewinsohn’s Theory on Behavioral Depression ........................................ 30
   2.2.4 Wendy Treynor’s Theory of Depression ............................................................................. 31
   2.2.5 Strengths of Wendy Treynor’s Theory of Depression .......................................................... 32
   2.2.6 Weaknesses of Wendy Treynor’s Theory of Depression ...................................................... 33
   2.3 Depression in College Students .................................................................................................. 33
   2.4 Factors that Contribute to Depression in College Students ...................................................... 39
   2.5 Lifestyles that Reduce Depression among University Students .............................................. 60
   2.6 Social Skills Training as an Intervention .................................................................................... 84
   2.7 Conceptual Framework .............................................................................................................. 111
   2.8 Summary .................................................................................................................................... 112

## CHAPTER THREE: RESEARCH METHODOLOGY ..................................................................... 114
   3.1 Introduction .................................................................................................................................. 114
   3.2 Research Design ......................................................................................................................... 114
   3.3 Study Sites ................................................................................................................................... 116
   3.4 Target Population ....................................................................................................................... 117
   3.5 Sample Size ................................................................................................................................ 118
3.6 Sampling Techniques ................................................................. 119
3.7 Data Collection Instruments .................................................. 120
3.8 Data Collection Procedures .................................................... 121
3.9 Pretesting .................................................................................. 125
3.10 Data Analysis Plan ................................................................. 126
3.10 Ethical Considerations ......................................................... 127
3.11 Summary .................................................................................. 129

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION .... 130
4.1 Introduction ................................................................................ 130
4.2 Analysis and Interpretation ....................................................... 130
4.2.1 Response Rate ......................................................................... 130
4.2.2 Demographic Information ..................................................... 132
4.2.3 Prevalence of Depression among University Students .............. 139
4.2.4 Factors Related to Depression among University Students .......... 142
4.2.5 Effectiveness of Social Skills Training as an Intervention for Depression 153
4.3 Summary of Key Findings ........................................................ 159
4.4 Summary .................................................................................. 161

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS .... 162
5.1 Introduction ................................................................................ 162
5.2 Discussions of Key Findings ..................................................... 162
5.2.1 Prevalence of Depression among University Students .............. 162
5.2.2 Factors Related to Depression among University Students .......... 167
5.2.3 Effectiveness of SST as an Intervention for Depression .............................. 176
5.3 Conclusion ................................................................................ 182
5.4 Recommendations ..................................................................... 183
5.5 Recommendations for Further Research .................................... 184

REFERENCES .............................................................................................................. 185

APPENDICES ................................................................................................................. 206
Appendix A: Socio-Demographic Questionnaire ................................................. 206
Appendix B: Beck Depression Inventory .............................................................. 209
Appendix C: Social Skills Training (SST) Manual .............................................. 211
Appendix D: Information to Participants .............................................................. 213
Appendix E: Informed Consent Form ................................................................. 215
Appendix F: Ethical Clearance ............................................................................. 216
Appendix G: NACOSTI Research Permit ............................................................. 217
Appendix H: Authorization from Ministry of Education ...................................... 218
Appendix I: Authorization from Nairobi City County Commissioner ............... 219
Appendix J: Authorization from University of Nairobi ....................................... 220
Appendix K: Authorization from the Technical University of Kenya ................ 221
Appendix L: Researcher’s Profile ........................................................................ 222
Appendix M: Plagiarism Report ......................................................................... 223
LIST OF TABLES

Table 4.1: Response Rate of Participants at Both Prevalence and Intervention Phase .................................................................................................................. 131
Table 4.2: Age of the Respondents................................................................................................................................................................................................. 132
Table 4.3: Distance from Place of Residence to Campus ........................................................................................................................................... 133
Table 4.4: Monthly Expenditure ............................................................................................................................................................................................... 134
Table 4.5: Main Person Who Pays School Fees ......................................................................................................................................................... 135
Table 4.6: Year of Education ............................................................................................................................................................................................... 135
Table 4.7: Major Courses at UON .......................................................................................................................................................................................... 136
Table 4.8: Major Courses at TUK .......................................................................................................................................................................................... 136
Table 4.9: Friendship............................................................................................................................................................................................................ 137
Table 4.10: Number of Friends from Each Gender .................................................................................................................................................... 138
Table 4.11: Club Membership ........................................................................................................................................................................................... 138
Table 4.12: Leadership Position ........................................................................................................................................................................................... 138
Table 4.13: Severity of Depression Among UON Respondents .................................................................................................................................. 140
Table 4.14: Prevalence of Depression among UON Respondents .................................................................................................................................. 140
Table 4.15: Severity of Depression among TUK students ...................................................................................................................................... 140
Table 4.16: Prevalence of Depression Among TUK Respondents .................................................................................................................................. 141
Table 4.17: Overall Severity of Depression among all the Study Respondents ............................................................................................................... 141
Table 4.18: Overall Prevalence of Depression among the Respondents .......................................................................................................................... 141
Table 4.19: Independent T-Test for the Two Sets of Data ..................................................................................................................................................... 141
Table 4.20: Relationship between Gender and Depression ...................................................................................................................................... 143
Table 4.21: Relationship between Year of Study and Depression .................................................................................................................................. 143
Table 4.22: Relationship between Participants’ Year of Study and Depression using Chi-square .............................................................................................................. 144
Table 4.23: Relationship between Age and Depression ........................................................................................................................................ 145
Table 4.24: Relationship Between Dependents and Depression ................................................................................................................................ 146
Table 4.25: Relationship Between Monthly Expenditure and Depression ...................................................................................................................... 146
Table 4.26: Relationship between Friendships and Depression .................................................................................................................................. 147
Table 4.27: Relationship between Club Membership and Depression .......................................................................................................................... 148
Table 4.28: Relationship Between Leadership and Depression .................................................................................................................................. 148
Table 4.29: Relationship Between Place of Residence and Depression ...................................................................................................................... 149
Table 4.30: Factors Ranking Based on Beta Coefficients ......................................................................................................................................... 150
Table 4.31: Correlation Matrix ............................................................................................................................................................................................. 151
Table 4.32: Independent T Test showing the Distribution of Depression at Baseline ........................................................................................................... 154
Table 4.33: Independent T test at Midline ................................................................................................................................................................. 155
Table 4.34: Independent T-test at Endline ................................................................................................................................................................. 156
Table 4.35: One-way ANOVA ............................................................................................................................................................................................. 157
Table 4.36: Post Hoc Test Results ...................................................................................................................................................................................... 158
Table 4.37: Independent T test between Gender and Depression .................................................................................................................................. 159
LIST OF FIGURES

Figure 2.1: Conceptual Framework ........................................................................ 112
Figure 3.1: Flow Diagram for the Study Procedure ................................................. 124
Figure 3.2: Flow Diagram for the Data Analysis Procedure .................................... 126
Figure 4.1: Gender of Respondents ........................................................................ 132
Figure 4.2: Place of Residence ................................................................................ 133
Figure 4.3: Students with Dependents .................................................................... 134
Figure 4.4: Religious Affiliation ............................................................................. 137
Figure 4.5: Relationship with Other People .............................................................. 139
Figure 4.6: The Mean Plot Showing the Mean DBI as it Affects Respondents in Different Years of Study ................................................................. 144
Figure 4.7: Means Plots .......................................................................................... 149
Figure 4.8: Line Graphs Using Baseline Data .......................................................... 153
Figure 4.9: Line graphs Using Midline Data ............................................................ 155
Figure 4.10: Line Graphs using Endline Data .......................................................... 156
Figure 4.11: Means Plots ....................................................................................... 158
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>Beck Depression Inventory</td>
</tr>
<tr>
<td>BPSD</td>
<td>Behavioral and Psychological Symptoms of Dementia</td>
</tr>
<tr>
<td>NACOSTI</td>
<td>National Commission for Science, Technology and Innovation</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
</tr>
<tr>
<td>SST</td>
<td>Social Skills Training</td>
</tr>
<tr>
<td>MDD</td>
<td>Major Depressive Disorder</td>
</tr>
<tr>
<td>TBI</td>
<td>Traumatic Brain Injury</td>
</tr>
<tr>
<td>TU-K</td>
<td>Technical University of Kenya</td>
</tr>
<tr>
<td>UON</td>
<td>University of Nairobi</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
ABSTRACT

Depression is common among university students and despite the methods provided for its intervention, the prevalence of depression among university students remains higher than in the general population. The objective of this study was to determine the effectiveness of Social Skills Training (SST) as an intervention for depression among university students in two Kenyan public universities. The study was informed by Lewinsohn’s behavioral theory of depression (Lewinsohn, 1974) and Wendy Treynor's theory of Depression (Treynor, 2009). Quasi-experimental research design was utilized with purposive sampling technique. A sample size of 273 participants for both Social Skills Training (SST) (n=136) and control (n=137) groups. The study data was collected using a social demographic questionnaire and the Beck’s Depression Inventory (BDI). The reliability and validity of the instruments used were noted to be excellent. Data analysis was done using the Statistical Package for the Social Sciences version 22. Means of the data from experimental and control groups were compared at baseline, at three months and at six months after intervention. The findings showed that the students who went through the SST intervention were found to have a significant reduction of depression levels compared to those who did not go through the intervention. This indicated that the mean differences between the two groups was significant (P=0.0001). From the findings, the study concluded that SST is an effective intervention for depression among university students. This study then makes a recommendation to the universities’ management to adopt and implement a SST program among the students.
DEDICATION

I dedicate this work to my husband Mr. Njani and my children Bedi, Phoebe, and Esther, who have supported me in all ways to ensure that my dream becomes a reality.
CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This chapter introduces the phenomenon being studied and the background to the study. The chapter also states the problem, the purpose of the study, the objectives, and the research questions. The chapter also contains the significance of the study, justification, scope, assumptions, and limitations and delimitations of the study. Finally, specific terms used in the study such as young adults, depression, SST, depressive symptom and university students studying degree courses in engineering are defined.

Depression is one of the mental health conditions that affects both young and old people in the society. Depressed people harbor negative thoughts, and this makes them perceive life issues negatively (Lei, Xiao, Liu, & Li, 2016). This negative perception of life issues further complicates the treatment of depression. According to the Funk, Drew, and Knapp (2012), those with depression can frequently lose interest in day-to-day activities, suffer from low self-esteem, notice a lack of energy, and encounter sleep pattern difficulties. Dyson and Renk (2006) indicated that, in more serious cases, untreated depression may lead to poor health, drug abuse, and suicide. No specific cause of depression has been identified, as indicated by Peltzer, Olowu, and Pengpid (2013), but several factors have been associated with it, which form a complex interaction of social, psychological, and biological factors.

Further, depression-related causes include brain chemical disorder that has links to heredity and biology, chronic health conditions such as cancer or Aids, drug abuse, and elevated stress rates. People who have experienced adverse events in life are more likely to develop depression (Kumaraswamy, 2013). Depression in effect
can lead to more stress and distress and aggravate the life condition and depression of the affected individual (Funk et al., 2012). There are numerous forms of depressive disorders, whose classification depends on the duration, timing, and etiology of the depressive symptoms. According to Funk et al. (2012), the most common type of depression is Major Depressive Disorder (MDD). Individuals with the neuropsychiatric MDD express their behavioral, physiological, as well as emotional effects in varied ways. Often, it makes those with it have suicidal thoughts and tendencies owing to the damage it exerts on their quality of life over time. MDD is referred to by different names depending on the context. The names include unipolar depression, clinical depression, and major depression (American Psychiatric Association [APA], 2013).

Major Depressive Disorder is known as unipolar depression as those with it appear to have a single extreme of a depressed mood rather than expressing both mania and depressed mood alternatively. MDD affects different individuals differently (Kumaraswamy, 2013). The effects on different individuals include losing weight, troubled sleep, heightened irritability, and the onset of guilt feelings, oversleeping, overeating, and pronounced agitation (Marcus, Yasamy, van Ommeren, Chisholm, and Saxena, 2012). Most individuals with MDD lose interest in their daily engagements and feel worthless, hopeless, weak, tired, helpless, or hurt. Even though the onset of MDD can be at any given age, it commonly sets in when one is in his or her early 20s (Sarokhani et al., 2013). Over the years, the average age at which one is likely to develop MDD has been reducing. Those with blood relatives with the disorder are more likely to suffer than those without cases of the disorder in their families (Sarokhani et al., 2013).
Kaur, Deepti, and Lal (2014) noted in their study that persons suffering from MDD have the condition recurrently following various courses. Some individuals experience MDD bouts or depressive episodes regularly, at times with spans of several years between the successive bouts. The regularity of the bouts appears to increase as one grows older and older. According to the Marcus et al. (2012), many of those who have MDD have in the past experienced the dysthymic disorder. Those with MDD and dysthymic disorder concurrently are described as suffering double depression and they have a heightened likelihood of developing other depressive episodes (Sarokhani et al., 2013). They face significant difficulties in their quests to recover from depressive episodes fully. When they are hospitalized, they are highly likely to be hospitalized for long to get over the related symptoms. These patients are treated using different approaches including drug therapy, psychotherapy, family therapy, existential therapy, Electro-Convulsive Therapy, and Standard Transcranial Magnetic Stimulation (Siever, 2008).

Drug therapy, Electro-Convulsive Therapy, and Standard Transcranial Magnetic Stimulation are medical processes used to manage depression symptoms, but further intervention is required to address the root cause of depression (Scherer, 2012). Family therapy and existential therapy are forms of psychotherapy which involves talking with the client to assist in managing depression symptoms. These have been found to be effective in managing depression among patients with MDD. Family therapy in particularly, occurs in different structured sessions according to Cottrell (2003). However, it has been noted that there is no reliable proof that successful family treatments are in the treatment or removal of MDD (Cottrell, 2003). However, most of the university students suffer from depression symptoms which do not meet the threshold for MDD, yet they are disturbing to students to an extent that
they interfere with their academic performance. Alternatively, SST targets behavior modification as a means of alleviating depression symptoms and it has been found to be effective in managing the symptoms before they become pathological (Thase, 2012).

Depression is a leading psychological problem among university students and a common cause of morbidity. Depressed students cannot attain their life goals since depression affects many areas of their functionality (Keith, 2015). The depressive symptoms incidences among university and college students have been growing. A survey of college students obtaining psychiatric care between January 2011 and August 2012 showed that 36.4% of students seeking treatment during this time had depression (Mistler, Reetz, Krylowicz, & Bar, 2012). In a 2006 study of university counseling center administrators, it was noted that 91.6% of respondents registered a rise in the number of students experiencing psychological issues (Blanco et al., 2008). In another study conducted in America, 18.8 percent of college students were reported to be depressed (American College Health Association, 2019). Developing depressive symptoms can have an important impact on the ability of college students to successfully meet academic requirements. Apprentices with depressive symptoms suffer greater emotional distress. Their academic success and life satisfaction will affect this misery (Brown & Schiraldi, 2004).

Similarly, another research was done to compare the mental health of college students with their peers attending non-college. The study was among 2,188 students between the ages of 19 and 25 who were currently attending college and 2904 of their peers who did not attend college. The findings showed that the prevalence of depression and anxiety disorders was high in the college attendance population (Blanco et al., 2008). In a national survey conducted by the American College Health
Association in 2018, 40 per cent of students were reported to be depressed (American College Health Association, 2019).

Additionally, the development of depressive symptoms in college students is associated with chronic high-anxiety levels (Mohammad et al., 2016). In mental health contexts, depression and anxiety disorders are viewed as being different from each other. Even then, in reality, there are many people with two sets of mental disorders at the same time. The majority of mood disorders manifest as involving both depression on one hand and anxiety on the other hand. Many of those experiencing chronic anxiety register depression symptoms that are clinically significant at the same time (Goldberg, 2010).

Mohammad et al. (2016) noted that the comorbidity of the two sets of disorders presents grave effects, including making the courses of the disorders increasingly chronic, hurting social relationships, and increasing suicidal tendencies especially in young people. Many researchers and clinicians view the two sets of disorders as being just different expressions of the same disorder at present. That view is informed by the actuality that the genetics related to depression and anxieties are rather comparable. At the same time, that view is informed by the actuality that the neurobiological foundations related to depression and anxieties are rather comparable (Bhatia & Munja, 2014). The biological vulnerability that one has relating to anxiety is comparable to the biological vulnerability that one has relating to depression.

Social skills are skills that are used for interacting healthily with other people. According to Vyskocilova and Prasko (2012), people use their social skills when communicating and interacting with others through movements, body language, and personal appearances. Every human being is a social being by his or her nature and has developed varied ways of expressing his or her messages, feelings, and thoughts
to others. The messages that are voiced out are affected by not only verbal language that is employed but also the ways the language is employed: the related voice tone, speech volume, the words employed, body language, and gestures. The ability to interact socially is dependent on a person’s social skills (Nikopoulos & Keenan, 2006). To improve on one’s social skills, one should learn how to communicate one's messages, feelings, as well as thoughts to others, and also the nature of one's messages and the appropriate methods of expressing the messages. Developed social skills will enable the individual to communicate their feelings to others effectively and through social interactions the individual gets relief from depression symptoms such as sadness.

The appraisal of social skills among depressed persons is rather labor-intensive. According to Bolsoni (2009), the other challenge associated with the appraisal is that there are still marked contestations regarding how the social skills should be conceptualized as well as operationalized. The contestations appear to stem from how different persons define depression and depressive episodes. At times, depression and depressive episodes are defined as being biological phenomena, other times they are defined as being life stress-related as well as environmental, while at other times they are defined as being cognitive (Blanco, Rhode, Vazquez, & Otero, 2014).

Vincent and Alyson (2004) argued that depression and depressive episodes are largely interpersonal problems stemming from or causing poor social skills. The foremost researcher to link depression to poor social skills was Lewinsohn (1974), who defined social skills or competencies as simply being behavioral expressions that are affirmed by others. According to him, social skills deficit makes one highly susceptible to depression development. The time-lag between when one develops an
anxiety disorder and when one develops depression owing to social skills deficits may be several years in some cases (Bhatia & Munja, 2014). This fact presents marked opportunities for preventing the onset of depression before it sets in those who seek medical attention for anxiety disorders. For instance, students who seek medical attention for anxiety disorders can be assisted to steer clear of the development of depression through the related interventions, including teaching them cognitive skills and social skills (Mohammad et al., 2016). There are various ways of measuring or determining social skills, including using self-reporting and the usage of related inventories.

In another study, it was observed that self-reporting of social skills allowed for the appraisal of individual tendencies, as well as feelings over time and in varied social situations and behaviors accordingly (Hames, Hagan, & Joiner, 2013). Even then, the downside of the method is that depressed persons are inclined towards appraising their social skills a lot more undesirably than those who are not depressed. That happens regardless of whether trait or state social skills operationalization happens. Thus, the self-reporting of social skills by depressed individuals may be rather subjective (Hames et al., 2013). Clearly, depressed people score their recent interpersonal behavior and adequate social skills substantially lower than the subjects in the other classes, from a scientific analysis. Results suggested that deficiencies in social skills are not unique to depression and that certain depressed and other psychiatric groups that vary mainly in their social competence self-assessment.

Social skills define the psychosocial skills which evaluate valued behavior and incorporate analytical skills such as problem-solving and personal skills such as self-awareness. We also hold interpersonal competences. Social skills are, according to Thase (2012), part of life skills that can be defined as all the skills and knowledge
gained by individuals other than academic skills, which are essential for productive living. These are the abilities for adaptation and positive behaviors that allow people to cope with the demands and challenges of daily life effectively. This means that academic achievement cannot assess success in life if one does not have other life-related skills such as assertiveness, self-awareness and interpersonal relationships (Funk et al., 2012).

Social engagements comprise social skills as their constituent blocks. Those having depression may fail to develop these skills however important they are in everyday life (Hames et al., 2013). Even then, people of every age can learn the skills. Mainly, SST focuses on making people with depression assertive in their communications, effective as verbal and nonverbal communicators. When one is assertive, one interacts with others well as one is capable of balancing one’s needs. He or she is unlikely to keep deferring to others (Baker & Myles, 2003). Deferring to others makes one uncomfortable whenever he or she asserts himself or herself initially. Even then, in the long term, assertiveness makes individuals less and less anxious, making them and those around them increasingly comfortable (Thase, 2012).

Likewise, other researchers reported that depressed people often express closed nonverbal communication, signaling to others that the people are not amicable or friendly (Hames et al., 2013). The SST sessions therefore focus on verbal communication. This helps depressed people to hold good conversations, which are important in building social relationships (Vyskocilova & Prasko, 2012). As suggested earlier, SST is a behavioral therapy that can be done one-on-one, or as group therapy. This study, therefore, looks into the effectiveness of SST as an intervention for depression among university students in Kenya. The study makes a
special emphasis on the Technical University of Kenya (TU-K) and the University of Nairobi (UoN) students studying degree courses in engineering.

1.2 Background to the Study

Depression is a major problem for public health around the world and has been ranked as one of the conditions with the greatest impact on people, families, and society (Marcus et al., 2012). All over the world, studies have shown high prevalence rates of depression. In the adult population, prevalence rates for depression are between 5.0% and 10.3% in the USA (Olfson et al., 2002), South Africa at 14.6% (Tomlinson, Grimsrud, Stein, Williams, & Myer, 2009), and Uganda at 17.4% (Ovuga, Boardman, & Wasserman, 2005). In Kenya, depression prevalence in the adult population is much higher, with a prevalence rate of 42% (Ndetei et al., 2009).

Mackenzie et al. (2011) described depression as a condition of extreme distress or despair that has progressed to a degree that adversely affects the social functioning of a person and the basic daily activities. Most people who experience depressive symptoms lack the drive to get through the events of the day and experience depression and lonely feelings. Popular depressive feelings may include irritability, tiredness, apathy, and depression. Risky sexual behavior and substance dependence tend to be causes for young adults with chronic low feelings as these emotions become more intense and persistent (Swanholm, Vosvick, & Chng, 2009).

The APA (2013) laid down basic symptom requirements for the psychiatric diagnosis of the major depressive disorder in the fifth edition of the book, Diagnostic and Statistical Manual of Mental Disorders (APA, 2013). According to this manual, the principal Major Depressive Disorder symptoms experienced by the patient include hypersomnia or insomnia approximately daily, the dejected mood throughout the day almost every day, and loss of interest in almost every activity throughout the day.
almost every day. The person also experiences feelings of insignificance or unwarranted or inapt culpability almost every day. Other symptoms include substantial weight gain or loss devoid of dieting and heightening appetite, psychomotor excitement, or retardation almost every day, and weariness almost every day. The individual also experiences weakened capacity to reflect or inconclusiveness almost every day, and persistent thoughts of death without definite plans towards committing suicide (APA, 2013).

Depression has a substantial effect on an individual's ability to function at work, in relationships and other aspects of life (Kessler, Wai, Demler, & Walters, 2005). The World Health Organization (WHO) predicts that major depression will be the world's second most affected disease after cardiovascular diseases by 2020 (WHO, 2017). Depression not only affects the ability to work and quality of life but also physical health by leading people to suicide (Funk et al., 2012). This also affects essential survival-related physiological mechanisms such as immune, endocrine, and cardiovascular functions (Vincent & Alyson, 2004).

There have been studies of high levels of depression among university students in many parts of the world. A survey conducted by the University and College Counseling Center Directors Association found that depression ranked second out of anxiety as the highest psychological problem among college students (36.4%), followed by relationship problems (35.8%). The study conducted in the U.S., Canada, Europe, the Middle East, Asia, and Australia also revealed that the average starting age for many mental health disorders is the standard 18 to 24-year-old college age range. It is not surprising because puberty, being a transitional time from childhood to adulthood, is a stage of emotional distress arising from the desire for separation and freedom, which can be traumatic and lead to depression. Evidence
indicates early depression intervention may improve long-term outcomes (Mistler et al., 2012).

Many studies indicate high depression rates among students at universities. For one study conducted in Canada, undergraduate students were recruited from four university hospitals, using a self-reported BDI to screen for depression. The study found that the prevalence of depression was 25 percent for males and 26 percent for females in this population (Mackenzie et al., 2011). Another study of meta-analysis among Iranian university students revealed that depression prevalence was 33 percent (Sarokhani et al., 2013).

Students in the university are likely to have more stressors than the general population which predisposes them to depression especially university students studying degree courses in engineering. Some causes of depression among university students have been identified as lack of interpersonal relationship skills, low self-esteem, and social isolation (Kasomo, 2013). Another risk factor that has been identified as a cause of university students’ depression is the struggle to campus life adjustment (Othieno, Okoth, Feltzer, Pengpid, & Malla, 2014).

In one study done in Canada, university students were sampled from four university clinics and tested for depression using a self-reported BDI. The study revealed that the prevalence of depression in this population was 25% for males and 26% for females (Mackenzie, et al., 2011). In another meta-analysis study, depression among Iranian university students was investigated by reviewing data from several sources. The research analyzed thirty-five studies on depression among university students which were conducted between 1995 and 2012. The findings showed a prevalence of depression among university students at 33% (Sarokhani et al., 2013).
Similarly, studies conducted elsewhere in the world also show that the prevalence of depression among university students is greater than that of the general population. Western Nigeria research has shown a depression prevalence of 32.2% among university students (Peltzer et al., 2013). In another study in Uganda, the prevalence rate of depression among university students was shown to be 30.6 percent (Ibrahim, Kelly, Adams, & Glazebrook, 2013). In Kenya, a recent research conducted among students at Nairobi University found that depression prevalence in this population was 41.33% (Othieno, Okoth, Peltzer, Pengpid, & Malla, 2015).

For many students, depression can be attributed to stressors such as academic distress, insufficient social integration and the stress of overall adjustment to college life. Learners can be effectively assisted to prevent relapses from stress-related depression if the related psychological mechanisms are understood (Cooper, Quick, & Schabracq, 2009). That is especially so for students and other persons with long-running histories of depression relapses. Stress affects one’s mood directly. When one is experiencing low moods, one is likely to experience sleep disruptions, cognitive pattern changes, inattentiveness, and increased irritability. These are some of the direct stress impacts. The indirect consequences of stress on people, however, heighten the chances for the setting in of depression. The indirect effects that stress has on persons are varied in terms of intensity and form. They include disrupting of coping strategies, low moods that trigger further stress, disrupted social relationships, heightened unhealthy coping, and disrupted structure and routine (Mohammad et al., 2016).

There are some general symptoms characteristic of depression that can adversely affect university students. The sudden shift in mood and reduced attention are primary symptoms that would influence a college student's social and academic
performance. Certain signs include irritability and depression, fatigue or mental weakness, and thoughts of potential hopelessness. While many college students are often eager to enjoy friends' company and social events, depression can result from the lack of interest in these activities (Blanco et al., 2008).

Sleep plays an important role in depression too (Alonzo et al., 2011). Some people with depression may experience sleeplessness, the inability to fall or stay asleep at night. Sleep disturbances can lead to physical issues, such as increased fatigue rates and reduced energy making one feel demotivated to perform routine tasks such as attending school. On the other extreme, depressed students may experience oversleeping, a condition known as hypersomnia. Persons with hypersomnia have difficulties remaining wholly awake during the daytime. They easily fall asleep regardless of the time of the day, whether they are working, driving, or carrying out other activities at the given moments. Some of them have additional problems associated with sleep, including the inability to think clearly, fatigue, and inattentiveness (Mohammad et al., 2016).

Depression has also been described as a path to more severe health hazards and unproductive behavior, such as suicidality, drug abuse, and risky sexual activity (Othieno et al., 2015). Certain health risks associated with depression include shame and a diminished self-worth feeling, trouble with simple memorization, and failure to concentrate. All of this leads to a decline in skills such as time management which is not conducive to college life demands. When students and other people are stressed, they experience disruptions in their healthy coping strategies, which are important in checking on their moods. They are likely to skip their characteristic strategies for regulating healthy moods, giving rise to additional mood problems. For instance, a student who is stressed is likely to experience low moods that make him or her unable
to work together with other classmates to complete given class assignments (Cooper et al., 2009). That may lead to low grades in examinations, which make the student increasingly moody, and possibly increasingly depressed.

Students and other persons who are stressed or have stress-related depression often have disrupted relationships since their increased irritability makes them increasingly argumentative (Mohammad et al., 2016). Besides, students and other persons who are stressed or have stress-related depression often have disrupted relationships since their tendency to withdraw from others makes them increasingly argumentative. They are often absorbed by their stress or depression, becoming less and less available to own friends, family, and partners (Cooper et al, 2009). Particularly, when they have experienced depression priory, they may express symptoms that their friends, family, and partners may find frightening when they see them (Miller & Shelly, 2010). The symptoms may frighten them especially because they would be concerned seeing the persons relapsing into depression. At times, partners may be persuaded to leave their relationships with those who appear to be at risk of being depressed, making the couples increasingly stressed or depressed.

Furthermore, individuals who are stressed or have stress-related depression often adopt unhealthy coping strategies (Miller & Shelly, 2010). The strategies include increased abuse of alcohol and other drugs. The drugs have the shared effect of lowering the moods of those abusing them as direct effects. The related indirect effects include disrupted social relationships. By and large, avoidance coping heightens anxiety as well as stress (Cooper et al., 2009). Stressed or depressed persons register disrupted structures and routines. Their self-regulatory capabilities are diminished, making them abandon their daily routines and unable to regulate their moods.
In addition, students suffering from depression face severe health issues if they do not take meaningful action to deal with their symptoms. Some of the negative impacts that depressed students are likely to suffer include academic impairment (Hysenbegasi, Hass, & Rowland, 2005), risky sexual behavior (Othieno et al., 2015), drug abuse (Sabina & Straus, 2008), and suicide (Wanyoike, 2014). All these would lead to the failure of the students to achieve their academic and other life goals.

Not only that, there is evidence that early intervention for depression can enhance long-term outcomes, and that lack of successful intervention on the depression of university students at this stage of life may have a detrimental impact on students. Depressed students can be helped by ensuring that they learn healthy coping strategies. The strategies are essential in helping them maintain or regulate their moods. The students can be assisted by educating them on how to identify the early warning symptoms that indicate they are at the risk of becoming depressed (Cooper et al., 2009). Such symptoms include becoming increasingly irritable at school and inattentiveness. Making shortlists of the things the students do when they notice the symptoms helps them in crafting healthy coping strategies (Miller & Shelly, 2010). The students can be helped by educating them to make out the impediments to their ability to execute their ideas when they are stressed and how to exploit their relationships as important resources (Mohammad et al., 2016).

The deficit hypothesis of the social skills principle describes the condition in a social paradigm. Lewinson, Weinstein, and Shaw (1969) were the first to suggest the early ideas of the Social Skills Theory. In their paper, they indicated that deficiency in social skills was significant in the development of depression and described its position as aversive to people in the atmosphere of the depressed person, causing that person to be avoided, and thus the further development of depression. In the mid-
1970s, Lewinson also emphasized the role of deficiencies in social skills in sustaining suicidal behavior and as a precursor to depression (Lewinson, 1974). Along with the other research findings, Lewinson's hypothesis shows the significance of social skills and engagement in etiology and depression maintenance.

SST is effective as an intervention for depression among university students. One study was done in Brazil to evaluate the effects of SST in group behavior therapy with depressed university students. SST was conducted in eleven weekly meetings lasting two hours each. The results showed that depression symptoms decreased significantly and that the most developed social skills were those of expressing positive and negative feelings (Orti, Girotti, & Bolsoni, 2015). Another similar study has been carried out among students at Iranian universities. The goal of the study was to evaluate SST's effectiveness in improving mental health and university students' self-esteem. SST was done for 8 sessions in four weeks. The results showed that SST significantly reduced symptoms of mental illness among the students, especially anxiety, depression, and stress (Charamáleki & Rajabi, 2010).

Counseling Services at the University of Nairobi are offered on every university campus. The University through the Dean of Students’ office, projects itself as keen on offering its stakeholders adequate counseling services. The office has in its ranks a chaplain and counseling psychologists who are charged with enhancing the students’ spiritual, behavioral, and emotional health. The office especially encourages students who are experiencing crises, worries, and difficulties to seek the counseling services it offers to enable them to cope healthily. The crises, worries, and difficulties are related to varied aspects, including depression, anxiety, academic problems, university life adjustment, drug abuse, grief, disability, dysfunctional relationships, and health concerns. Often, the office facilitates training, including
SST; workshops; and talks for the students on varied topics related to the above aspects and others (UON, 2017).

The Student Welfare and Support Services office at the TU-K is charged with caring for the well-being of the students at the institution. Just like in the University of Nairobi, Student Welfare and Support Services office has in its ranks a chaplain and counseling psychologists who are charged with enhancing the students’ spiritual, behavioral, and emotional health. The Student Welfare and Support Services office provides counseling services to the students who go through adverse life situations. Such adverse situations include depression, drug abuse, bereavement, and academic problems among others. The office offers confidential counseling services as need be, to the students who seek these services (TU-K, 2017).

The principal physical location of the counselors at the university is at the university's counseling center. The Muslim Chaplaincy of Kenya University of Technology is also charged with caring for the well-being of the institution's students. They can get counseling services from the chaplaincy, which especially offers interpersonal counseling services to students on a group and individual relationships. Such services relate to issues such as deviant youth behavior, drug abuse, bereavement, depression, loss, stress, and family dysfunction.

The counselors within the UON and TUK counseling services are expected to deal with all the psychological needs of the students including depression. However, records from the counseling services revealed that very few cases of depression are reported to the counseling services. Although attempts have been made to offer psychological services, studies have shown that students are underutilizing these resources (Okanda & Jitsunari, 2010). Both students and universities must work together to provide a successful means of reducing depression in university students.
This study assessed the effectiveness of SST in dealing with depression and associated problems and then recommended it as an intervention to mitigate depression. SST involves training that helps the students to deal with depression and depressive symptoms appropriately before they become pathological. At the same time, students with depression are encouraged to seek help from the counseling services offered by the university. The Social Skills taught also enhances the students’ capacities to recognize and manage their symptoms of depression, appreciate themselves and others, and use interpersonal skills effectively as they relate with other people on the campus. It is against this backdrop that this study sought to evaluate the efficacy of SST (SST) as a depression intervention among students studying degree courses in engineering at the UON and TUK.

At the same time, the students with depression were further encouraged to seek help from the counseling services offered by the university. The skills that were taught may also enhance the students’ capacities to recognize and manage their symptoms of depression, appreciate themselves and others, and use interpersonal skills effectively as they relate to other people on the campus. It is in light of this foundation that the current research aimed to determine the effectiveness of SST as an intervention to deal with depression and associated problems for depression among students studying degree courses in engineering at the UON and the TU-K.

1.3 Statement of the Problem

Depression is one of the leading mental health conditions among university students and it makes students difficult to attain their goals because depression affects the functionality of life generally (Keith, 2015). In addition, the four widely cited causes for depression among university students are academic problems, isolation, economic concerns, and difficulties in relationships (Furr, Westefeld, McConnell, &
Jenkins, 2001). Also, during this time depression is associated with impaired social functioning, drug abuse, and school issues (Wells et al., 2001). Some adverse effects of depression in university students include increased drug use and unsafe sexual activity with HIV (Othieno et al., 2015).

In the university setting, there are several professionals charged with the responsibility of responding to the challenges the students’ experience. For example, the dean of students, counseling units, university chaplain, and peer counselors do have important roles in assisting students in their daily challenges on the campus. In addition, there are university clinics and psychiatric services offered at the universities. Despite all these services, depression persists at substantially high rates among university students especially students studying degree courses in engineering (UON, 2017; TU-K, 2017).

Moreover, psychotherapy and pharmacotherapy are potential therapeutic approaches plans to help depressive university students cope. There is empirical evidence that patients with depression can be treated with either or combination of drug therapy, electro-convulsive therapy, standard transcranial magnetic stimulation. Research has indicated that these medical processes have side-effects and the treatment approach cannot address the root cause of depression (Scherer, 2012). Similarly, family therapy, existential therapy, and other form of psychotherapy available for the treatment of depression especially among university students occur in different sessions (Cottrell, 2003). However, it has been noted that there is no reliable proof that successful family treatments or any other psychotherapeutic approaches address the real causes and removal of MDD especially among university students (Cottrell, 2003), and despite current intervention measures, depression
continues to persist at substantially high levels among university students (Thase, 2012).

This persistence of depression suggests that the interventions used are not effective enough to lower depression levels, hence the need for an alternative intervention. SST has been shown to be an effective intervention for depression among university students (Wang, Cai, & Qian, 2014). This study sought to introduce and test the effectiveness of SST as an alternative intervention for depression among university students.

1.4 Purpose of the Study

The study aimed to determine and evaluate the effectiveness of SST in reducing depression among students at the University of Nairobi and at the Technical University of Kenya.

1.5 Objectives of the Study

1.5.1 Broad Objective

To determine the effectiveness of SST as an intervention, in reducing levels of depression among students studying university degree courses in engineering at the University of Nairobi and the Technical University of Kenya.

1.5.2 Specific Objectives

1. To determine the current prevalence of depression among students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya.

2. To establish the factors related to depression among students at UON and TUK.
3. To evaluate the effectiveness of social skills training as an intervention for depression among the university students.

1.6 Research Questions

1. What is the current prevalence of depression among university students?
2. What are the factors that are related to depression among university students?
3. How effective is social skills training as an intervention for depression among university students?

1.7 Justification for the Study

Despite efforts by university administration to intervene for depression, rates of depression remain high among university students especially the engineering students. This is because, engineering students are more susceptible to depression compared to those undertaking other courses in universities (Orti et al., 2015). Identification of an effective intervention remains a challenge to the university administration. Of the interventions that have been put in place, none of them incorporates social skills training. Social skills are a part of life skills and are described as psychosocial adaptive and positive behavior skills that allow individuals to cope effectively with daily life's demands and challenges (Romanczyk, White, & Gillis, 2005). Major causes of depression among university students were described as challenges for adjusting to the campus atmosphere and meeting the demands of their daily lives (Teo, Choi, & Valenstein, 2013). Despite other interventions used by universities such as counseling and pharmacological care, students continue to experience signs of depression.

Social skills training among university students is effective in treating depression (Orti et al., 2015). The training would impart skills that will allow students
to cope with the specific challenges they face in the university that dispose them of depression. Such skills will enable students to overcome different challenges by understanding and handling different circumstances and cultivating and maintaining healthy attitudes in all facets of their lives. All these will ensure that the students can deal with depressive symptoms before they become pathological and this will lower the rates of depression. If no effective intervention is applied, university students will continue suffering from the negative effects of depression, among them being impairment of academic performance. In light of this, this study aimed to determine whether the training of social skills is effective as an intervention for depression to recommend it as an effective intervention.

1.8 Significance of the Study

The students will benefit from the research findings in that they will gain skills that will help them deal with depressive symptoms before they become pathological. They will also be empowered to seek psychological help freely when depressed. When less depressed, students’ academic performance will be improved, students’ interpersonal relationships skills will be effective, and this will help them adjust better to the university environment.

Parents/guardians of the students will benefit in that the students will concentrate more on studies and have better academic performance. This will translate into the students taking a minimum period in their studies, thereby saving on time and finances spent on supplementary examinations. The universities and colleges in Kenya will benefit in that success of SST in mitigating depression can be replicated in more universities and colleges to help intervene for depression.
1.9 Assumptions of the Study

This research assumed that there would be students with depression among the university students and that they lack social skills to help them deal with the depressive symptoms. Another assumption was that various factors would be found to have a significant relationship with depression among the students. The study also assumed that SST would be effective in mitigating for depression among the learners as indicated by a reduction in symptoms of depression.

1.10 Scope of the Study

The research targeted undergraduate students who were studying degree courses in engineering at the UON and at the TUK, who manifested depression symptoms. Both TUK and UON are public institutions in Kenya, which are situated in Nairobi’s Central Business District, with a distance of about one and a half kilometers between them. The tuition fee in both institutions is highly subsidized by the government. Engineering students were chosen for this study because previous studies have shown that Engineering students are more susceptible to depression compared to those undertaking other courses in universities. It has been argued that the curriculum for engineering is very demanding and also that there is high expectation for these students to be top performers. These together with other university stressors easily predispose the students to depression (Elias, Ping, & Abdulla, 2011; Fatimah, Nadir, & Kamran, 2016).

1.11 Limitations and Delimitations of the Study

The study intended to determine the effectiveness of SST as an intervention for depression among university students at the UON and TUK. However, because of the large population of all the University students, only students studying engineering
courses were considered for the study. This being the case, random sampling was used, and a large sample taken to make it more representative of the other students in the local universities. However, although the study was conducted in public universities that admit students from diverse backgrounds in the country, there could be regional differences in other local universities.

Another limitation was that the UON and TUK administrations expressed concerns over exposing depression among their students. However, this was delimited by explaining that the findings would help the authorities in setting up programs for psychological intervention for the students. Further explanation was that the students would get the motivation to seek psychological help when the need arises. The tools used in the study might have not been fully understood by the students. To delimit this, the tools were put in a simple, straightforward language that the students could easily understand. In addition to this, the tools were fully discussed with the students as the study commences.

1.12 Operational Definitions of Significant Terms

Young adults: According to Erikson (1968), a young adult is any person whose age is between eighteen (18) and forty (40) years. In this study, young adult refers to the university students within the age bracket of eighteen (18) to twenty-five (25) years, because most of the university students in module 1 lie within this age bracket.

Depression: is a common psychological disorder with depressed mood, loss of interest or pleasure, diminished motivation, feelings of guilt or low self-worth, disrupted sleep or appetite and poor concentration (Marcus, 2012). The research adopted this concept.
Social Skills: are the abilities used to communicate and engage with one another, both verbally and non-verbally, through gestures, body language, and personal appearance (Orti et al., 2015). In this study, social skills will refer to a set of seven skills which will include self-awareness, self-esteem, emotions management, interpersonal relationships, assertive skills, negotiation skills, and empathy, all aimed at improving the students’ intrapersonal and interpersonal relationships.

Social skills training: It is a term used to refer to a collection of methods and techniques for the development of assertive social skills, such as teaching, shaping, role-playing, and homework (Orti et al., 2015). In this study, SST refers to an intervention that will involve promoting and enhancing the acquisition of social skills through role-playing, case studies, and discussions.

Failure: It is the state or condition of not achieve a desired or expected goal, which can be considered as the opposite of performance. In this study, failure will refer to a condition of not achieving what was intended including failing to pass exams or establish healthy relationships.

Depressive Symptom: This is a deviation of what it is considered to be normal, and which indicates the presence of depression (Peltzer et al., 2013). In this study, a depressive symptom refers to any deviation from normal which may be an indicator of depression, such as sadness and lack of interest in social activities.

University students: These are people undertaking any degree course at the university. In this research, campus students will refer to young adults within the age bracket of 18-25 years who are studying various undergraduate degree courses in universities.
1.13 Summary

The study worked on the effectiveness of social skills training in dealing with Depression and the resultant behavior among young university students who are studying engineering courses at the UON and the TUK. The factors that cause depression among university students and the resultant problems were also identified. Recommendations were made at the end of the study which could help improve successful depression intervention in this population.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section examines the literature on depression with special emphasis on depression among young adults, specifically college and university students. Sources of depression among college and university students are highlighted. The literature on coping lifestyles employed by these students and social skills training as an intervention on depression are examined. The chapter also looks into theoretical and conceptual frameworks, and finally gives a summary of what is covered in the whole chapter.

2.2 Theoretical Framework

This study was informed by Lewinsohn’s behavioral theory of depression (Lewinsohn, 1974) and Wendy Treynor’s theory of Depression (Treynor, 2009). The two theories are behavioral theories that emphasize the role of maladaptive behavior in the onset and maintenance of depression. Lewinsohn’s theory is a behavioral theory whose ideas are based on learning and conditioning concepts, founded upon Ivan Pavlov's work on classical conditioning and B.F. Skinner’s theory of operant conditioning of early mid-1900. In his theory, Skinner argued that habits can be learned and the same can be unlearned. According to Skinner, people will tend to repeat those behaviors that get positively reinforced while those that are punished tend to diminish. Positive reinforcement occurs when people do something that they find pleasurable and rewarding.

2.2.1 Lewinsohn’s Behavioral Theory of Depression

Lewinsohn (1974) argued that depression occurs when environmental stressors cause a person to receive less positive reinforcement and that people with depression
are those who do not know how to cope with the fact that they are no longer receiving positive reinforcements like they were before. For example, a person who has moved to a new home and has no social skills necessary to easily make new friends could become depressed. Similarly, a man who has been fired from his job and has trouble finding a new job might become depressed.

Lewinsohn (1974) further explained that decreased environmental reward, associated reductions in positively reinforced healthy behavior, reinforcement of depressive or passive behaviors, and punishment of healthy behaviors are precursor of persistence depressive symptoms (Lewinsohn, 1974; Martell, Addis, & Jacobson, 2001). The theorist coined the term response-contingent positive reinforcement behaviors to refer with greater emphasis to this regular characteristic of the repertory of the depressed. There are three ways to explain the low rates of response-contingent positive responses. The three ways include, loss of reinforcement effectiveness of events (positive reinforcers), change in the individual’s environment that caused the absence of former reinforcement and the probability that the former reinforcement might still be available in the environment but the individual may no longer have the ability to access it (Martell et al., 2001).

Further, Lewinsohn elaborated on behavioral theory of depression that structured treatment for depression is needed on the ground that the treatment’s main goal would be to re-establish the rate of response-contingent positive reinforcement to an adequate level. The theorist affirmed that in order to make this happen, it would be necessary to change the frequency, quality and quantity of pleasure activities and social interactions of the individual. In addition, MacPhillamy and Lewinsohn (1982) are of opinion that the evaluation and intervention towards this end are scales that attempt to characterize and measure the symptoms, focusing on the interpersonal
behavior patterns of the individual, social skills training and the use of the Pleasant Events Schedule, which is focused on proposing pleasurable activities.

Subsequently, Lewinsohn theory and therapeutic approach became synonymous of behavior treatment for depression (Shaw, 1977). Consequently, further researches based on Lewinsohn theory suggest that simply raising the number of positive reinforced activities significantly reduced the depressive symptoms and significant change of depressive behavior among the group of subjects in comparison to control groups (Dobson & Joffe, 1986; Hammen & Glass, 1975). This emphasizes the importance of the environment in shaping behavior. This is where Lewinsohn theory synchronizes observable behavior and the conditions through which individual’s learn behavior, with classical conditioning, operant conditioning, and social learning. Theorist sees depression as the result of a person’s interaction with their environment. For instance, classical conditioning proposes depression is learned through associating certain stimuli with negative emotional states whereas, social leaning theory states that behavior is learning through observation, imitation and reinforcement. Lewinsohn (1974) states that when positive reinforcement is removed from the environment, it leads to depression. Specifically, according to the theorist, certain events such as losing a job, or poor academic performance among students can induce depression because they reduce positive reinforcement from others and subsequently become much less socially active; hence, depression can be caused through inadvertent reinforcement of depressed behavior by others.

Lewinsohn (1974) noted that if a person lacks social skills, or has a very rigid personality structure, such person may find it difficult to make adjustments needed to look for new and alternative sources of reinforcement hence, such person get locked into a negative downward spiral. For example, a young adult (university student) who
did not have the intrapersonal and interpersonal social skills required to deal with the university stressors such as establishing and upholding interpersonal relationships was likely to get socially isolated and this may result to depression. Social skills may be understood as operant behaviors that resulted to positive reinforcement in the students’ social environment such as the establishment of stable social relationships. Students who were trained on social skills were able to retain interpersonal relationships and become socially acceptable.

2.2.2 Strengths of Lewinsohn’s Behavior Theory of Depression

Scholars have noted that behavioral/learning theories make sense in terms of reactive depression, where there is clearly identifiable cause of depression (MacPhillamy & Lewinsohn, 1982). One of the outstanding contributions of Lewinsohn’s behavior theory of depression was on social skills training. The theory clearly states that deficit in social skills and positive social interaction have been empirically proven to be main contributors to the maintenance of depression. This is because individuals with depression typically interact with others less frequently than non-depressed persons and their behaviors are typically more dysfunctional. Additionally, Lewinsohn’s strength was on discovery that lack of interaction-seeking behaviors displayed by the depressed individuals. According to him, this lack of interaction results in social isolation that furthers the development of a negative self-concept, loneliness, and isolation.

Another major strength of Lewinsohn’s theory on behavioral depression was what researcher termed as the “pro-happiness social norm.” This causes people to approach social interactions with the expectation of a positive exchange (Alloy, Lyn, Wayne, & Dena, 1998). This contribution was understood in the sense that the lack of responsiveness displayed by individual with depression might become annoying to
their interaction partners, this might consequently cause the interaction partners to either avoid interactions with the depressed individuals or to approach them more negatively in future interactions and hence, generating a self-fulfilling speculation of continued negative social interactions for both individuals.

2.2.3 Weaknesses of Lewinsohn’s Theory on Behavioral Depression

According to Lewinsohn’s theory, there is a clearly identifiable cause of depression. However, one of the major weaknesses of the theory is that of endogenous depression, the type of depression that has no apparent cause. Also, the theory fails to take into account of cognitions and the influence of thoughts on mood. This theory is narrow in understanding depression, it lacks a holistic overview of depression. For example, many cases of depression were due to biological factors. In addition, scholars have argued that some cases of depression could be linked to loss of rejection by parents. Depression is like a grief, in that it often occurs as a reaction to the loss of an important relationship, loss of self-esteem (Bibring, 1953; Fenichel, 1968), inwardly directed anger, introjection of love object loss, severe super-ego demands (Freud, 1917), and excessive narcissistic, oral and/or anal personality need (Chodoff, 1972).

Another unfortunate weakness of this theory is on the possibility that some people with depression can become positively reinforced for acting and faking depressed when family members and social networks take pity on them and provide them with special support because they are “sick”. Therefore, researcher suggests that Lewinsohn’s theory explains the development of depression for some individuals but not for all (Abreu & Santos, 2008). Lewinsohn’s theory did not pay attention to people’s thoughts, perceptions, evaluations, or expectations. Instead, the theory pays
so much attention solely on their external and directly observable and measurable behavior.

Perhaps, the theorist thought of thoughts as not very relevant to the process of influencing behavior and also too difficult to measure with any accuracy. This theory turns out to too extreme position about causes of depression. More recently, research has shown that internal events such as perceptions, expectations, values, attitudes, personal evaluations of self and others, fears, and desires can affect behavior. These are equally important to take into account when doing therapy. As a result, old-fashioned ‘strict’ behavioral approaches to treating depression are not as popular today as in the past (Abreu & Santos, 2008).

2.2.4 Wendy Treynor's Theory of Depression

The other theory that informed this research was Wendy Treynor's theory of Depression (Treynor, 2009). The theory proposes that a person’s harmonious state is disrupted by external social rejection or related conflicts when he or she fails to match the standards set by his or her peer groups. The person internalizes the rejection as self-rejection over time. The person feels rejected by not only the peers but also by self. He or she perceives the rejection as unavoidable and thus depression sets in (Treynor, 2009). Depression is conceived of as a result of self-rejection, and the solution is therefore to stop rejecting yourself. The solution to depression that is offered by Treynor’s theory is to end the conflict by getting this external and internal acceptance that needs to be met (Treynor, 2009).

Treynor’s theory informed this study because depressed students had low self-esteem and poor interpersonal relationships. Social Skills Training helped the students to improve their self-esteem and interpersonal relationships. This resulted to self-acceptance and social acceptance, thereby ending the conflict and the depression.
2.2.5 Strengths of Wendy Treynor’s Theory of Depression

The concept and theories provided in social theory by Treynor serve as excellent tools to examine the social world and to determine our roles within it. The theorist clearly points out the knowledge accumulated in this theory can aid understanding of why good people do bad things. Likewise, Treynor’s theory draws upon many of the key tenets and principles of social theory to describe the best and worst parts of humanity. The theory’s strength is on referencing key studies such as obedience to authority and explains that our emotions are affected by conflicts within. The emphasis on conflict within made this theory to standout. According to the theorist, this conflict can come from two different sources such as internal source and external source. The internal source which Treynor postulates refers to reference group such as religious groups and/or innate moral believes. The external source according to the theorist refers to everyday group such as school, work, friends and family.

Treynor’s theory was also known for distinctiveness in the theory of loss of acceptance. According to the theorist, conflict erupts when one is at odds with one of the aforementioned groups and this can cause an infraction within one of the groups or if the ethics of both groups conflict. This will hereafter create emotions of shames, guilt, humiliation, and/or depression. Treynor’s stand of conflict within, especially on guilt can cause morally sound individuals to do immoral and even inhumane acts as a means of resolving these conflicts (Treynor, 2009).

Another major strength of Wendy Treynor’s theory is on self-rejection. The theorist postulates that depression happens when one is trapped in a social setting that rejects the self or devalued continually and this rejection is internalized into self-rejection. The combination of self-rejection and social rejection makes the conflict
inescapable and chronic, hence; depression set it. Scholars believe that this theory stood out among theorists on depression. Treynor explains further that one’s state of harmony is disrupted when faced with external conflicts which is social rejection. In this framework, Treynor’s unique strength about depression states that social rejection is internalized into self-rejection. According to the theory depression becomes more severe when one experiences rejection from both the group and the self (O’Donohue, 2012).

2.2.6 Weaknesses of Wendy Treynor’s Theory of Depression

A critique of Wendy Treynor’s theory suggests that her theory about depression cannot be main focal in treatment of depression. It was noted that there could be a possibility that one cannot find an unconditionally accepting group to navigate oneself into. Then if one cannot find such a group, the solution the framework the theory offers cannot be effective (O’Donohue, 2012). This is because, self must be in meditative solitude and at peace, not lonely and ruminating as stated by the theorist. Another area of weakness as reported was on the note that the framework suggests that a lack of self-acceptance lies at the root of depression and that one can heal their own depression if they keep an alert eye to their own emotional state. This seems to undermine the availability of professionals both at psychotherapy and pharmacotherapy that a depressed person can just look for self-acceptance to heal depression (Linda, 2010).

Social skills training aim at behavior modification and subsequently reduce depressive symptoms among university students. This makes the theories suitable for the current study.
2.3 Depression in College Students

One clear finding in the literature is the linkage between stressors and the development of depressive symptoms in college students. An individual's coping skills significantly affect his or her reaction to stress. Individuals are experiencing tension as they face demands that can exceed their coping capacities (Dyson & Renk, 2006). Faced with these stressors, students are required to use coping strategies to cope with the pressures in their lives and to react successfully.

The lack of ability to handle such stressors effectively can lead to persistent high-anxiety rates for college students. Different researchers and scholars focusing on depression often study specific stressors affecting specific populations, including students, caregivers, and persons with chronic diseases. For instance, Reed, Clarke, and Macfarlane (2012) and Talley and Montgomery (2013) focus on the stressors that may trigger the development of depression in those who offer care to adults. The phenomenon of university students who are also caregivers is not uncommon, and therefore some studies have focused on the relationship between caregiving and depression. The stressors are highly comparable to the ones affecting students or young persons who are caring for adults in their families.

The onset of depressive symptoms was correlated with persistent high-anxiety rates in college students (Reed, McLeod, Randall, & Walker, 1996). In a nationwide survey conducted by the American College Health Association (2019), 94 per cent of students reported feeling frustrated by the demands of college life. This research shows the risk of developing depressive symptoms in college students is significant. The manner in which college students use coping strategies to overcome stressors varies in their ability to encourage positive adaptation.
Research show fewer effective coping mechanisms for female college students compared with male students (Dyson & Renk, 2006; Grant, 2004; Nolan & Chaplin, 2006; VanBoven & Espelage, 2006). For one study examining gender and depressive symptoms, ruminative coping has been found to be more prevalent among female university students (Grant, 2004). Ruminative coping has been defined as residing on critical moods, self-negative or stressors.

Higher rates of ruminative processing have been considered predictive of higher levels of depressive symptoms in a retrospective sample of undergraduate students from a private university. Information was obtained at two-time points for this investigation, about 8 to 10 weeks apart. A discussion of this evidence endorsed a road model in which the neurotic impact on depression was mediated by a ruminative response form (Vincent & Alyson, 2004). In another longitudinal study of college students, rumination, identified as a more internal method of coping, was investigated at both male and female university students.

Data were collected over two periods of time, first during the summer orientation prior to the commencement of college, and second at the end of the first semester. Rumination refers to thinking of something over and over again without getting a solution. When this happens, it becomes difficult for somebody to solve a problem. The person then feels worthless and this may lead to depression. In this study, group work among engineering students is necessary for success in academic work. However, students who have no interpersonal relationship deal with their problems individually. This may involve rumination which may further result to the individual feeling worthless. Applying SST enables the students to interact with others thereby reducing rumination and depression.
Ruminative coping has been found more popular for female college students as an internal method of coping. Individuals who had used ruminative therapy were more likely to blame themselves for traumatic events in their lives, disregarding situations and accidents. It has been noted that this self-blame has increased incidence of depressive symptoms among college students (Mohammad et al., 2016). External coping mechanisms such as experiencing external anger and not voicing this anger outwardly can place students at increased risk of developing depressive symptoms (Chaplin, 2006).

The results showed that students using more problem-focused coping methods reported lower levels of depressive symptoms than those using internal coping (Dyson & Renk, 2006), in another study of the link between depressive symptoms, stress, and coping in college freshmen. In one longitudinal study of undergraduate students from a large Midwestern university, a lack of problem-focused coping is correlated with a rise in depressive symptoms (VanBoven & Espelage, 2006). A study of African-American college students investigated the link between a lack of problem-focused methods of coping and the tendency to deprive others of social assistance. Studies have shown that students who used fewer problem-focused coping mechanisms and had less social support have reported higher levels of depressive symptoms (Mohammad et al., 2016).

Another risk factor known for developing depressive symptoms in college students has been low self-esteem. In a longitudinal study of college freshmen, and the development of depressive symptoms, the relationship between perceived self-worth, described as the extent of one's self-esteem based on the views of others or external events, was explored. Before the beginning of classes, during the freshmen orientation and during the first two weeks of the second semester, data were collected.
at two times stages. The study found that individuals who increase their self-esteem based on events outside their control have reported lower self-esteem rates and higher depressive symptom levels than individuals who boost their self-esteem based on their controlled internal events (Sargent, Crocker, & Luhtanen, 2006).

The literature indicates severe symptoms of depression in college students. Depression can lead to negative consequences, with the most important being suicide. Around 10 percent of college students harbor suicidal thoughts (McCarthy & Salotti, 2006). There seems to be a relationship between the attitudes of the students towards suicide and the symptoms of depression. The higher the number and severity of depressive symptoms encountered by university students, the greater the risk of suicide (Hirsch, Conner, & Duberstein, 2007). Stressors can lead to suicidal acts in the lives of undermanaged college students. Unresolved stressors can overwhelm students to such an extent that they become more depressed and powerless, seeing suicide as the only escape.

In a cross-sectional analysis of stressors, several stressors have been reported as important, which may place college students at greater risk of suicidal ideation. Academic stressors, social stressors and financial stressors have been identified as the three key factors that could place these students at risk for suicidal ideation (Wanyoike, 2014). Sadly, many of these students follow through on their suicidal thoughts, described in college-age students by suicide as the second leading cause of death (McCarthy & Salotti, 2006). According to the authors, there is no more crippling disruption in the rhythm of college life than in student suicide. Such an event brings to a halt the everyday process of teaching, research and scholarship that defines university life, as well as bringing into question individual concerns about uncertainty and destiny. A number of suicide cases have been reported among
university students in Kenya and depression as a major cause of suicide (Wanyoike, 2014). This occurs when depression symptoms become pathological. This study applied SST as an intervention for depressive symptoms before they became pathological and by so doing averted the risk of suicide.

High-risk behaviors associated with depressive symptoms have been studied in college students. Such behaviors include drug misuse, smoking, eating disorders, and casual sexual experiences. Alcohol consumption has been described as a high-risk condition that is linked to depressive symptoms in college students. Smoking was described as a high-risk activity associated with symptoms of depression (Kennedy & Holahan, 2008). An important link between depressive symptoms and average daily smoking of cigarettes was discovered in a cross-sectional study of college students. Data from another major public university cross-sectional study have revealed that smokers displayed a higher degree of depressive symptoms than non-smokers (Ridner, Staten, & Danner, 2005). In another study of undergraduate students, the association between depressive symptoms and eating disorders among college students was investigated. Studies showed a strong positive association between depressive symptoms and eating disorder symptoms (VanBoven & Espelage, 2006). There was also noted a major association among the students between depressive symptoms and weight issues.

The casual sexual experience is another negative result that has been shown to be associated with depressive symptoms. A cross-sectional study of graduate students at a public university has found that students with major depressive symptoms are more likely to engage in casual sexual relationships. Research has also shown that female students with the highest depressive symptoms have the largest number of sexual partners relative to their undepressed counterparts. Women with depressive
symptoms that seek to diminish their sense of loneliness and improve their feelings of self-worth (Grello, Welsh, & Harper, 2006). For another cross-sectional study of students from a major public university the link between depression and risky sexual conduct was addressed. The findings showed a strong positive link between depressive symptoms and risky sexual activity (Swanholm et al., 2009). Postpartum Depression is also present in students at university. Students giving birth have an increased risk of developing a Postpartum Depression.

While all types of college depression can be mild in severity, failure to respond may pose a serious problem. The American Journal of Health Behavior recorded that untreated depression in college students can lead to physical or mental illness such as anxiety and eating disorders, or even suicide (Swanholm et al., 2009).

2.4 Factors that Contribute to Depression in College Students

College years provide students with a time of both academic and personal growth, but college students face stressors that differ from their peers who are not in college. The tertiary education climate poses many new developmental stresses to students, which can detrimentally impact their physical and mental well-being. In a university environment, students face several stressors that can potentially generate a strain on an individual's life if not treated carefully. It is time these young people take responsibility for both their personal and professional identity.

Many university students find that joining the university for the first time is a time of loneliness, as familiar friends and family members are no longer available (Mohammad et al., 2016). Some are faced with issues of money and time management which demand self-efficacy. Many of them, slipping into negative contrast, equate their financial potential with that of their peers. An individual can prevent or stop unpleasant comparisons through various means. One should choose a
person who he or she envies and make a test case on building self-esteem. One can choose a colleague whom he deems favored by supervisors or better-off. He or she can try not to compare himself or herself with the colleague before trying out with other people. One can stop the comparison by being mindful when faced with situations that may breed feelings of envy. He or she should be humble when dealing with his or her subjects of jealousy, even when the subject appears intentionally provocative or irritating. For example, he or she should try hard not to feel uncomfortable when the colleague is praised. Rather, he or she should view himself or herself as empowered as the colleague. He or she may also praise the colleague without letting his or her unstable self-esteem discourage him or her (Bor & Hubbard, 2006; Tiedens & Leach, 2004).

To fight the comparison, one should treat others as he or she would wish to be treated by them. If one wants his or her colleagues to value her or his attainments, he or she should as well value their achievements. If one wants to love, he or she is better at expressing love towards others. If one wants to have a thriving career, one may benefit from assisting others to grow their careers and professional competencies (Bor & Hubbard, 2006; Tiedens & Leach, 2004). Similarly, to fight the comparison one should seek to emulate the strengths that define one's subjects of envy and avoid focusing on one's shortcomings.

In addition, one should learn the strengths and work towards improving oneself. This includes trying hard not to envy the strengths expressed by the subjects. He or she should admire the strengths and assimilate them into his or her life (Bor & Hubbard, 2006; Tiedens & Leach, 2004). To stop the comparison, one should wish the subjects well even if it is challenging to do so. By wishing the subjects well, one
transforms the negative thoughts one has about them into positive thoughts, thus developing the all-important self-compassion.

Stress sources differ from one person to the next, but many students experience several overlapping stressors. Kumaraswany (2013) noted in a study conducted among college students that the university period is important for the evolution of self-sufficiency and that the first years of university education overlap with the late adolescence period, often described as a stressful period to survive. Interpersonal relationships and sexual behaviors have been identified as common social factors of college life that are potential stressors for the students at this stage of life.

Together with these, the students also have to manage a demanding college curriculum. An engineering course is one of the most valued courses in Kenya. Engineering courses are mainly offered in public universities since many private institutions lack facilities required to enable them to offer engineering courses. It is therefore very competitive in Kenya to get university admission for an engineering course. At the same time, there are diverse courses offered in the field of engineering which enables graduates to work in areas such as construction, electronics, mechanical and information technology, among others. There is a general perception that a person trained in engineering is unlikely to miss an employment opportunity as is common among those who take other courses. A dream of many Kenyan children is to become engineers when they grow up. A student who gets admitted to a university to pursue an engineering degree course is considered to be elevated above those taking other courses. When such a student joins a university, family and peers have a very high expectation of his academic excellence. Such a student may struggle to meet such expectations, and should he fail to do so, frustrations may result which may
further lead to depression. At the same time, the engineering curriculum is considered
to be more complex compared to that of other courses because it combines both
theory and practical. The students therefore may have heavy workload which may
hinder them from getting time for social activities. This can predispose them to
depression.

Whether or not these external influences establish an individual's stressful
situation depends heavily on their personality. For example, people who are introverts
find it difficult to share issues with others and they also have poor interpersonal
relationships. As reported in a study conducted in Texas, lack of relationships is the
most consistent trend leading to depression amongst the most prevalent stressors in
college life. The study reported higher levels of depressive symptoms associated with
the inability to be in a relationship compared to those in relationships (Swanholm et
al., 2009). Relationships give people a sense of belonging and social network which is
important in offering social support as well as opportunities to share personal issues
without fear of negative outcomes. With an assurance of social support and a social
network which one can turn to during adverse conditions, the person is able to handle
depressive symptoms effectively before they become pathological.

Results of Kumaraswany's (2013) study suggested that dissatisfaction with
stress-related social activities, relationships with other sexes, concerns about exam
success, accommodation issues, fear of a wrong career choice, and fear of the future
were all consistent predictors of anxiety and depression levels. The rates of traumatic
interactions differed considerably from the time of transition to young adulthood.
During the adjustment era, the students had difficulties with their new environment in
particular, but as they adjusted to the new world, educational concerns started to rise
to the surface.
Change in lifestyles among Ugandan college students was found to be a major risk factor for depression (Kaur et al., 2014). It is because students are required to take more responsibility during the life-changes associated with university years. Some of them have to leave the surroundings of familiar friends and culture. They have to make new friends in a new environment and at the same time get acquainted with new ethnic and social class groups. They now face greater academic pressure than they did in high school. Furthermore, there is less direct supervision to make sure they keep up with their tasks relative to their days in high school. At the same time, students have to manage their time and money. In Kenya, challenging academic work can be a major stressor in Kenyan universities where a lot of emphases are attached to academic performance. Similarly, the students who used to be top in their secondary schools meet with others who perform better than them and this may give them a challenge as they try to compete. This desire to remain at the top also may lead to depression. An engineering degree courses is considered to be one of the most competitive in Kenya and university admission for an engineering course is quite prestigious. Pressure from family, peers and the general public for an engineering student to excel may put him at a risk of stress in an attempt to please others. Such stress may further lead to depression.

Keith (2015) suggested that students are faced with a variety of stressors that could potentially cause the burden on an individual's life, if not treated with caution. Students are reacting to college in several ways. College is stressful for some students because it is an abrupt change from high school. Separation from home has been a cause of tension for many. Although personal growth requires some form of stress, the amount of stress can overwhelm a student and affect the ability to cope, leading to depression and other psychological issues.
Awareness of the causes of stress and depression among young people can give young adults ideas for solving such problems (Mohammad et al., 2016). Several stressors were identified as being unique to the environment of university students. Stress is one of the factors that can cause depression among students at the college. It's a common factor in many people's lives dealing with depression. In 1984, Lazarus and Folkman proposed a model explaining the association of stress and depression (Goh, Sawang, & Oei, 2010). Their cognitive-transactional theory clarified the variations between the stress components both internal and external. External elements include internal or external stimuli, while the inner dimensions include the cognitive process of the individual. The agreement between the two as Lazarus and Folkman describe all components as communicating is an ongoing negotiation. The meaning a person applies to a circumstance and how the circumstance is measured defines the stressfulness of the case (Swanholm et al., 2009). With the significance attached to academic performance in today's society, combined with the need for rapid social and geographical adaptation, college students are often the victims of these external stressors.

According to Buchanan (2012), the majority of university students are at a stage of development in which they are going through a transition period from adolescence to adulthood and this can be stressful. Munsey (2006) noted that at this stage, young adults are transiting from teenagers and therefore they need to make a lot of adjustments. Transiting from adolescence to adulthood itself is quite challenging (Peltzer et al., 2013). This, along with other stressors such as trying to fit into the University culture, maintaining good grades, preparing for the future, and being away from home, also creates anxiety for many students (Kasomo, 2013).
High rates of anxiety will result when those stressors overwhelm students. Students with elevated persistent anxiety rates are at risk of experiencing depressive symptoms (Peltzer et al., 2013). We will weep all the time, miss school, or withdraw without knowing that they are sad. These depressive symptoms may harm their quality of life and their academic achievement. If no intervention is done at this point, the development of depressive symptoms can have a major effect on college students' ability to achieve academic requirements successfully.

Erik Erikson identified eight of the psychosocial developmental components. According to him, having a positive personality means being able to successfully overcome a potential problem at each of the eight growth stages of life. Erikson described a healthy personality as containing elements most notably absent or defective in neurotic patients but present in the kind of man that the educational and cultural systems appear to try to create, assist and maintain each in their own way (Erikson, 1959).

Erik Erikson developed an eight-stage psychoanalytic theory of psychosocial development from infancy to adulthood. The individual encounters a psychosocial crisis during each stage which could have a positive or negative outcome for the development of the personality. He stressed the role of culture and society and the potential conflicts within the ego (Erikson & Coles, 2001; Evans, 1995). The ego grows as it effectively addresses distinctly social conflicts, according to Erikson. These involve building a sense of trust in others, developing a sense of identity in society, and helping prepare for the future for the next generation (Erikson, 1959).

Erikson believed that in a predetermined order personality evolves and builds upon each preceding point. It is also the theory of epigenetics. The result of these developmental stages is a diverse and integrated collection of life skills and abilities.
that operate together within the self-reliant person. He has been interested in how kids socialize and how it impacts their sense of self. The psychosocial growth theory of Erikson has eight distinct stages, with five steps up to 18 years of age and three additional phases of adulthood. Erikson (1959) argued that one grows and develops continually throughout the lifespan. At the adolescent phase, one experiences much of the growth, development, and identity (Erikson & Coles, 2001; Evans, 1995).

Erikson (1959) believed that a crisis arises at each point of growth and that such crises are psychosocial because they include the individual's psychological needs that clash with society's needs. Successful completion of each stage results, according to the theory, in a healthy personality and the acquisition of basic virtues. Specific virtues are qualities of traits that can be used by the ego to overcome subsequent crises. Failure to complete a stage successfully can result in a reduced ability to complete further stages, and thus an unhealthier personality and self-sense (Erikson, 1959). But these steps can be successfully reached at a later time.

The foremost phase, or stage, which happens during one’s first year, comes off as pitting trust against mistrust. At that stage, one is uncertain of the environment and the uncertainty feelings are largely resolved by one’s caregivers who offer him or her consistent and stable care (Erikson & Coles, 2001). If one gets consistent and stable care, he or she becomes increasingly trusting in human relationships, hopeful in the relationships, and secure in the relationships. If one does not get consistent and stable care, he or she becomes increasingly afraid and fearful of human relationships and loses confidence in the environment. Consequently, one will take with them a fundamental sense of mistrust into other relationships (Erikson, 1959). This can lead to anxiety, increased insecurities, and a sense of doubt in the world around them.
The second period between the age of 1.5 and 3 is autonomous versus shame and doubt. The child is physically developing and becoming more mobile. Children assert their autonomy from those around them (Erikson & Coles, 2001). They discover their abilities more and more. Ideally, at this stage, caregivers should encouragingly allow children's discretion to test their abilities, grow self-control, and self-esteem, releasing the will virtue over time (Erikson, 1959). When kids are motivated and supported at this point in their growing freedom, they will become more confident and secure in their ability to thrive in the world. When questioned, over-supervised or not able to express themselves, the children begin to feel inadequate in their ability to excel and can become excessively dependent on others, lose self-esteem and feel a sense of guilt or doubt in their abilities.

The first and second stages of development according to Erikson occur when most of Kenyan children are under the care of house helps given that most of the mothers are in full time employment. For the house helps to have it easy, some of them neglect the children and others even mistreat them. As a result, majority of Kenyan children are not able to complete these stages successfully. Failure to do so can predispose them to psychological problems later in life and intervention is therefore necessary the earliest possible. Some of them may get to university when intervention is not yet done since mental conditions are not easily noticeable to get the necessary attention.

The third stage is one of effort vs. guilt. Kids show themselves more often before the age of five. The infant grows quickly at this point and the parents may see it as violent as a period of action and behaviors. He or she becomes keen on interacting with others, exploring his or her interpersonal competencies by conceptualizing varied activities, for which they should be supported. If they are
excessively controlled or criticized, they become shamefaced and fail to develop the purpose virtue (Erikson, 1959).

The fourth phase at between 5 and 12 years is known as the industry against the inferiority stage. Teachers are rather influential in this stage as children learn specific skills, including writing skills and reading skills. Children come under growing peer influence at this stage as well, by seeking their peers’ approval and acceptance through showing off their skills (Erikson & Coles, 2001). The children feel industrious and become increasingly confident in their capabilities if supported, otherwise, they feel inferior. The fifth level, known as identity versus position confusion, takes place between ages 12-18. At this point, adolescents search for a sense of self and personal identity by exploring their values, beliefs, and objectives. At this point, they should be assisted to cultivate the virtue of fidelity (Erikson, 1959).

The third, fourth and fifth stages of Erikson occur when one is in school and is under the care of teachers. While some schools have counselors who deal with the students’ psychological issues, many others lack trained professionals to deal with the same. Children who experience crises during these stages may move into adulthood with unresolved psychological issues. Children who complete primary and secondary education when their psychological issues incurred in childhood are not yet addressed may be predisposed to depression into adulthood and therefore the need for effective intervention at university and college level.

The sixth stage which occurs between the age of 18 and 40 years is referred to as the isolation versus intimacy stage. At this stage, individuals are keen on building lasting relationships with others outside their families (Erikson & Coles, 2001). Students who are successful in this stage build happy relationships defined by safety, care as well as commitment. The ones who avoid intimacy at the stage are often afraid
of relationships and often suffer loneliness, seclusion, and now and then depression. Those who are successful in this stage develop the love virtue. Those who are successful in the succeeding stage develop the care virtue while those who are successful in the ninth stage develop the wisdom virtue (Erikson, 1959).

Notably, the first four stages of development of the Erikson occur in children before they reach age 12. The university students are in the developmental stage of early adulthood and according to Erikson, college students between the ages of 18 and 25 will fall below one of the two developmental stages. The first of those stages is the confusion of identity versus role. Identity and position confusion is considered the stage of puberty and involves people aged 12 to 18 years of age. The teenagers are looking for a sense of self and moral identity at this point through an intense exploration of moral values, beliefs, and ambitions (Erikson, 1968).

The ability to successfully overcome the crisis presented at this stage depends on how far earlier tasks have been completed. The developmental crisis occurs as people experience a profound shift in perspective as their personality evolves during life. The ability to resolve earlier crises affects the adolescent's ability to establish identity and secure values that will be translated into adulthood (Erikson, 1968). Individuals who are unable to effectively overcome the crisis in this point experience feelings of alienation from others, as well as a lack of clear goals in life. To identify these individuals, Erikson uses the word "apathically lost."

Erikson's second stage which will include college students is intimacy versus isolation. Intimacy stage versus isolation occurs in young adults aged between 18 and 40. At this point people are able to develop psychosocial intimacy with others. Individuals who resolved the preceding stage crisis effectively and emerge with a strong identity will fuse their identity with others. This fusion involves establishing
relationships with others which include confidence and affectional reciprocal communication. Individuals who are unable to resolve this stage's crisis successfully can develop emotionally distant feelings from others (Erikson, 1968).

According to the psychosocial growth theory by Erikson, young adults continue to try compañerism and affection. At this point, love and sex can be significant sources of fulfillment for them, but at the same time, they can be a common source of concern, anxiety, guilt, and dissatisfaction (Erikson, 1968). Getting in love is a part of university life. Friendships and intimate relationships take center stage during early adulthood when individuals become more independent of their parents. Others begin to settle down and start families too. Young adults seek deep intimacy and fulfilling relationships, but alienation may occur if unsuccessful.

Jean Piaget developed a theory to explain cognitive development during childhood (Piaget, Chomsky, & Piattelli-Palmarini, 1980; Piaget, Elkind, & Flavell, 1973). Piaget’s theory holds that individuals have their cognitive abilities developing through different, successive stages. Each of the stages is defined by adjustments in how individuals appreciate others and their surroundings. Piaget was convinced that individuals actively explore the surroundings in efforts aimed at understanding them (Crain, 2011).

According to Piaget, children go through four mental stages of development. These stages are sensorimotor stage (0-2 years), preoperational stage (2-7 years), concrete operational stage (7-11 years) and formal operational stage (12 years and above). University students according to Piaget are in the last stage of cognitive development in the context of structured operations. The capacity of adolescents to think abstractly, reason using theories, and reason outside the present develops during this period. There tends to be an ability or tendency to consider and explore
possibilities that are not immediately present, unique to individuals that have achieved this stage of cognitive growth (Piaget et al., 1973; Piaget et al., 1980). This is the stage at which develops the ability to think logically about potential events or abstract ideas. University students who fail to reach this stage may get frustrated when they realize that they are not able to solve academic and life issues as well as their peers. This may lead to depression and therefore the need for intervention. Throughout adulthood, this desire to see about the present continues.

Kohlberg’s theory of moral development provides that individuals express different levels of moral reasoning when faced with ethical predicaments (Gibbs, 2003). Each of the stages is typified by a lower level of reasoning than the succeeding stage. Notably, Kohlberg builds the stages based on the supposition that persons are intrinsically communicative and long to appreciate their surroundings and others. A person can reason or think (Crain, 2011).

Kohlberg defined three different levels of moral reasoning, with two sub-stages each. He argued that people should only proceed through certain stages after the order mentioned, where each stage replaces the earlier stage's reasoning. The first level of moral development is the pre-conventional stage as defined by Kohlberg’s theory (Gibbs, 2003). At this stage, the person exhibits ethical reasoning that is in its pre-conventional phase, meaning that the individual judges the morality of an action by its direct consequences. The individual emerges as having not internalized society’s conventions regarding what is right or wrong but instead focuses on the external consequences of certain actions. This stage occurs in children up to age nine.

At the pre-conventional stage of morality, the infant has no specific morality code. The moral code, then, is influenced by adult expectations and the implications of violating or breaching their laws. Authority is beyond the person and reasoning is
focused upon action's physical consequences. The first stage of this phase includes an orientation of obedience and punishment where the child is good so as not to be punished. If a child is disciplined, then he or she must have done something wrong. The second stage of the first phase involves individualism and sharing where the child understands that the authorities don't only offer one correct view. Different people have varying points of view (Gibbs, 2003).

The second level is conventional morality. The journey towards a full-blown intimate relationship ends when the individual gets to a conventional moral reasoning level as defined by Kohlberg’s theory (Austrian, 2008; Munhall & Fitzsimons, 2001). At that level, persons determine whether particular actions are moral or unethical by establishing whether they conform to societal expectations and norms. For example, society does not expect a person to grow intimately close to their relatives. Society frowns against such a person (Munhall & Fitzsimons, 2001). Most teens and young adults are beginning to internalize the moral expectations of respected adult role models at the traditional stage. Authority is internalized but not challenged, and reasoning is based upon the group norms to which the individual belongs.

Stage three and stage four occur at this level of conventional morality. Phase three brings with it strong interpersonal ties. The individual is good so that others can see him as a positive person. Stage four retains the social order (Gibbs, 2003; Munhall & Fitzsimons, 2001). Individuals are conscious of larger laws of society, and decisions are about obeying the rules to uphold the law and escape guilt. At that level, an individual obeys societal rules and adheres to them even where his or her actions do not attract consequences. He or she accepts the intentions that societal consensus determines and is sensitive to disapproval, as well as approval from his or her society (Austrian, 2008; Munhall & Fitzsimons, 2001).
The third degree of morality is post-conventional. Human choice is focused on the principles of self-selection, and moral reasoning is based on human rights and fairness. This standard of moral thinking is, according to Kohlberg, the farthest people go. Only 10-15% of the population is capable of the kind of rational thought that is required for stage five or six droppings at this point (Gibbs, 2003). It means most people take their moral beliefs from those around them and only a few things about themselves by ethical values. Step 5 covers social contracts and human rights. The person is conscious that while there may be laws for the benefit of the greater number, there are occasions when they may be acting against the interests of individuals. The person is conscious that while there may be laws for the benefit of the greater number, there are occasions when they may be acting against the interests of individuals. The principle applies to all. For example, a person should be prepared to act in defense of human rights, justice and equality even if that means going against the rest of society.

Kohlberg thought that this stage was only reached by a few people (Gibbs, 2003; Munhall & Fitzsimons, 2001). Phase six includes the concept of universality. By this point, people have formed their own set of moral standards that may or may not suit the rule. The principle applies to all. For example, a person should be prepared to act in defense of human rights, justice and equality even if that means going against the rest of society.

College-going students are most likely in the conventional moral development phase as they are mostly adolescents as well as young adults. Their moral judgments are guided mostly by the views along with the expectations of their societies. At this stage, individuals begin to develop moral values as presented by role models and to reason out issues as spelled out in group norms to which they belong. They also start valuing interpersonal relationships and their thoughts and behaviors are determined by their desire to get approval of other people. They become aware of the societal rules and begin to develop a sense of morality. At this stage, people are guided by the views of their society and the expectations they have. They are also aware of the societal rules and begin to develop a sense of morality.
and their thoughts and judgements are guided by their intentions to obey the rules and to uphold the law while avoiding guilt (Gibbs, 2003; Munhall & Fitzsimons, 2001). University students who fail to develop morally are at a risk of getting isolated by others and this may result to depression. Training the students in social skills especially interpersonal relationships enables them to form healthy relationships ensuring that they do not get frustrations and isolation which may predispose them to depression.

One major adjustment that university students need is adjusting to a life of freedom of choosing friends of both genders, after enclosed high school life. This calls for them to establish a strong sense of identity. According to Heckman, Lim, and Montalto (2014), such a change involves integrating a new sense of masculinity or femininity into one's identity, establishing expectations regarding sexual conduct, and improving romantic relationship skills. Munsey (2006) noted that students need to learn and apply critical thinking skills at this level, too. We are increasingly able to understand and work with abstract concepts by moving from concrete to abstract thought, thinking about possibilities, and the potential to consider others. This affects their ability to think about themselves, others, and the world around them in general (Kaur et al., 2014).

In addition to this, Munsey (2006) also argued that young adults are at the stage where they adopt a personal value system by questioning and assessing beliefs from childhood. They restructure these beliefs into a personal ideology, such that their decisions are less influenced by peers. Buchanan (2012) noted that the students often establish positive and successful peer relationships at this point and form more secure, meaningful friendships based on the sharing of ideas and values. They also develop relationships of romantic and sexual orientation. Keith (2015) also noted that it is
expected that the students will meet the demands of those mature roles and responsibilities. These include the transition to independent living as they participate in college education.

From these findings, it is clear that a very significant part of college life is the idea of love (Buchanan, 2012; Keith, 2015; Munsey, 2006). Most students come to university life seeking an intimate and unregulated sex life. Yet others find it difficult to form romantic relationships (Wilcox, Winn, & Fyvie-Gauld, 2005). As a consequence, this can lead the students to rage, resentment, disappointment, and stress that can contribute to depression. This scenario is growing among students at Kenyan universities.

Interpersonal relationships and sexual behaviors have been identified as common social factors of college life that are potential stressors for the students. Together with these, the students have to also manage a demanding college curriculum. Whether these external influences establish an individual's stressful situation or not depends on the decisions, circumstances, and personality. Of the most common stressors in college life, relationships are among the most persistent patterns contributing to depression. A Texas study recorded that inability to be in a relationship was correlated with higher depressive symptom rates (Swanholm et al., 2009).

One qualitative study explored a group of freshmen's social interactions and how social integration affects the decisions made by the students to withdraw or stay at the university. Throughout the qualitative interviews, three themes emerged as the key factors driving the decision of the students to withdraw from the university. These themes included the difficulty of making friends, the difficulty of welcoming, and the question of seeking independent research (Wilcox et al., 2005).
A perceived inadequate social transition to a new lifestyle may cause depressive feelings amongst students. The literature has defined separation from their well-established social networks as a stressor to college students. Many students, who are not in a relationship during their college experience, can experience feelings of loneliness. Loneliness can be defined as an unpleasant experience when both the quantity and consistency of an individual’s social relationship and social network are significantly deficient (Pinquart, 2013). As demonstrated in a recent study by Rosenstrich, Feldman, Davidson, Maza, and Margalit (2015), many students feel isolated because of personal and external factors during the transition into university life. Individual factors contribute to personality qualities, leadership style, and social abilities. External considerations contribute to the types of programs and facilities the university offers (Rosenstrich et al., 2015).

Young university students were found to be at high risk of isolation (Rosenstrich et al., 2015). This isolation is a contributing factor in developing depression. Loneliness and separation from familiar friends may not be a serious cause of depression in the Kenyan situation. This is because most of the form four candidates who make it to University usually come from top-performing secondary schools which are mainly boarding and so they are used to living outside the home. Loneliness shows a strong association between impotence and depression. Negative self-image and opinions of others stem from isolation and these negative attitudes discourage the likelihood of a romantic relationship being formed (Hames et al., 2013). Once students leave home to start college, they leave behind the familiar, welcoming people as part of their adjustment to university life (Mohammad et al., 2016).
The sociologist Nancy Schlossberg (1981) developed a theory of mattering for college students based on her work in college students developing self-concept. According to Schlossberg, the matter is described as the experience of others relying on us, being interested in us, and being concerned about our fate, whereas the experience of marginality results in opposite feelings— the feeling of not fitting in and not being wanted or accepted. Schlossberg claimed that college fresheners still feel insignificant, as though their new social setting makes no difference. This feeling of being insignificant to others can cause increased stress and thus harm the lives of college students (Klein, 2011).

The Kenyan situation is such that establishing relationships especially with the opposite sex has been such a challenge, especially among first-year students. Most of the Kenyan secondary schools are mainly all boys or all girls’ with very few that are mixed. Even the mixed ones have strict regulations that allow boys and girls to meet only in class. When such students join universities where they have the freedom to interact freely with those of the opposite sex, they are usually not sure how to behave. As a result, many unwanted pregnancies occur in the first year of university, new HIV infections are also witnessed, engagement with drug abuse, and cases of prostitution among students especially those who reside around Nairobi city become common.

College students struggle to allow for the required eight hours of sleep with maintaining a hectic lifestyle and busy schedule. In a study by Girgenti, Mills, and Brooks (2009), it was found that there is a correlation between sleep and particular aspects of depression and that individuals with sleep disturbances may be at an elevated risk of developing depression. Inadequate rest proves to be both a cause of depression and an outcome. If one is experiencing insomnia or hypersomnia, this decides the performance of the students in handling the stressful class routine and
social activities. While depression at the college may be mild in severity, failure to respond to it can pose a serious problem. The American Journal of Health Behavior recorded that untreated depression in college students can lead to physical or mental illness such as anxiety and eating disorders, or even suicide (Swanholm et al., 2009).

College students also face academic stresses and demands that are perceived to be greater than they had in high school (Rayle & Chung, 2007). It was revealed in an inquiry for undergraduate students that 44.3 percent of subjects reported experiencing emotional problems that have directly influenced their academic performance over the past four weeks (Eisenberg, Gollust, Golberstein, & Hefner 2007). Similar findings were discovered when the findings of the 2005 National College Health Assessment Survey were assessed. Examination of this data found that 46.1% of college students reported feeling so overwhelmed that during the past academic year it was difficult to work (Taliaferro, Rienzo, Pigg, Miller, & Dodd, 2008).

Students who feel frustrated can exhibit general malaise over completing the necessary academic work, leading to poor study habits. A student review of a psychology introductory course found a strong link between bad study habits and depression (Bahrami, Rajaeepour, Rizi, Zahmatkesh, & Nematolahi, 2011). Students experiencing depressive symptoms can also show a decline in learning opportunities, a decrease in the amount of information they retain, and their ability to demonstrate learning (Hysenbegasi et al., 2005).

Grades are very important to the students at university. Mounsey, Vandehey, and Diekhoff (2013) stated that seven in eight students were very worried about their grades. This isn't surprising given that grades are critical for applicants for scholarships and jobs. Most students are often guided by the grading system to higher
standards of achievement and good grades rather than to focus on learning. The grade burden of individuals may also cause anxiety. While fear of failure can help motivate individuals to plan and perform well, intense fear of failure can lead individuals to feel emotionally and physically depressed (Berger & Freud, 2012). As observed by Nakalema and Ssenyonga (2013), students faced academic stress with the main sources of academic stress coming from taking and preparing for tests, grade rivalry, and a large amount of content to be mastered within a limited time.

The Grade Point Average of the student is considered a description of his or her learning and is thus used to make important decisions about him or her, thereby stressing that a good Grade Point Average is a path to a better life, prospects for good work, better salaries and higher education (Nakalema & Ssenyonga, 2013). As a result of these inquiries, the perceived level of academic stress among university students is very high and this sometimes leads to depression. Research by Nakalema and Ssenyonga (2013) in Uganda revealed that society believes graduating from a high-ranking university is a "passport" to a decent career, high salaries, and high social status. As a result, students are exposed implicitly to several stressors specifically associated with academic performance (Nakalema & Ssenyonga, 2013). Another research by Abdullah, Elias, Mahyuddin, and Uli (2009), showed that students who have been able to adapt well on campus are found to have higher academic performance compared with those who have trouble adapting to university life.

This emphasis on good grades as a gate-pass to better life and opportunities for good jobs is relevant to the Kenyan situation. Those who get first and second upper-class honors get direct admission into post-graduate degrees while those who get anything less are required to work for at least two years before they can get admission for post-graduate courses. When students realize that they are gauged by
their grades, they turn to cheat in the university examinations and those who are caught get disqualified, which may lead to depression.

Often, financial problems can be a huge stressor for college students. Financial stress can be described as the inability to fulfill one's financial obligations but can also have psychological or emotional consequences (Heckman et al., 2014). One of the main stressors for university students is a financial strain, and this stress can lead to depression. The burden comes not only from paying tuition, registration fees, and lodging expenses at the university but also from important stuff and wants such as fashion products and computer devices. Heckman et al. (2014) analyzed the factors linked to financial stress among college students and pointed out that many college students have worries about personal finances as a source of daily stress.

It was further noted that personal finances accounted for 4 of the top 5 factors leading to overall stress rates. The top 5 stressors included the need to repay loans, tuition expenses, saving money for college, the need to find a job after college, and, of course, the academic challenge work. The same study found that students in the first year were more depressed than students in the upper grades, which may be affected by the burden of handling their money on their own when first being away from home. Present trends suggest that financial burdens on students are likely to increase, putting growing numbers under stress and depression and at risk of dropping out of higher education (Heckman et al., 2014).

In the Kenyan situation, time and money management for Kenyan students who are coming from boarding schools where everything is managed for them can be stressful. Given that students are admitted from different family backgrounds, those from well up families can afford luxury items while those from humble backgrounds can hardly afford two meals in a day. Some of them finish their pocket money within
the first month when exposed to entertainment and food varieties all of which have to be paid for. At the same time, parents who were used to giving these students a little pocket money when they were in secondary school may not understand the financial demands at the university especially on food, and at times colleagues have to fundraise for the neediest to get enough for meals. These challenges may lead to depression (Ibrahim et al., 2013).

2.5 Lifestyles that Reduce Depression among University Students

Many preventive factors are used to help lower the incidence of depressive symptoms in students at the college. Spirituality, social care, finding health services, physical activity, and diet are among these factors. The perception of social support in college life is important for success. Many studies that explored the relationship between social support and depressive symptoms in college students found that the greater the individual's sense of family support, the support of friends, and a positive college climate, the lower the incidence of depressive symptoms in college freshmen (Way & Robinson, 2003).

Similar findings were found in a study of African-American college students where lower rates of depressive symptoms were identified by those with greater levels of social support from their families. The results of this study showed that fewer depressive symptoms were identified among the students whose mothers had attended college. For those mothers who had never attended college (Holden, Bradford, Hall, & Belton, 2013), it was found that mothers who had attended college were able to prepare their children for college stressors. In another research where low maternal care was described as affectionless and careless relationships between the mother and her child, maternal care was also considered. There was a fourfold rise in the
incidence of severe depressive symptoms among university students who indicated less maternal treatment (Hall, Peden, Rayes, & Beebe, 2004).

The likelihood of depressive symptoms in mothers which can have a detrimental effect on the relationship between mother and child may also have been predictive of the development of depressive symptoms in participants. It has been found that greater amounts of perceived social capital, identified as a family and peer support, are correlated with reducing depressive symptoms in undergraduate college students from a large public university (Saltzman & Holahan, 2002). The results of this study have shown that greater quantities of social capital have improved the capacity of a person to respond positively to the stressors faced by the college.

Rayle and Chung (2007) used Schlossberg’s theory of college students’ perceptions of mattering to research the relationship between parental care, matters to friends and colleagues, and academic support from a large public university in college freshmen. Results showed that freshmen students who felt supported by friends and family, and those who thought they mattered to friends and college, encountered substantially less academic stress than students who said they had not felt supported by it.

Another aspect that has been investigated for its function in developing depressive symptoms in college students is spirituality which may represent a specific form of help. Koenig (2012) described spirituality as the inner resources of people, their central concern on which all other values are based, their philosophy that guides their behavior. Spirituality was described as a successful way for university students to minimize depression (Sarokhani et al., 2013). Spirituality refers to all men and can be defined as non-confessional and non-institutional.
Spirituality can also be seen as an individualized experience and described as the experience of incorporating meaning and intent into life through interacting with oneself, others, art, music, literature, nature, or a force greater than one's own. In comparison, for certain individuals, religion is seen as an orchestrated means of communicating spirituality, often in the social environment of a community of faith. Religion focuses on a common set of values within a community of people including several significant activities. And faith may be seen as a symbol of the spirituality of individuals. Individuals who are not religious, however, can often have deep moral convictions in themselves. The college years are a significant time for young people to develop spiritually as they continue to pursue meaning in their lives. It is during this period that students may begin to question their own religious and spiritual beliefs (Nelms, Hutchins, & Pursley, 2007).

As university students engage in various religious activities, they exalt one another in their spiritual growth, and this helps to minimize the symptoms of depression. Fowler has identified six stages in the growth of the faith. These stages reflect the faith as a way to consider, view, and react to the factors that are likely to occur in our lives (Nelms et al., 2007).

According to Nelms et al. (2007), the third stage of faith development known as the synthetic-conventional faith will be for college students. It is at this point that the capacity of the person to establish logical considerations and to think using abstract principles starts to provide the basis for the growth of faith. Individuals at the synthetic-conventional level are starting to establish their belief systems; however, they are primarily trying to adhere to the values of individuals with whom they connect, such as family and peers. Such people have not formed their convictions
entirely, and as such there must be a deep reflection and analysis of what one believes relative to what one believes in faith to move on to the next level (Nelms et al., 2007).

It was indicated that spiritual support may be assumed to have an effect on well-being for college students, regardless of perceived social support (Brown & Parrish, 2011). Studies have shown a negative association in college students between higher rates of spirituality and depressive symptoms (Brown & Parrish, 2011; Muller & Dennis, 2007; Turner-Musa & Lipscomb, 2007; Young, Cashwell, & Shcherbakova, 2009). For this cause, appraising the spiritual growth of university students is important.

In Kenyan universities, different religious sects have formed associations to help students exalt one another spiritually. They occasionally meet to exalt one another and at other times they reach out to others to join their association. However, some students who take very demanding courses such as medicine and architecture hardly get time for these associations. As such, they are not able to get the benefits of these associations unlike their colleagues in the less demanding courses.

Studies have shown that faith is related to dealing with the changes in life associated with college life. Spirituality was found to be a major factor in the ability to cope with stress in a longitudinal analysis of the freshmen's transition to college life (Brown & Parrish, 2011). A study of graduate students showed a strong negative association between the symptoms of depression and spirituality. To support their hypothesis that spirituality can act as a buffer between negative life events and the development of depression in college students, the researchers used this negative association (Nelms et al., 2007). Another research found that there were also lower rates of spirituality among college students who indicated greater depression. Students who registered the lower spirituality levels had a deep desire to achieve higher
spirituality levels. Students may also be trying to establish a deeper spiritual sense in their lives (Muller & Dennis, 2007).

There is significant literature focusing on the benefits that can be drawn from using varied mobile apps by healthcare professionals such as psychologists in managing persons with different health conditions, including depression. Even then, little evidence exists as to whether patients are using the treatments as planned and their effect on mental health outcomes (Arean et al., 2016).

The increased accessibility of cellular phones presents exceptional opportunities for the utilization of the apps. Expectations of heightened patient empowerment, or enablement, via the utilization of the apps appear more and more achievable presently. Currently, at least 70% of all adults in America have mobile phones having app capabilities (Nielsen, 2014). Of all the adults in possession of the phones, about 20% already utilize at least one mobile health app. The number of individuals using mobile health apps is expected to grow in the days ahead. Even though mobile phones are promising, they continue to present unexplored opportunities for reaching more users, patients, or consumers of healthcare resources, particularly since about 70% of all grownups use paper logs or related means in tracking specific health indicators for others or themselves (Pew Internet Research, 2014).

From 2007, iPhones and Android devices have dominated the market for mobile phones. According to Arthur (2014), at least 56 individuals out of every 100 Americans have smartphones. Essentially, apps that have the software or related programs help in expanding mobile phones’ utility (Skillings, 2013). Mobile health apps are now rather significant in the market (Essany, 2013). More and more mobile health apps of increasing sophistry are being developed. There at least 31,000 mobile
health apps that are available at present according to Essany (2013), who contends that there is a need for appraising the apps’ efficiency in the promotion of particular health behaviors (Dennison, Morrison, Conway, & Yardley, 2013; Essany, 2013).

According to Blake (2008), much of the extant literature relating to the apps zeroes in on the prevention and management of chronic illnesses and the monitoring and observation of health vitals and behaviors (Wu, Dasgupta, Ramirez, Peterson, & Norman, 2012). There is also significant literature focusing on the apps’ utility and acceptability (Nes, van Dulmen, Eide, Finset, & Kristjánsdóttir, 2012). There is also substantial qualitative literature on the mobile health app-related functions desired by the users and user experiences (Dennison et al., 2013; Rabin & Boek, 2011).

From the extant literature, it is clear that among the principal motivations that healthcare professionals and facilities have in adopting mobile phones is their need for enhanced information resources as well as communication (Moodley, Mangino, & Goff, 2014). The professionals and facilities require varied resources, including communication resources for emailing and clinical software for tasks such as diagnosis of diseases (Mosa, Yoo, & Sheets, 2012). Traditionally, the professionals and facilities have been using such resources as mounted on immobile computers. That means that the resources are not capable of supporting the required mobility (Mickan, Tilson, & Atherton, 2013; Mosa et al., 2012).

There are various reasons why healthcare professionals use mobile health apps and related resources such as text messaging devices. The text messaging resources that have been widely studied in the past (Balato, Megna, Di Costanzo, Balato, & Ayala, 2013; Klasnja & Pratt, 2012; Riley, Rivera, Atienza, Nilsen, & Allison, 2011). It has been established that 38% of all doctors who used the apps used them for searching pertinent content (Chase, 2013). Medical school students and medical
school healthcare professionals utilize mobile phones daily for communication, time management, or information, all related to clinical patient care or education (Ozdalga, Ozdalga, & Ahuja, 2012; Wallace, Clark, & White, 2012; Yoo, 2013).

From the extant literature, one gathers that healthcare practitioners use mobile health apps and related devices for five broad uses: medical education, information gathering, reference consulting and communication, health record access and maintenance, and administration. Most of the practitioners use the apps and devices in managing time and information (Mosa et al., 2012; O’Neill, Holmer, Greenberg, & Meara, 2013; Wallace et al., 2012; Yoo, 2013). The apps include GoodReader (Aungst, 2013; Yoo, 2013).

There are varied mobile health apps that help in the collection, as well as retrieval of data. Others are used in keying in the data to relevant databases (Kiser, 2011). They are usually utilized since they allow for safe access to specific information, including patients’ medical histories, discharge documents, lab outcomes, prescriptions, and scans (Kiser, 2011; Mosa et al., 2012). Mobile health apps are widely used to access or search specific medical literature and related sources of information. Wallace et al. (2012) established that varied mobile devices are commonly used in accessing medical news over the internet or databases of medical journal articles.

Various medical journals provide particular apps, which allow for the viewing of articles on such devices (Aungst, 2013; Mosa et al., 2012; Yoo, 2013). Some of the devices provide healthcare practitioners with quick, as well as convenient, access to information that is founded on evidence. The evidence supports the formulation of decisions in medical settings (Chase, 2013; Divali, Camosso-Stefinovic, & Baker, 2013). Mobile health apps are widely used in the provision of medical training as well
as education (Ozdalga et al., 2012). Students use them in logging their own experiences, accessing information regarding specific health conditions, and making elementary notes in medical classes (Wallace et al., 2012).

Various studies have in the past focused on the efficacy of the mobile health apps used by healthcare professionals. The criteria for determining the efficacy vary from study to study (Mickan et al., 2013; Mosa et al., 2012). Most of the criteria include considerations of the benefits that accrue from the use of specific apps. Such benefits usually have a favorable impact on the care outcomes of patients (Mickan et al., 2013). The benefits include convenience, improved formulation of decisions in clinical settings, and enhanced accuracy. About the convenience, various studies demonstrate that when mobile health apps are used, there is added convenience with respect to evidence-hinged medicine practice (Moodley et al., 2014; Mosa et al., 2012).

The professionals view the apps as enabling various conveniences, including flexible communications (Murfin, 2013; Wallace et al., 2012). With regard to the improved formulation of decisions in clinical settings, the extant literature shows that numerous mobile health apps are utilized in supporting the formulation (Mickan et al., 2013; Mosa et al., 2012). That is important as there are times when various clinicians fail to make follow-ups on given clinical encounters (Aungst, 2013; Mickan et al., 2013; Mosa et al., 2012). According to Mickan et al. (2013), the consultation of digital reference leads to the significant amendment of decisions regarding the management of patients.

There is evidence that mobile health apps enhance the accuracy, as well as the completeness of medical documentation (Aungst, 2013; Divali et al., 2013; Mickan et al., 2013). There is evidence that mobile health apps enhance efficiency in healthcare
settings (Tam & Sharma, 2014). Healthcare professionals who use mobile health apps report improved efficiencies, which include reduced error rates, and enhanced patterns of the workflow (Mickan et al., 2013). There is also evidence that mobile health apps improve productivity in healthcare settings. Studies have demonstrated that the utilization of mobile devices by healthcare professionals enables the streamlining of how workflows and the professionals’ productivity (Aungst, 2013; Mickan et al., 2013). For instance, pharmacists who use such apps report improved productivity by permitting quick verifications of prescription information.

Presently, many patient-centered medical health apps help the patients who are using them to manage diseases and lifestyles (Curaudeau, Sharma, & Rovin, 2011; Ferrero, Morrell, & Burkhart, 2013; Muessig, Pike, Legrand, & Hightow-Weidman, 2013; Wolf, Moreau, Akilov, Patton, & English, 2013). For instance, many apps are available for use by diabetics in managing diseases and lifestyles. There are at least 80 medical health apps for use by diabetics in checking blood glucose, monitoring medication, keying in insulin logs, and computing dosages of prandial insulin (Demidowich, Lu, Tamler, & Bloomgarden, 2012). Other medical health apps for use by diabetics ease their interactions with healthcare givers, including remote therapists (Nes et al., 2012). Others aid the diabetics to adhere to set weight loss and exercise regimes along with food intakes (Boulos & Yang, 2013; Pellegrini, Duncan, Moller, Buscemi, & Sularz, 2012; Schap, Zhu, Delp, & Boushey, 2013).

There are over 47 patient-centered medical health apps, which are mounted on iPhones, to help patients cease smoking and end alcoholism (Abroms, Padmanabhan, Thaweethai, & Phillips, 2011). The apps include A-CHESS, which is effective in assisting those keen on avoiding falling back into alcohol dependency (McTavish, Chih, Shah, & Gustafson, 2012). Those with smoking-related chronic conditions
typified by flares that threaten their own lives can track the related symptoms and report them through particular apps, including m. Carat according to a study executed by Burnay, Cruz-Correia, Jacinto, Sousa, and Fonseca (2013).

From the extant literature, one gathers that other chronic conditions that are managed with the help of patient-centered medical health apps include sickle cell anemia, psychiatric diseases, chronic obstructive pulmonary disease, and dementia. There are apps for helping those with psychiatric conditions conduct ambulatory monitoring. Such apps arbitrarily prod the persons to report any psychotic signs that they experience (Palmier-Claus, Ainsworth, Machin, Barrowclough, & Dunn, 2012). There are apps for helping those suffering from sickle cell anemia to access specific diaries on the internet to document the symptoms they express, including pain (Jacob, Stinson, Duran, Gupta, & Gerla, 2012).

Those with chronic obstructive pulmonary disease can monitor their symptoms via particular patient-centered medical health apps. It means that the apps help facilitate quick interventions with respect to the symptoms (Johnston, Lambert, Hussack, Gerhardsson de Verdier, & Higenbottam, 2013). Dementia patients who use a patient-centered medical health app known as iWander find their daily living easier than those who do not utilize the app. The app affords them audible prompts, which guide them home and call for emergency healthcare services accordingly (Sposaro, Danielson, & Tyson, 2010). Patient-centered medical health apps as well as allow and support access to specific patient information along with EHRs (electronic health records). Kharrazi, Chisholm, VanNasdale, and Thompson (2012) present 19 medical health apps that assist patients in storing their medical records. Presently, the medical health apps that assist patients in storing their medical records include HealthVault.
The DocbookMD app is rather comparable to HealthVault even though it is used by physicians (Conde, 2012).

Various studies are exploring how patients use medical health apps to meet particular telehealthcare along with telemedical ends (Boulos, Wheeler, Tavares, & Jones, 2011; Rocha, Martins, & Freire, 2011). Patients harness the apps to bolster their speedy access to healthcare providers in emergencies (Boulos et al., 2011). For instance, those who experience acute stroke can access non-urban care centers easily with the help of smart phone-fitted video apps (Demaerschalk, Vegunta, Vargas, Wu, & Channer, 2012; Takao, Murayama, Ishibashi, Karagiozov, & Abe, 2012). The apps include ResolutionMD, which is a widely used teleradiology app, studied by (Mitchell, Sharma, Modi, Simpson, & Thomas, 2011; Takao et al., 2012).

There are varied apps for assisting those suffering from acute trauma in terms of managing time effectively as is clear from the study executed by Modi, Sharma, Earl, Simpson, and Mitchell (2010). In various telehealthcare along with telemedical situations, there is the challenge of limited resources. That is especially so in remote areas. Patients in such areas can access teleconsultations, tele-referrals, and telecare via particular mobile health apps (Börve, Holst, Gente-Lidholm, Molina-Martinez, & Paoli, 2012; Kumar, Wang, Pokabla, & Noecker, 2012). At times, the apps permit telemedicine to substitute physical office visits entirely (Krpič, Savanovic, & Cikajlo, 2013). As established by Engel, Huang, Tsao, Lin, and Chou (2011), surgeons substitute physical patient examinations with free flap remote monitoring based on smartphone photography and related apps.

From the 1970s, the usage of mobile phone applications in healthcare has grown exponentially (Ozdalga et al., 2012). Various studies, albeit few, have focused on the efficacy and validity of the applications, including medical health apps, in
healthcare and health contexts. Various studies have previously evaluated and validated others on the subject of medical health apps. Notably, most of the validation and appraisal studies or researches have been executed on small populations of patients. Most of the researches is geared towards comparing the efficacy of the apps and the efficacy of the corresponding typical resources.

With respect to diabetes management, the review study by Demidowich et al. (2012) examines 42 Android medical health apps for use by diabetics in self-management. Demidowich et al. (2012) determine that only a few of the apps afford patients wide-ranging diabetes self-management methods. Some of the apps used by diabetics in self-management programs and seen as effective include OnTrack Diabetes, Glucool Diabetes, Dbees, and Track3 Diabetes Planner. Various appraisal studies focus on medical imaging. Medical imaging apps are rather helpful in specific emergencies.

A number of the studies have established that there are discrepancies, albeit small, in the effectiveness of the iPad apps used in medical images and the corresponding typical resources (Johnson, Zimmerman, Heath, Eng, & Horton, 2012; Mc Laughlin, Neill, Fanning, Mc Garrigle, & Connor, 2012; Park, Choi, Lee, & Kang, 2013). There are ongoing research efforts to develop specific iPad resources to help in percutaneous kidney access as well as resident laparoscopic training (Bahsoun, Malik, Ahmed, El-Hage, & Jaye, 2013; Rassweiler, Müller, Fangerau, Klein, & Goezen, 2012). Much of the efforts are projected as only being case report experimental research as opposed to comprehensive researches.

With respect to infectious diseases and global health, various studies have established that there is a marked need for quick, dependable, and cost-effective therapeutic and diagnostic resources. The resources include the iPad, which is rather
similar to the typical PACS LCD used in TB diagnosis (Abboud, Weiss, Siegel, & Jeudy, 2013). In their rural Bangladesh-based study, Prue, Shannon, Khyang, Edwards, and Ahmed (2013) demonstrate that elementary mobile phone-based technologies are effective, as well as efficient, in bolstering malaria management and case detection. Velthoven, Brusamento, Majeed, and Car (2013) evaluate 21 research studies on the efficacy of using mobile phone resources in offering care to those having HIV. They establish that the existing evidence on the efficiency is rather limited but recommends that additional research would help in assessing the efficacy sufficiently.

Regarding the management of pain using diaries that are based on smartphones, various evaluation studies project the novel, as well as innovative, usage of smartphone resources as being within the pain management realm (Palmier-Claus et al., 2012; Parker-Pope, 2011). As established by Palmier-Claus et al. (2012), adolescents and children use an e-diary mounted on smartphones effectively to manage sickle cell disease by reporting pain signs. Kristjánsdóttir, Fors, Eide, Finset, and Stensrud (2013) establish that females experiencing chronic extensive pain suffer a lot less catastrophic events such as rumination if they diarize based on smartphones.

Related studies have been conducted by Stinson, Jibb, Nguyen, Nathan, and Maloney (2013) and Spyridonis, Gronli, Hansen, and Ghinea (2012). Various evaluation studies have been executed with respect to dermatological issues and the place value of medical health apps in their management. They include the evaluation studies carried out by Armstrong, Watson, Makredes, Frangos, and Kimball (2009); Balato et al. (2013); Börve et al. (2012); and Wolf et al. (2013). These studies conclude that mobile apps for depression appear to have their greatest impact on
people with moderate levels of depression. However, counseling is necessary for all levels of depression.

In several universities and colleges counseling programs are placed in place. Most post-secondary institutions offer free on-campus mental health facilities in the form of school counseling centers to help address students' mental health needs. The counseling center plays a critical role in most colleges and universities in student integration, academic success, retention, psychological well-being, and health, as well as personal growth and development. Yet as Hinderaker (2013) noted, only a small percentage of individuals could benefit from these programs.

Some of the reasons that may lead college students to stop accessing these mental health facilities may be the students' fear of sharing personal information to a stranger, or their feeling ashamed when their social group is aware that they see a therapist. Often, for fear of feeling similar feelings again, students do not want to address the emotional subject matter, and for some, the associated stigma does not outweigh the importance or advantages associated with the services provided (Hinderaker, 2013).

Some individuals may not know much about therapy and psychotherapeutic programs in addition to concerns about danger and humiliation. They may believe that such programs are only for people with serious mental illness, or they might be unaware of the available qualified support agencies. Such perceptions and lack of awareness may contribute to the underuse of advantageous counseling resources (Hinderaker, 2013). As a result, depression among students can continue even with counseling services being given.

At the UON and TUK, students’ counselors have been deployed in all the campuses. However, few students seek psychological assistance due to fear of stigma
and busy academic schedules. Efforts are ongoing to sensitize the students on the role of the counselors in the hope that the counselors’ services will be more useful to the students. Physical exercise is another means of coping for university students. Physical activity is crucial for teenagers as they continue to grow and develop, and physical exercise is inversely correlated with depression rates. Studies have shown a positive correlation between physical activity and mental health. Henchy (2011) and Miller (2011) noted that physical activity significantly improved university students’ mental health.

The beneficial effects of physical activity and exercise on symptoms of depression and general health have been reported in people of all ages. Research into whether physical activity and the propensity to engage in exercise among young adults are correlated with mood states in a student cohort has shown that exercise significantly improved mood status among students (Giacobbi, Hausenblas, & Frye, 2005). In another study, 30 mildly depressed men and women living in the neighborhood were randomly assigned to an intervention exercise group, a social support group, or a control group. The workout, which consisted of walking 20 to 40 minutes three days a week for 6 weeks, was found to reduce overall depressive symptoms and was more effective in reducing somatic depression symptoms than the other two groups (Dinas, Koutedakis, & Flouris, 2011).

There are several ways in which regular exercise reduces the symptoms of depression. Exercise can stimulate the brain production of endorphins: chemicals that regulate mood activity and sleep and make the individual feel good. They are also referred to as feel-good hormones. Exercise also lowers the levels of cortisol in the blood. Cortisol is a hormone present in toxic stress conditions, which causes unnecessary physical fatigue and endogenous depression rise. With regular exercise,
cortisol levels remain moderate or low even when one is faced with new stressful events.

As noted by Craft and Perna (2004), regular exercise has several psychological and emotional benefits, all of which help in reducing depressive symptoms. Exercise can stimulate positive contact with nature. There are also advantages associated with such a relationship as open-air ventilation, natural green environment, and sun. This soothes signs of depression (Craft & Perna, 2004). Exercise also offers the patient the ability to change the direction of everyday thinking from negative thoughts to thoughts based on activity patterns and moments of exciting inspiration and positivity. In doing so, exercise serves as a diversion that can move the person away from the cycle of negative thoughts feeding anxiety and depression (Klein, 2011).

Another advantage of exercise is the recovery of positive body experiences, a sense of physical well-being, and visual awareness of a healthy self that directly increases self-esteem and an element of identity that is closely linked to self-development. It allows one to conquer negative feelings. Exercise also presents fresh chances for developing relationships and satisfying one’s belonging needs (Kanner, 2012). At the same time, exercise helps one to cope with depression because when one is exercising, self-confidence is enhanced thereby enabling the individual to do positive things or tasks (Craft & Perna, 2004).

While almost every country is encouraging physical activity to avoid disease and enhance the quality of life, many university students' lifestyle is still inactive. This is mainly because of the student’s busy schedules. As such, however beneficial physical activity is to mental health, university students may not benefit much from it. Depression is often thought of as bio-chemical based or emotionally rooted (APA, 2013).
Additionally, studies have shown that diet can play a key role in the onset of depression as well as its frequency and duration. Good health for a person depends on the amount and type of food in one's diet. Many of the readily visible dietary habits preceding depression are the same as those occurring during the depression, which can involve low appetite, meals being missed, and a preference for sweet food. For many countries around the world, the dietary intake pattern of the general population reflects that depressed people are often deficient in many nutrients, particularly essential vitamins, minerals, and omega-3 fatty acids (APA, 2013). The extent of deficiency of certain nutrients is a prominent characteristic of the diets of patients suffering from psychiatric illnesses. Regular vital nutrient supplements are effective in reducing symptoms in patients (Lakhan & Veira, 2008).

Several epidemiological studies have shown that there is a correlation between the likelihood of depression and dietary behaviors. The diet of deprived people is frequently insufficient. They make bad food decisions and prefer food which can lead to depression. A lack of adequate protein in the diet, for example, can contribute to depression. Proteins are made up of amino acids that make up neurotransmitters. Deficiencies in certain neurotransmitters are also associated with depression, such as serotonin, dopamine, and GABA. Dopamine is made from the tyrosine amino acid, and serotonin is made from the tryptophan amino acid. When both of these two amino acids are absent, there will not be enough neurotransmitter production associated with low humans' mood and aggression (Martinowich, Schloesser, & Manji, 2009).

Dutton and Karakanta (2013) argued that depression raises the likelihood of general violence, intimate partner violence, and self-aggression. The media depicts people dealing with mental illness as unhealthy, illegal, antisocial, and abusive. Psychologists also use psychiatric illnesses to describe both abuse and antisocial
behaviors. News reports illustrate concerns about the conditions as possible causes of erratic or aggressive behavior. The terms crime and hostility are used interchangeably. These identify cases involving individuals being attacked, harassed, or threatened in their homes, offices, or other areas (Austin, Boyd, & Austin, 2010; Wood & Garner, 2012).

Within their workstations, carers of mentally ill people interpret verbal as well as physical manifestations of abuse as signs of hostility. Many patients harass their carers in psychiatric wards (O'Callaghan, Richman, & Majumdar, 2010). Challenges occur in characterizing aggressive behavior among dementia sufferers. The problems emerge from the substantially comparable manifestations of resistive, overt physical actions coupled with verbal hostility and agitation (O'Callaghan et al., 2010; O'Leary, Jyringi, & Sedler, 2005). Different causes predispose people with mental illness to violence, and they can effectively control their violent actions using specific medications.

Aggression has also been linked with physical damage to the brain. Research on post-mortem, neuroimaging, and electroencephalogram (EEG) suggests that violence is closely linked to temporal lobe dysfunction (Siegel, Bhatt, & Bhatt, 2007). Aggressive individuals with dementia have a substantially decreased blood flow to the lobes, whereas aggressive schizophrenic individuals show slowness in the temporal lobes. Therefore, there is a link between violent activity and lobe atrophy particularly in persons with Alzheimer's disease. The Kluver-Bucy syndrome often involves mental changes, such as frenzied reactions and unexplained lack of fear. The syndrome is usually encountered by people suffering from Pick's or Alzheimer's disease (O'Callaghan et al., 2010).
There was also a correlation between biological factors with mental illness. Most individuals with mental problems such as depression have neurochemical deficiencies because they have deficient rates of serotonin (Austin et al., 2010; Wood & Garner, 2012). Serotonin's function is to assist the brain in modulating violent behavior. According to Siever (2008), the rates are small in impulsive and violent individuals. The activity correlates with serotonergic dysfunction. It is assumed that the conditions influence the activity of the behavior- mediating neurotransmitters (Siever, 2008). Comorbid diseases increase the risk of individuals suffering from violent conditions. Feverish behavior is correlated with lobe epilepsy (Boyd, 2005; Uys & Middleton, 2004). The disorder is especially prevalent in young people, where during these seizures people who suffer from severe epileptic seizures come out as confused. Others feel steady stress and frustration rising (Boyd, 2005; Uys & Middleton, 2004).

The rage can be conveyed when aggressive activity flares up. Even then this kind of violent violence is rare (O'Callaghan et al., 2010). Individuals suffering from serious mental disorders usually experience depression. Depression, particularly in dementia sufferers, is associated with an increased risk of violence. Mentally ill people are more likely to consume drugs than mentally stable persons. Notably, many psychiatric homicide perpetrators abuse alcohol because large fractions of psychiatric-conditioned perpetrators have a characteristic syndrome of dependency (O'Callaghan et al., 2010).

Aggression is correlated in a major way with old age. Royal College of Psychiatrists' Center for Quality Improvement (2008) refers to a study showing that caregivers who attend psychiatric cases are likely to be affected by mentally ill patients who are at least 65 years of age compared with other mentally ill patients.
Both young and elderly patients are considered high-risk patients as regards abuse in mentally ill populations. Young patients are especially vulnerable to being violent if they have drug abuse history, personality-related disorders, or schizophrenia. Older patients are more vulnerable to being violent when histories of depression or illnesses are considered organic (Flannery, Peterson, & Walker, 2005).

Agitation along with aggression may be presented as signs of Dementia's Behavioral and Psychological Symptoms (BPSD). The signs fall into three major categories: mood disorders, depression, and restlessness. The signs are present in approximately 9 out of 10 of all people with mental illness. Violence is closely linked to agitation in people suffering from Alzheimer's disease or vascular dementias. Abuse prevalence depends on the severity of Alzheimer's disease or vascular dementia (O'Callaghan et al., 2010).

Many of the staff who fall victim to the assaultive actions of the in-patients are inexperienced or have little workstation experience. Also, they are likely to have symptoms linked to fear or locus of peripheral control (Austin et al., 2010; Wood & Garner, 2012). Mentally ill homicidal perpetrators are more likely to murder family members, former partners, and friends than mentally stable homicidal perpetrators. Since then, perpetrators of mentally ill murders are very unlikely to target strangers and friends (O'Callaghan et al., 2010). Typical criteria for coping with violent actions are extended when treating abusive people that are also mentally ill (Austin et al., 2010; Wood & Garner, 2012).

Because of this, carers should be well versed in the use of de-escalation techniques and control of products. Ideally, the individuals should only be secluded when all the other available management systems collapse, and it becomes obvious that they will harm others. Combinations of psychosocial, pharmacological,
environmental, and behavioral approaches in controlling the mental disorders of the patients minimize stress or violence. Staff preparation and behavior modification strategies are tailored based on individual patient's mental disorders. Customizing the techniques makes them useful in making consistent improvements in cases involving BPSD (O'Callaghan et al., 2010).

Aggressive persons with mental disorders are generally treated by pharmacological means. Their caregivers are following specified pharmacological recommendations or guidance on how to treat violence in acute circumstances (O'Callaghan et al., 2010). Individuals are given different medications to ensure that they remain stable even though the underlying psychological disorders have yet to be handled (Boyd, 2005; Uys & Middleton, 2004). The medications include antipsychotics, usually prescribed to aggressive dementia patients.

Ideally, antipsychotics are not used as first-line medications, even when the possibility of damage is severe (Austin et al., 2010; Wood & Garner, 2012). Olanzapine and risperidone are the most common antipsychotics used to treat violence in dementia patients. They are associated with increased risk of stroke, cognitive impairment, and all-cause mortality in patients. The risks are particularly in the early weeks of prescribing antipsychotics (Boyd, 2005; Uys & Middleton, 2004). Notably, whether they have Lewy bodies and use antipsychotics, patients experience severe vulnerability to the drug.

In inpatient and community settings, antidepressants such as sertraline, trazodone, citalopram, and fluoxetine successfully decrease irritability, depression, and anxiety in BPSD patients. To relieve anxiety patients are given mood-stabilizing medications such as carbamazepine. Notably, because of the risk of adverse drug reactions as well as hematological poisoning or toxicity, carbamazepine is very
difficult to prescribe to aged patients. For similar reasons, the use of sodium valproate is commonly contraindicated since the mortality risks associated with sodium valproate and carbamazepine are significantly lower than those associated with olanzapine (Austin et al., 2010; Wood & Garner, 2012).

Cholinesterase enzyme inhibitors such as memantine help reduce aggression in patients suffering from Alzheimer's disease, as well as agitation. These patients also report less violence when they are taking donepezil, galantamine, or rivastigmine, along with agitation. Beta-blockers help put down aggressive actions (O'Callaghan et al., 2010). Benzodiazepines such as lorazepam are recommended for the management of aggression in cases of acute dementia but should not be given to patients for long periods as they increase the risk of dependence (Austin et al., 2010). In cases of aggressive dementia patients, the use of hormones such as cyproterone acetate and medroxyprogesterone acetate is contraindicated since, because they effectively regulate disinhibited sex-related behaviors in aged dementia patients, they also aggravate agitation and thus violence (O'Callaghan et al., 2010).

Studies have linked micronutrient deficiencies and omega-3 fatty acids to a higher risk of depression. These studies have linked the decrease in fish and other sources of omega-3 fatty acid intake in most populations to a growing increase in the incidence of major depression. It has been found that omega-3 fatty acids produce antidepressant effects in humans. The routine consumption of dietary supplements of omega-3 fatty acids has been shown to promote mood enhancement in depressed patients, thereby playing a part in the prevention of certain disorders such as depression (Komatsu, 2005). A deficiency can speed up cerebral aging by preventing membrane renewal. The studies have reported associations that relate to low intake of fish, fruits, and vegetables to an increased risk of depression. It has also been shown
that high intakes of refined sugar, desserts, and processed meats increase the risk of depression (Rao, Asha, Ramesh, & Rao, 2008).

Carbohydrates were also found to affect mood and behavior. Dietary intake low in carbohydrates appears to precipitate depression, as carbohydrate-rich foods cause the release of brain chemicals that promote a feeling of well-being. As noted by Deshpande and Basil (2009), many university students have poor eating habits because they have financial constraints and therefore cannot afford a balanced diet as required by the body. At the same time, their busy schedules do not afford the time to eat regularly. This then implies that the use of proper nutrition and regular eating times is not consistent and therefore may not help in the reduction of depression symptoms. This is the case with Kenyan universities too.

Depression, a severe mental disorder, is very common among students suffering from Traumatic Brain Injury (TBI). Depression lasts longer when left untreated and affects the everyday activities of an individual. Depressed students feel restless, anxious, hopeless, sad, worthless, irritable, empty, guilty, and helpless, which due to the TBI could affect their function. Some students are having suicidal thoughts, losing motivation, or have digestive problems. Depression with aggressive behavior, drug abuse, eating disorders, or anxiety is widespread among adolescents (Silver, McAllister, & Yudofsky, 2011).

The debilitating symptoms of MDD interfere with writing or reading, sleeping, and eating activities. Another type of depression, dysthymia has persistent but mild implications. Individuals suffering from minor depression can develop dysthymia or MDD. Many people suffer from psychotic depression, the symptoms of which include delusions and hallucinations. Individuals require more or alternative support to
control their conditions. There is increasing use of technological instruments to manage depression (Silver et al., 2011).

The consequences of TBIs include both lasting and temporary, or instant, changes to how a student functions. The immediate effects include fatigue, memory loss, uncertainty, and impaired vision while the lasting effects include a lack of cognitive, planning, and organizational skills; language deficits; poor physical coordination; and poor anger control (Cuijpers, Weitz, Anderson, & Marcus, 2015). Many of the symptoms take a long time to manifest, making it difficult to connect current learner problems to TBIs that occurred a long time ago. In particular, the social and academic competences children gain as they age are becoming more complex (Silver et al., 2011).

The signs of a learner getting TBI to come off as mental, cognitive, or physical changes. Ideally, TBI learners attend special classes where appropriate Assistive Technologies (ATs) are used. The ATs provide rehabilitative, supportive, and assistive mechanisms and tools to enhance the autonomy of people with special disabilities (Cuijpers et al., 2015). The ATs used to instruct TBI learners promote the execution of provided learning tasks by the learners. Which include lecture recordings, the math works test calculators, headphones, spell checkers, and voice recognition devices (Silver et al., 2011). They should be tested by suitably qualified experts before choosing ATs for individual learners.

Their institutions should ensure that they have adequate access to the Transcranial Magnetic Stimulation (TMS) technology to help students with traumatic brain injuries manage depression. In mid-2008, the US government approved the use of the TMS system to treat people with depression. TMS technology is especially recommended for people who have long without success used antidepressants before
(High, 2005; Scherer, 2012). It has since been proved safe and effective (Gosling, 2006; Pruski, 2005).

Ideally, in classes attended by suicidal students with traumatic brain injuries, a physician should be present to conduct TMS on them as needed. Notably, no anesthesia, surgery, or hospitalization is needed for TMS technology. When experiencing depression in the classroom, the physician places a special electromagnetic TMS device on the scalps of the students. It sends periodic energy signals to the brain of patients when the system is put on the scalp (Dowd, 2008). These pulses arouse nerves which regulate the mood of a person. Each time the TMS is used on the patient, stress and the associated emotions are resolved in less than half an hour. TMS technology is costly, but it has no side effects.

2.6 Social Skills Training as an Intervention

Social skills can be defined as the ability to express both positive and negative feelings in the interpersonal context without suffering the consequent loss of social reinforcement (DeMatteo, Arter, Parise, Marcie, & Panihamus, 2013). Human beings are social beings who rely on contact with others, failure of which they may face the loneliness that could lead to more depression and mental health problems. Our social competencies allow us to engage in social situations. Social skills are the habits we use to interact efficiently with other people, both verbal and non-verbal. During our lives, social skills continually shift and evolve as influenced by our society, values, and attitudes.

There are effective treatments for depression, both pharmacological and psychological (DeRubeis, Siegel, & Hollon, 2008). In a university setting, students can seek peer support to cope with depression since there are peer counselors in all campuses of most of the Universities. They can also seek help from students’
counselors stationed on each campus. However, only a few students benefit from psychological treatments because they do not go to seek help when they are depressed. The reasons are given for this include stigma associated with mental illnesses and the inability to identify symptoms of depression (Hinderaker, 2013). This study proposes that incorporating social skills training with these other treatments would effectively deal with depression and depressive symptoms.

There is a general perception that anyone who uses social skills to communicate successfully with friends, relatives, colleagues, and strangers has social competence. Some examples of social skills during the interaction are eye contact with others, voicing thoughts to others, and perceiving how others feel, and display empathy. Most people will not know these are abilities and simply handle them. Socializing is not easy for other people, since either they lack social skills or they do not feel confident using their social skills (Kopelowicz, Liberman, & Zarate, 2006). In a university setup, social grouping such as clubs, games and religious groupings are very important for survival. Such groupings offer social support for their members giving them a sense of belonging. Such social connections cushion the students against depression. However, students who lack the above-mentioned social skills are not able to join social groupings and as a result they get isolated and this can predispose them to depression.

According to Del Prette and Del Prette (2013), social skills can be classified into six. These are social skills of communication; social skills of civility; assertive social skills; empathetic social skills; social skills of work; and social skills to express positive feelings. Assertive skills enable somebody to manifest his/her own opinions through agreeing, disagreeing, asking, accepting, and refusing requests. They also enable somebody to apologize, admit errors, establish affective and sexual
relationships, and deal with criticism. Assertive skills imply that one can exercise his/her rights, and expression of any feeling, controlling anxiety and not infringing on other people’s rights.

Communication skills enable somebody to ask and answer questions, give feedback, and be able to start, maintain, and end conversations. DeMatteo et al. (2013) classified social competencies into three competencies: nonverbal, verbal, and conversational competences. Nonverbal abilities include positioning of the body, movements, or physical proximity, while verbal abilities include sound, pitch, and volume. On the other hand, conversational skills apply to the ability to start, sustain, and end a conversation (DeMatteo et al., 2013).

Social Skills Education describes a behavioral therapy approach that teaches people who have trouble communicating with others a variety of interpersonal skills and relational habits to become socially competent. It is a term used to refer to a set of strategies and techniques such as instruction, shaping, role-playing, and homework. Also, it involves arranging the setting and the use of selected therapeutic skills for the development of social skills (Orti et al., 2015).

The counseling focuses on the growing verbal and nonverbal behaviors in social relations. It can be performed separately, or in group therapy. SST covers skills instruction such as speech, eye contact, social reading, nonverbal communication, problem-solving, and self-management. Participants may be advised to use eye contact while talking to other people or to maintain some personal space with the person they are talking to (Vyskocilova & Prasko, 2012). The education of social skills is primarily used by people who have been diagnosed with other mental illnesses with which symptoms include impaired social functioning. It has been used effectively for young children who for the first time enter school or other social
experiences. It is also used to support individuals with antisocial disorders, hyperactivity disorder with attention loss, social phobias, bipolar disorder, schizophrenia, and other personality disorders. Social skills training is also used in situations where an adult recovers from alcohol dependency and helps them learn sober social skills and how to manage the parties and avoid alcohol successfully. It is also being used on someone who wants to develop their social skills and social trust. While Social Skills Training has been effective in helping people develop the required skills, the treatment of the underlying problems is more effective when paired with other psychotherapies or medications (Rao, Beidel, & Murray, 2008).

Given the importance that social skills have on the college students’ performance, providing these skills may be important for enabling the students to form suitable relationships and for the individual’s health (Bolsoni, 2009). Social Skills Training may contribute to the development of loving and academic relationships with college students. Klein (2011) noted that there are promising results on the efficiency of Social Skills Training as a treatment for depression. Studies have shown that despite the early days for the evaluation of the therapeutic role of Social Skills Training in the context of depression, the results are generally encouraging (Vyskocilova & Prasko, 2012).

Social skills learning in many parts of the world has proven successful in managing depression. In the US, a survey was performed among women who met the criteria for a major primary unipolar disorder diagnosis (Thase, 2012). The research aimed to assess the efficacy of Social Skills Education alone and in conjunction with a tricyclic antidepressant. The findings showed that Social Skills Training alone has been as effective in managing depression as TCA alone. Evidence from multiple studies was used in another study conducted in Australia (Weightman, Air, & Baune,
2014), in an analysis of the role of social cognition in depression. The findings showed that in sustaining the depression negative views of social conditions encountered by people with depression are very significant. Instead, they proposed that Social Skills Education should be successful in managing depression as an intervention.

In another study done by Thomson (2008) in London, Social Skills Training was performed in a one-day classroom curriculum that integrated guidance, modeling, role-playing, and feedback for traditionally developing adolescent females. Three skills were taught to the participants from a program of conduct skills instruction. Via pre-assessment and post-assessment role-play, it was found that adolescents usually developed showed an improvement in the accuracy of their use of social skills after training. Such skills have retained during follow-up evaluations. Another research was conducted in Nigeria to examine the impact of enhanced thinking skills and social skills training (SST) in fostering interpersonal behavior among adolescents in Nigeria, and the findings suggested that enhanced thinking skills and social skills (SS) treatment programs are both successful in fostering interpersonal behavior among adolescents in Nigeria (Ayodele, 2011).

Other studies have in the past sought to determine whether Social Skills Training is effective in treating depression. In their study, the Bellack, Hersen, and Himmelhoch (1981) assigned patients to varied intervention groups: amitriptyline group, SST besides the amitriptyline group, SST besides the placebo group, and psychotherapy besides the placebo group. At the end of the study, there were no variations among the different groups. All the four interventions, including the two with SST components, were effective. The SST besides placebo intervention was the
most effective, with the patients treated using it showing the highest improvement level.

In another study, patients were assigned to varied intervention groups: amitriptyline group, SST besides the amitriptyline group, SST besides the placebo group, and psychotherapy besides the placebo group. The results showed that the patients in the intervention groups with SST components registered more improvement than the patients in the other groups (Thase, 2012). The researchers concluded that the four interventions were all effective in treating depression. However, SST besides placebo intervention was found to be the most effective, with the patients treated using it showing the highest improvement level. In another study, Mirta (2001) assigned depressed patients to different intervention groups: the SST interpersonal behavior group, the pleasant events group, and the cognitions group. All the patients in the different groups showed comparable improvement.

Although life skills have been integrated into the education curriculum both in primary and secondary schools, lack of social skills is one of the factors that contribute to the unemployment of Kenyan university graduates (Tumuti, Mule, Gecaga, & Manguriu, 2013). Implementation of the Lifeskills curriculum in schools faced several challenges including inadequate learning materials, unqualified training personnel, workload, lack of interest, and poor school management (Abobo & Orodho, 2014). As such, the skills taught in schools may not be effective in enabling students to cope with challenges in universities.

In the current study, Social Skills Training will involve training students in various techniques that will enable them to communicate and interact with others effectively. These techniques will be divided into intrapersonal and interpersonal. Intrapersonal skills will include self-awareness and self-esteem while interpersonal
skills will include interpersonal relationships and assertiveness. These will be trained through instructions, role-playing, group discussions, case studies, and feedback. Intrapersonal skills will help the students to value themselves highly and therefore gain confidence in themselves. This will enable them to exploit their full potential through taking new challenges and this will greatly impact on their wellbeing. Students who value themselves highly will have positive thoughts about themselves and this will leave no room for negative thoughts which are symptoms of depression. Interpersonal skills will help the students to have effective interpersonal relationships which will enable them to join various groupings at the university which act as sources of social support. With this support, the students will be free to share their experiences with others who will empathize with them and make them feel appreciated. This will enable them to deal with depression symptoms.

In a study among university students, it was observed that depression is a leading psychological problem among university students, and it is a common cause of morbidity (Swanholm et al., 2009). Depressed students cannot attain their life goals since depression affects many areas of their functionality. When students get depressed, they are not able to identify the symptoms of depression and in the confusion, they engage in unacceptable behaviors. As noted by Othieno et al. (2015), depressed students of the University of Nairobi manifested risky sexual behaviors such as engaging in many sexual partners and having sex while under the influence of alcohol and drugs. Both of these are risk factors to HIV infections for which the policymakers have been working hard to reduce. As depression progresses without effective interventions, it may lead to loss of lives through suicide. In her study, Wanyoike (2014) revealed that among university students in Kenya, depression takes the highest percentage of all the causes of suicide.
The theory of social construction holds that MDD is not a true or actual illness, but rather MDD diagnoses are socially constructed reasons for explaining actions that are considered not to be in line with existing societal norms. The varied symptoms associated with the disorder emanate from stress, especially concerning family stress (Liebrucks, 2001). Different parents who find themselves to have failed in their responsibility to raise their children may try to alleviate the associated shame by using the children's disorder label as a justification. Families may be supported in changing their view of the condition as a social construct and successfully resolving tension by family counseling.

Family therapy characteristically occurs in different structured sessions according to Cottrell (2003). Members of different families get together in the workshops. Family practitioners’ direct family members on the different issues surrounding their relationships in meetings. For example, therapists may guide parents to decide why they are unable to handle their responsibilities of effectively raising their children, leading to the label being used as an excuse. The meetings are tailored according to the aims of the counseling and the ages, interests, resources, and needs of the individual family members. For example, the sessions in which children take part can include playing and drawing activities to help the children express their own emotions in both imaginative and engaging ways. Specific cultural diversity problems or issues can affect the efficacy of family therapy as an intervention to treat MDD if taken as a social framework (Kanta, Busch, Weeks, & Landes, 2008).

Family therapists may have difficulties in involving a family for a given family therapy intervention whose cultural persuasions linked to communication vary from their cultural persuasions. Most qualified family therapist organizations especially prohibit their members from discriminating against provided family clients
based on such a culture. Even then, psychiatric intervention and prejudice have no distinct limits. There is no reliable proof that successful family treatments are in the treatment or removal of MDD (Cottrell, 2003).

Existential therapy is hinged on the exploration of subjective client experiences rather than particular therapeutic techniques. According to Deurzen and Arnold-Baker (2005), existential therapy is suitable for utilization with diverse clients as well as in diverse therapeutic arrangements. The therapy’s foundations arose from proposals made by different existential theorists, including Sarte Jean-Paul and Kierkegaard Soren, and various psychological theorists, including May Rollo (Deurzen & Arnold-Baker, 2005). The principal philosophical position of existential therapy zeroes in on individual responsibility, the creation of meaning in instances of absurd and chaotic existence, and self-awareness.

Existential therapy focuses on appreciating how clients experience their environments internally. It often supports assorted utilization of other orientations’ psychotherapeutic methods. Its formulation is not hinged on any particular technique set. It is perceived as especially suitable in the cases of clients who are burdened by developmental crises. These crises include adolescent discovery, job transition, and grief. One of the dimensions of existential therapy, the Cognitive Frame, originated from its original philosophical influences. The Frame describes clients’ existence in their specific environments in three distinct ways; Unwelt, Mitwelt, and Eignewelt (Cooper, 2003).

Unwelt refers to an individual’s biological world, Mitwelt denotes a person’s sense of belonging and oneness, while an individual’s self-relationship is his or her Eignewelt. Existential therapy shares its philosophical perspective with transpersonal and humanistic psychotherapeutic approaches. The approaches stress the inclination
of individuals to self-growth. The way therapists and their clients relate is a crucial
element of the approaches (Cohn & Regent’s College, 2002). A therapist’s human-
self has an authentic relationship with a client’s self, giving rise to a cooperative
therapeutic platform. Existential therapists use clinical diagnosis cautiously if they
have to use it.

Drug therapy involves the administration of antidepressant drugs such as
Selective Serotonin Reuptake Inhibitors. Psychotherapy is often applied to
complement drug therapy. Even then, it is used exclusively and effectively where
patients are suffering from mild depressive episodes. Electro-Convulsive Therapy is
often the choice intervention where a patient has severe depression and pronounced
depressive episodes, especially where the patient’s life is at a marked risk. Standard
Transcranial Magnetic Stimulation entails interfering with the electrical activities of
the brains of patients repeatedly and has lasting effects (Cohn & Regent’s College,
2002).

The severity and particular symptoms of any type of depression may differ
among those who experience the condition and are as special as the individuals
themselves. Even then a definitive diagnosis of depression is made only when a
person has been expressing a continuously depressed mood or constant disinterest in
many activities for about 14 consecutive days (Kanner, 2012). Depression is a leading
psychological problem among university students and a common cause of morbidity.
Depressed students cannot attain their life goals since depression affects many areas
of their functionality (Keith, 2015).

When students get depressed, they are not able to identify the symptoms of
depression and in the confusion, they engage in unacceptable behaviors. As noted by
Othieno et al. (2015), depressed students from the University of Nairobi manifested
risky sexual behaviors such as having numerous sexual partners and having sex while under influence of alcohol and drugs. Both of these are risk factors for HIV infections. Students who are HIV-positive are highly likely to be depressed, thus highly likely to engage in casual, unprotected sex. This is because there is a high chance that their HIV-positive status makes them register a high prevalence of depressive symptoms. This can be explained by the fact that HIV brings about a progressive and gradual degradation of one’s immune system, leading to heightened vulnerability to varied infections, related immunological disorders, and some forms of cancer (Othieno et al., 2015).

Bhatia and Munja (2014) observed that patients with HIV are highly likely to experience MDD, which presents marked diagnostic difficulties owing to the social, biological, and psychological elements defining HIV infections. There are difficulties in diagnosing depression that results from HIV complications and depression that happens when one gets infected with HIV differentially. Depressive episodes heighten mortality. In some cases, the episodes affect the quality of HIV-positive patients’ health and life negatively. Depression at times alters the patients’ immune function, affecting the progression of HIV infections.

Othieno et al. (2015) found out that depression in HIV-positive persons remains undetermined and untreated. The persons are highly likely to fail to adhere to the recommended medical HIV treatment owing to depression. Depression impedes adherence to HIV treatments, including HIV antiretroviral therapy, which is used in many countries, including Kenya. Depression makes HIV-positive students and other patients miss scheduled clinic appointments, fail to start HIV antiretroviral therapy, and to get admitted into HIV care programs. Depression makes healthcare providers
reluctant in prescribing HIV antiretroviral therapy as they are afraid that it may interfere with adherence (Bhatia & Munja, 2014).

There is marked speculation that particular depressive experiences cause lapses in adherence to medication for different conditions. Vegetative depression symptoms may bring about difficulties that impede adherence. Vegetative depression symptoms include fatigue and sleep disturbance. They interfere significantly with structured everyday routines such as dosing plans. Similarly, cognitive depression symptoms may bring about difficulties that impede adherence (Othieno et al., 2015).

When one has a depressed mood, he or she is likely to lose interest in different everyday activities, including taking prescribed medication. He or she may not be sufficiently motivated to take the medication. Depression brings about a lack of concentration and makes those suffering from it forget to take scheduled medication, including antiretroviral drugs. As depression progresses without effective interventions, it may lead to loss of lives through suicide (Wanyoike, 2014).

The depressive symptoms incidences among university and college students have been growing. A survey of college students obtaining psychiatric care between January 2011 and August 2012 showed that 36.4% of students seeking treatment during this time had depression (Mistler et al., 2012). In a 2006 study of university counseling center administrators, it was noted that 91.6% of respondents registered a rise in the number of students experiencing psychological issues in recent years (Blanco et al., 2008). In another study conducted in America, 18.8 percent of college students were reported to be depressed (American College Health Association, 2019). Developing depressive symptoms can have an important impact on the ability of college students to successfully meet academic requirements. Apprentices with
depressive symptoms suffer greater emotional distress. Their academic success and life satisfaction will affect this misery (Brown & Schiraldi, 2004).

Another research that focused on comparing the mental health of college students with their peers attending non-college was conducted. A total of 2,188 students between the ages of 19 and 25 who were currently attending college and 2904 of their peers who did not attend college were surveyed to determine the prevalence of psychiatric disorders and the treatment levels received for these disorders in each class. The findings showed that the prevalence of depression and anxiety disorders among the mood disorders was high in the college attendance population (Blanco et al., 2008). In a national survey conducted by the American College Health Association in 2018, 40 per cent of students were reported to be depressed (American College Health Association, 2019).

The development of depressive symptoms in college students is associated with chronic high-anxiety levels (Mohammad et al., 2016). In mental health contexts, depression and anxiety disorders are viewed as being different from each other. Even then, in reality, there are many people with two sets of mental disorders at the same time. The majority of mood disorders manifest as involving both depression on one hand and anxiety on the other hand. Many of those experiencing chronic anxiety register depression symptoms that are clinically significant at the same time (Goldberg, 2010).

Mohammad et al. (2016) noted that the comorbidity of the two sets of disorders presents grave effects, including making the courses of the disorders increasingly chronic, hurting social relationships, and increasing suicidal tendencies especially in young people. Many researchers and clinicians view the two sets of disorders as being just different expressions of the same disorder at present. That view
is informed by the actuality that the genetics related to depression and anxieties are rather comparable. At the same time, that view is informed by the actuality that the neurobiological foundations related to depression and anxieties are rather comparable (Bhatia & Munja, 2014). The biological vulnerability that one has relating to anxiety is comparable to the biological vulnerability that one has relating to depression.

In addition, the psychological vulnerability that one has relating to anxiety is comparable to the psychological vulnerability that one has relating to depression (Swartz & Johns Hopkins Medical Institutions, 2007). It is highly likely that some individuals who are vulnerable to the two disorders react to particular life stressors with pronounced anxiety or their condition progresses to depression. They become moody. Anxious persons have a pessimistic look at the future. They see a danger in the future. Persons become depressed when they are hopeless about the future (Bhatia & Munja, 2014). The persons think of themselves as incapable of coping with the apparent dangers in the future. They slow down behaviorally, cognitively as well as mentally.

When one is stressed, his or her response system that reacts to stressors overreacts, sending his or her brain’s emotional centers into overdrive. The emotional centers include the brain’s amygdala-located fear center (Goldberg, 2010). The negative stimulus has a disproportionate effect on the brain. It may hijack the person’s responsive system. The interventions that work well for those with depression also work rather well for those with anxiety. The interventions include Cognitive Behavioral Therapy, Drug Therapy, Psychotherapy, Electro-Convulsive Therapy, and Standard Transcranial Magnetic Stimulation. Most drugs that are used in treating depression register marked success in managing different forms of anxiety disorders, including Post-Traumatic Stress Disorder, Panic Disorder, and Social Phobia.
(Cuijpers et al., 2015). Students and other individuals who are particularly vulnerable to both depression and anxiety progress at the same time include those whose families have a history of these disorders' comorbidity. Those, whose families have a history of the comorbidity and present primary anxiety, are highly likely to suffer depression concurrently. On the other hand, those whose families have a history of the comorbidity and present primary depression are highly likely to suffer clinically significant anxiety concurrently (Goldberg, 2010). Some forms of anxiety present persons with higher chances of developing depression than others. Those suffering from social phobia are highly likely to experience depression. Those suffering from obsessive-compulsive disorder are highly likely to experience depression. Also, those suffering from panic disorder are highly likely to experience depression. The age at which one develops anxiety disorders affects his or her chances of developing depression. One is more likely to suffer depression when he or she suffers the first anxiety disorder when he or she is young than when he is aged. In most cases, one develops anxiety disorders before developing depression (Mohammad et al., 2016).

Social skills are skills that are used for interacting healthily with other people. According to Vyskocilova and Prasko (2012), people use their social skills when communicating and interacting with others through movements, body language, and personal appearances. Every human being is a social being by his or her nature and has developed varied ways of expressing his or her messages, feelings, and thoughts to others. The messages that are voiced out are affected by not only verbal language that is employed but also the ways the language is employed: the related voice tone, speech volume, the words employed, body language, and gestures. The ability to interact socially is dependent on a person’s social skills (Nikopoulos & Keenan, 2006). To improve on one’s social skills, one should learn how to communicate one's
messages, feelings, as well as thoughts to others, and also the nature of one's messages and the appropriate methods of expressing the messages. Developed social skills will enable the individual to communicate their feelings to others effectively and through social interactions the individual gets relief from depression symptoms such as sadness.

The appraisal of social skills among depressed persons is rather labor-intensive. According to Bolsoni (2009), the other challenge associated with the appraisal is that there are still marked contestations regarding how the social skills should be conceptualized as well as operationalized. The contestations appear to stem from how different persons define depression and depressive episodes. At times, depression and depressive episodes are defined as being biological phenomena, other times they are defined as being life stress-related, as well as environmental, while at other times they are defined as being cognitive (Blanco et al., 2014).

Vincent and Alyson (2004) argued that depression and depressive episodes are largely interpersonal problems stemming from or causing poor social skills. The foremost researcher to link depression to poor social skills was Lewinsohn (1974), who defined social skills or competencies as simply being behavioral expressions that are affirmed by others. According to him, social skills deficit makes one highly susceptible to depression development. The time-lag between when one develops an anxiety disorder and when one develops depression owing to social skills deficits may be several years in some cases (Bhatia & Munja, 2014). This fact presents marked opportunities for preventing the onset of depression before it sets in those who seek medical attention for anxiety disorders. For instance, students who seek medical attention for anxiety disorders can be assisted to steer clear of the development of depression through the related interventions, including teaching them cognitive skills.
and social skills (Mohammad et al., 2016). There are various ways of measuring or determining social skills, including using self-reporting and the usage of related inventories.

As observed in one study by Hames et al. (2013), the self-reporting of social skills allows for the appraisal of individual tendencies, as well as feelings over time and in varied social situations and behaviors accordingly. Even then, the downside of the method is that depressed persons are inclined towards appraising their social skills a lot more undesirably than those who are not depressed. That happens regardless of whether trait or state social skills operationalization happens. Thus, the self-reporting of social skills by depressed individuals may be rather subjective (Hames et al., 2013). Clearly, depressed people score their recent interpersonal behavior and adequate social skills substantially lower than the subjects in the other classes, from a scientific analysis. Results suggest that deficiencies in social skills are not unique to depression and that certain depressed and other psychiatric groups vary mainly in their social competence self-assessment.

One can prevent depression’s development by treating anxiety aggressively in most instances. Students with depression or anxiety overestimate the risks they face. On the other hand, they underestimate the resources at their disposal to cope with the disorders (Swartz & Johns Hopkins Medical Institutions, 2007). They view their lives as defined by marked risks. Another common feature between depression and anxiety is that those suffering from either or both of them adopt an avoidant style to cope with their conditions. They avoid the subjects or objects of their fears rather than building the competencies they need to deal with the subjects or objects, which makes them feel uncomfortable (Mohammad et al., 2016). Commonly, they lack social skills. For instance, students with depression and those with social phobia, which is an anxiety
disorder, are uncomfortable going out, dating, and making friends. They remain in isolation, feeling lonely. In some cases, the students fail to develop the requisite social skills owing to parental over-concern (Hames et al., 2013). Social skills enable an individual to manage depression symptoms before they become pathological. However, an individual whose depression symptoms become pathological falls into MDD and in such a condition the individual’s views life negatively and eventually loses social skills because he is no longer able to have effective social interactions.

Verbal and non-verbal communication skills are essential to one’s well-being. They help persons in the creation of affirmative interpersonal environments and the resolution of particular interpersonal challenges (Vyskocilova & Prasko, 2012). Depressed individuals suffer decreases in their communication abilities. The decreases are lasting or temporary, or state-dependent and make communication increasingly challenging.

Socially competent communications are by and large intricate accumulations of procedural, as well as declarative, appreciation, motivation, capacity for expressing specific social conducts, capacity to elect particular behavioral response probabilities, and knowledge (Segrin, 2008). That is largely why Vyskocilova and Prasko (2012) concluded that social skill sets include verbal response competencies, paralinguistic competencies, and nonverbal skills. Drake and Bellack (2005) concur with how Vyskocilova and Prasko (2012) characterized social skills.

Persons with polished communication social skills have distinct advantages over those with poor social skills. As noted by Hames et al. (2013), people with well-developed social skills have more fulfilling relationships than those with poor social skills. When one identifies well with others, he or she develops more and more relationships, including friendships. Those having good social skills often come out as
charismatic and other people are highly interested in them owing to the apparent or real charisma, a highly desirable trait. Students having good social skills develop dependable interpersonal relationships with others, are highly likely to get job promotions, make many friends, and land new jobs using interpersonal relationships (Thase, 2012). Such students are likely to experience increased happiness and contentment. They are likely to have positive outlooks on the future and are likely to experience reduced stress levels and increasing self-esteem. It has also been observed that those having good social skills are better communicators than those with poor social skills as the former relates to many individuals and groups that help develop their communication competencies naturally (Nikopoulos & Keenan, 2006). Effective communication skills enable university students to make and uphold healthy interpersonal relationships and this makes them feel acceptable in the society and improves their self-esteem. As a result, they are able to manage depression symptoms.

Hames et al. (2013) found out that, individuals with good social skills report increased efficiency. Those who identify well with others have a high possibility of steering clear of the individuals who are not amicable. Many persons are afraid of societal engagements since they are uncomfortable being around people with whom they lack shared perspectives on life and interests. One is highly likely to attend social events if he or she knows other people attending the events. Those having good social skills advance their career prospects easily. Most jobs that are highly sought for have a distinct people element and involve a significantly high number of social interactions, for instance between colleagues, the media, and employees (Vyskocilova & Prasko, 2012).

Nikopoulos and Keenan (2006) found out that people who interact with others easily at work are likely to excel in the performance of their duties. Most employers
are keen on taking in employees with good social skills as the skills enable them to work well in particular teams. Similarly, most employers are keen on taking in employees with good social skills as the skills enable them to motivate and influence those working with them. According to Shaw (2017), people with good social skills register high levels of happiness as they easily identify with others who help them land many welcome opportunities in life. They are happy as they are confident enough to engage others in conversations that lead to new opportunities often. University students who are able to interact with their lecturers and their peers gain self-confidence and this results to them performing well in their academics.

Social skills define the psychosocial skills which evaluate valued behavior and incorporate analytical skills such as problem-solving and personal skills such as self-awareness. We also hold interpersonal competences. Social skills are, according to Thase (2012), part of life skills that can be defined as all the skills and knowledge gained by individuals other than academic skills, which are essential for productive living. These are the abilities for adaptation and positive behaviors that allow people to cope with the demands and challenges of daily life effectively. This means that academic achievement cannot assess success in life if one does not have other life-related skills such as assertiveness, self-awareness and interpersonal relationships (Funk et al., 2009).

Researches have shown the value of social competencies among college and university students. It has been argued that the acquisition of social skills such as interpersonal skills during a university student’s course is crucial because the more social skills are created, the greater the chances of reacting satisfactorily to campus environment demands (Hong, Jiang, & Zhou, 2013). To be successful in school, students need to learn not only academic content, but also how to acquire academic
content through classroom discourse involving interaction with teachers and peers. Another study revealed that healthy and harmonious interpersonal relationships have a positive correlation with the subjective well-being of college students (Zhang, Ban, & Li, 2009). The study also reported that among Chinese university students, group attachment and interpersonal relationships were crucial to students’ psychological health. Group attachment and interpersonal relationships enables the individual to have a sense of belonging. Among university students, having a sense of belonging enabled the students to make many friends who acted as social support and this assured the individual that he is not struggling alone with various stressors at the university which cushioned them from depression.

Another study done in Kenya showed that university students who showed high levels of depression had low self-esteem, were fearful and lonely (Kasomo, 2013). However, studies done on mental health for university students have reported that students with poor mental health also lacked interpersonal skills, and that interpersonal relations are important to uphold mental health (Okanda & Jitsunari 2010). Based on previous research, self-esteem and interpersonal skills are some of the main contributing factors that help college students to promote their mental health. Lack of such skills, however, would make students experience problems through ineffective and maladaptive behaviors (Aikawa, 2009; Buchanan, 2012; Dyson & Renk, 2006).

Hames et al. (2013) found that impairments in social communication and relationships play a major role as one of the primary behavioral deficiencies associated with the condition in the course of depression. Those with MDD often experience impaired social functioning. They have reduced capacity for performing and fulfilling typical social roles. Those with MDD experience social dysfunction
long after they have recovered from depressive episodes. The dysfunction often reduces their performance at work, employability, and family stability. Their reduced capacity to execute social roles is more pronounced in social role contexts or domains, often leading to impaired marital and interpersonal functioning than in job contexts (Cuijpers et al., 2015).

Social impairments at times are caused by social-emotional dysfunctions, including challenges in comprehending, as well as regulating, social emotions, and inability to read social safety and threat signals (Thase, 2012). Interpersonal challenges may emanate from decimated motivation, changed empathic responsiveness, and inability to solve interpersonal conflicts. Depressed individuals have nonverbal behaviors that are devoid of expressiveness. They are unlikely to express smiles which may result in them being viewed as being inattentive, uninterested, or even rude by those who seek to engage them (Kupferberg, Bicks, & Hasler, 2016).

Teo et al. (2013) agree with the sentiments expressed by Kupferberg et al. (2016). As posited by Teo et al. (2013), at the conceptual consideration, interpersonal relationships at times affect individuals’ mental health through varied mechanisms. The mechanisms include influencing health-linked conducts, being involved in societal activities, social support exchange and transfer, and having access to the needed resources. In the light of empirical considerations, social engagements that are adverse and social isolation are seen as risk factors for depression as well as suicide. There are many community-based kinds of research that have shown that apparent marital disaffection and poor quality of marital life heighten the risk for the development of incident MDD episodes and symptoms. The symptoms are effectively
reduced by interventions such as peer support and spouse therapy. These two interventions address social relationships (Vyskocilova & Prasko, 2012).

Teo et al. (2013) opine that social network features are often linked to mental health statuses, although the features’ longitudinal consequences of depression have not been adequately determined. They sought to establish whether social relationships’ quality, as well as social isolation, impact on how depression develops. The subjects of their study were aged between 25 and 75 and were requested to complete a baseline survey between 1995 and 1996 with a follow up of ten years. Social relationships’ quality was evaluated using social support scales that did not overlap. Similarly, social relationships’ quality was evaluated using social strain scales that did not overlap. In some instances, social relationships’ quality was evaluated using relationship quality’s summary measures. The isolation was evaluated based on the existence of spouses and the frequency at which they contacted each other socially. The study found that those with social baseline stress are at an elevated risk of developing depression. It has also shown that those who lack social support are at an increased risk of developing depression. In addition, Teo et al. (2013) research showed that reporting poor relationship quality is at an elevated risk of developing depression.

Depression among teenagers and young adults has been closely correlated with low self-efficacy in society. It has been shown that low social self-efficacy in adolescents and young adults directly and through its effect on learning, pro-social activity, and disruptive behavior, leads to concurrent and resulting depression. Low social self-efficacy has been found following high depression both concurrently and one year after recovery (Vyskocilova & Prasko, 2012).
According to Carvalho and Hopko (2011), social skill deficits and poor social engagements worsen depression cases and outcomes. Depressed persons have more challenges in interacting with other people than those who are not depressed. Depressed persons often have dysfunctional actions. The lack of interaction-seeking behaviors exhibited by depressed individuals contributes to social isolation that fosters the creation of a negative sense of self, alienation, and isolation (Vyskocilova & Prasko, 2012). Those interacting with depressed persons often find the non-responsiveness of depressed people to be frustrating. That makes them averse to interacting with them. Subsequent interactions with them are typified by marked negativity since they often espouse vague cues, which are often misinterpreted as indicative of individual aversion. The misinterpretation by and large reduces the frequency of depressed persons’ positive interactions, worsening their depression symptoms (Carvalho & Hopko, 2011).

Depression affects one’s social skills in different ways. Those having depression are unlikely to partake in social activities. This limits their opportunities for building social skills and becoming confident in their abilities (Baker & Myles, 2003). In some cases, depression affects social behaviors directly, the related social skill levels notwithstanding. For instance, a person who is aware of the significance of maintaining eye contact with others may be unable to maintain the same when communicating with other people, owing to fear (Vyskocilova & Prasko, 2012).

Training in social skills is a kind of psychotherapy that works to help people improve their social skills so they can become socially competent. It is often employed in enhancing the social skills of those with developmental or mental disorders (Vyskocilova & Prasko, 2012). It is commonly used by varied professionals, including therapists and instructors to assist those having the disorders. It is offered to
individuals or used as an element of group therapy every week in most cases. Often, it is one of the critical elements of given combined treatment interventions.

Although SST has many therapeutic applications, its usage in treating depression in the past has been rather limited (Hames et al., 2013). The limited usage in treating depression is surprising given that it is relevant to those suffering from depression according to the conclusions drawn by Lewinsohn and Hoberman (1982) from varied studies. From the studies, Lewinsohn and Hoberman (1982) concluded that those with depression are less interactive than those without depression. Depression reduces the capacity of a person to find interactions with others pleasurable. Unlike those who are not depressed, depressed individuals suffer higher levels of discomfort when they become assertive than those without depression (Vyskocilova & Prasko, 2012).

Hames et al. (2013) noted that persons who are depressed have deficient social competencies or skills. They are often averse to making affirmative replies to other persons. They have challenges in complimenting others or praising, expressing affection, offering approvals, and apologizing to others. They find the expression of negative assertive replies or responses rather challenging. Such responses include turning down even illogical requests, asking others to amend particular mannerisms and behaviors, and communicating disapprovals. They have challenges in starting, sustaining, and concluding conversations charmingly. According to Vyskocilova and Prasko (2012), these social skills or competencies are important in the maintenance of relationships. Those lacking the skills are unable to elicit from other behaviors that are mutually supporting; therefore, SST aims at equipping persons with the skills.

Vyskocilova and Prasko (2012) appear to concur with Baker and Myles (2003) that SST is effective in enhancing the social skills of those having depression, the
related social issues notwithstanding. It helps them manage their social interactions better (Baker & Myles, 2003). When one has depression that masks his or her social capabilities, the exposure and practice associated with SST help him or her to enhance one’s confidence as well as self-esteem, reducing any related anxiety regarding social circumstances (Vyskocilova & Prasko, 2012). SST can be applied in conjunction with other interventions such as drug therapy.

According to Vincent and Alyson (2004), SST zeroes in on four contexts, which are all social. The contexts entail interactions between patients and others, including friends and strangers in different localities. In SST, standardized scenarios of role-playing are employment for training, as well as appraisal purposes. In each of the scenarios, a particular patient’s problem area is built. All SST programs almost always share five components: instructions, modeling, rehearsal, feedback, and reinforcement (Vyskocilova & Prasko, 2012).

As indicated by Thase (2012), in each SST session, a therapist issues instructions regarding a specific behavior: rationale along with a description of the behavior. The therapist models the desired behavior or behavior change, performing the change or desired behavior, which the patient should match or acquire. Thereafter, the patient is persuaded to practice or rehearse the desired behavior as the therapist offers feedback on the progress made by the patient. When the patient practices the behavior, efforts are made to reinforce it immediately and meaningfully (Hames et al., 2013). In the past, the desired behaviors have often been reinforced verbally. Vyskocilova and Prasko (2012) advised that ideally reinforcers that are tangible or monetary should be employed for better outcomes.

There are varied training approaches that are adopted in different SST interventions. The development of any of the interventions starts with an evaluation of
a patient’s particular social skill gaps as well as impairments (Vyskocilova & Prasko, 2012). A therapist may enquire from the patient the social engagements that he or she considers to be highly challenging or the social skills that he or she feels should be enhanced. The inquiry is aimed at making out the best SST targets for the specific situation (Baker & Myles, 2003). After the identification of the SST target, techniques for enhancing social skills are developed and introduced. Often, the techniques provide for focusing on specific areas at given times, ensuring that the therapist and the patient are not overwhelmed (Vyskocilova & Prasko, 2012). Therapists who engage in SST use techniques such as instruction, behavioral rehearsals, corrective feedback, positive reinforcement, and regular homework assignments.

Instruction is the main SST educational element involving modeling of fitting social conducts. Therapists may characterize specific skills, offer guidance on how to execute the skills, and model the related behaviors (Thomson, 2008). Intricate social behaviors may be tackled in smaller constitutive units. For example, when training people on how to hold conversations a therapist may break the training into sessions in which he or she trains the people on how to introduce themselves, carry small talk out, and exit conversations politely. Behavioral rehearsals entail role plays (Baker & Myles, 2003). Participants practice new social skills when the related therapies are underway in simulated environments. The usage of corrective feedback helps in enhancing social skills when the practice is underway (Vincent & Alyson, 2004). Positive reinforcement is employed in rewarding social competency enhancements. The assignments offer participants opportunities for practicing their newly acquired social competencies after the conclusion of given therapies (Vyskocilova & Prasko, 2012).
Body language entails nonverbal communication. Depressed people often express closed nonverbal communication, signaling to others that the people are not amicable or friendly (Hames et al., 2013). When that is caused by depression naturally, there are chances of working on developing increasingly friendly and open nonverbal conduct. When communicating verbally, a desirable conversation-art may not be easily mastered by depressed people. Often, depressed people have challenges in figuring out what they want to say. They are in many cases uncomfortable speaking about themselves (Baker & Myles, 2003). The SST sessions focusing on verbal communication help depressed people to hold good conversations, which are important in building social relationships (Vyskocilova & Prasko, 2012).

2.7 Conceptual Framework

Social Skills Training is the independent variable that influences the dependent variable reduction in depressive symptoms. Social Skills Training is the treatment that was given to the experimental group. The social skills that they were trained in are intrapersonal skills such as self-esteem, and interpersonal skills such as assertiveness. After training in these skills, there should be a reduction in depressive symptoms such as sadness. Other factors that can have a similar effect of reducing the depressive symptoms are exercise, social support, and engagement in sports. Age and gender are the effect modifiers that can determine the outcome of the treatment. The components of social skills included self-awareness, self-esteem, interpersonal relationships, assertive skills, and negotiation skills. These were taught through instructions, discussions, role-plays, and demonstrations.
2.8 Summary

This chapter has covered the factors that hinder students from seeking psychological help from the university health services which include fear of stigma, busy schedules, and lack of information about depression. Risk factors for depression have also been covered and they include lifestyle change, loneliness, financial pressure, low grades, as well as love and sex. Various coping styles have not proved to be effective in intervening for depression and so university students have continued to suffer from depression and depressive symptoms. Social skills training as an...
intervention for depression can be used as an alternative, the efficacy of which this study sought to determine.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter addresses the study's investigative methodology. It focuses on study design, target population, measurement and selection of samples, data collection tools, methods/procedures for data collection, data processing and analysis, and ethical considerations.

3.2 Research Design

This study used the quantitative and a quasi-experimental research design. According to Shadish, Cook, and Campbell (2002), a quasi-experimental research design is a form of experimental research which involves selecting groups of participants upon which a variable is tested, without random pre-selection processes. It identifies a comparison group whose characteristics are as similar as possible to those of the treatment group. The comparison group acts as the control group (Shadish et al., 2002). It consists of an independent variable that is manipulated before the dependent variable is measured. Since it lacks random selection, assignment to either the experimental or to the control group is either by self-selection or by the researcher (Grimshaw, Campbell, Eccles, & Steen, 2000).

A quasi-experimental design uses two groups of participants, the experimental group and the control group. The two groups are as similar as possible in terms of social-demographic characteristics. The control group captures what would have been the outcome if the intervention had not been applied. Hence the intervention can be said to have caused any difference in outcomes between the experimental and the control groups (White & Sabarwal, 2014). The non-random assignment of participants to various groups makes it likely that there are other differences between conditions.
and therefore quasi-experimental research design does not eliminate the problem of confounding variables. According to Ioannidis, Haidich, and Pappa (2001), this is the main weakness of this research design. However, it is useful in field settings where random assignment is difficult or impossible.

Klar and Donner (2001) argued that quasi-experimental research design is also useful in that it is a good way to obtain a general overview and the results generated can be used to reinforce the findings in a case study and allow statistical analysis to take place. Also, the use of this design saves time and resources spent on experimental design. Quasi-experimental designs are often conducted to evaluate the effectiveness of treatment such as psychotherapy or other interventions (Rocker, Tugweell, Rottingen, & Barnighausen, 2017).

This design was used in this study because the study was testing the effectiveness of social skills training as an intervention for depression by using two groups of participants, the experimental group and the control group. To the experimental group, social skills training was applied while the control group did not receive the treatment. The participants were sampled from among students taking engineering courses at the UON and the (TU-K). The experimental group was drawn from one university and the control group from the other university. The experimental group was trained in social skills as per the protocol. The skills were to help them manage depressive symptoms while the control group continued with the usual services offered at the University. However, if in the process of the study some negative emotions were aroused debriefing was availed to them by the researcher.
3.3 Study Sites

Two public universities in Nairobi, Kenya were conveniently sampled for the study. These were UON and the TUK. The participants in both universities were students undertaking engineering courses. Both of these are public institutions in Kenya, which were established by respective Acts of Parliament. They are both situated in Nairobi’s Central Business District, with a distance of about one and a half kilometers between them. The tuition fee in both institutions is highly subsidized by the government of Kenya, to enable many Kenyan students to pursue degree programs regardless of their socioeconomic, religious, and political background. The two universities, like other public universities in the country, also admit other students as self-sponsored from within the country and globally as well. The fees for the self-sponsored students are however much higher than those of the government-sponsored students. The admission and selection criterion for joining these two public universities as government-sponsored students is set by Kenya Universities and Colleges Central Placement Service.

All the students admitted to public universities must have completed secondary school education in form four, equivalent to 12th grade. They must also have sat for the final national examination Kenya Certificate of Secondary Education or its equivalent and attained qualifications according to the specified subject clusters of the various degree programs. Departments that teach engineering courses in both the UON and TUK are located at the main campuses of the respective universities, located in Nairobi Central Business District.
3.4 Target Population

The researcher selected respondents from among the students studying engineering courses at the UON and TUK. The faculty of Engineering Sciences and Technology is the largest at the Technical University of Kenya and currently, it holds the largest number of students of about 5000. Although this number includes those doing diploma and other certificate courses in engineering, those taking undergraduate degrees are over 1500 (TU-K, 2017). At the University of Nairobi, undergraduate engineering students are about 1800 (UON, 2017). This makes it convenient in getting enough respondents to form a sample for the study. Engineering students from the two universities were conveniently sampled because the populations from both institutions share some similarities. They are similar in the courses that they undertake and so academic challenges for the students are similar. Departments offering engineering courses in the two universities also share a similar environment in that they are located in the town center, which exposes the students to similar environmental challenges.

The inclusion criterion was being a full-time module one student who was taking undergraduate courses in engineering at both the UON and TUK. Engineering students were chosen for this study because previous studies have shown that Engineering students are more susceptible to depression compared to those undertaking other courses in universities (Neelam & Aradhanas, 2017). They have argued that the curriculum for engineering is very demanding and also that there is high expectation for these students to be top performers. These together with other university stressors easily predispose the students to depression (Fatimah et al., 2016; Neelam & Aradhanas, 2017; Elias et al., 2011).
Module one students are government-sponsored. The students selected were those within the age bracket of eighteen to twenty-five years and were willing to participate in the study by giving informed consent. The exclusion criterion was part-time students and those who were not enrolled for engineering courses at the TUK and UON. Students who failed to participate in the three assessments were also excluded.

3.5 Sample Size

Scheaffer (2012) outlined the considerations that must be taken into account when deciding the sample size to be adopted for a given survey. His research showed that the inclusion of whole populations in surveys is desirable. It will mean the results are generalizable to the whole population. Even then, this is not feasible in many cases as the populations are very spread out over space and time or too large to allow the estimation or calculation of the members of each population. Which necessitates the sampling. Sampling means that the subjects of the surveys issued are favorably few, making the surveys effective in terms of the costs and time involved.

In the current study, the sample size was determined depending on the prevalence of depression among university students, the significance level, which was 0.05, and the confidence level which was 95%. Other factors that determined sample size were the power and effect size of the study. Computation of the minimum required sample size for the study was based on Halperin, Rogot, and Gurian (1965)

\[ N = \frac{\left( Z_{\alpha/2} \sqrt{2p(1-p)} + Z_{1-\beta} \sqrt{p_1(1-p_1)p_2(1-p_2)} \right)^2}{(p_1 - p_2)^2} \]

Where;
N is the minimum required sample size

$Z_{\alpha/2}$ is the standard normal deviate corresponding to a 5% level of significance (1.96)

$P_1$ and $P_2$ are the proportion of event of interest (outcome) for the two groups

$P$ is the average of $P_1$ and $P_2$ ($P_1 = 0.413, P_2 = 0.313$, thus

$P = \frac{0.413 + 0.313}{2} = 0.363$)

$Z_{1-\beta}$ is the standard normal deviate corresponding to a power of 80% (0.84)

\[
N = \left\{ \frac{1.96 \sqrt{2 \times 0.363(1-0.363) + 0.84 \sqrt{0.413(1-0.413)0.313(1-0.313)}}}{(0.413-0.313)^2} \right\}^2
\]

\[
(1.96 \sqrt{0.462 + 0.84 \sqrt{36.589}})^2
\]

\[
(1.332 + 2.903)^2
\]

\[
0.08
\]

\[
17.935
\]

\[
0.08
\]

\[
= 224.187
\]

The minimum number of participants required for this study was 224. After adjusting for attrition using 10%, the minimum required sample size for the study was 246 participants, 123 from the experimental group and 123 from the control group.

3.6 Sampling Techniques

This study applied both convenience sampling and nonrandom sampling techniques. Two Kenyan public universities were conveniently sampled for the study, the UON, and the TUK. After the authority to conduct the research was granted by the
management of the two universities, the researcher posted notices for the targeted students in the faculty of engineering and technology at the Technical University of Kenya, and in the school of engineering at the University of Nairobi. This was followed up by involving class representatives to announce in their classes the same information and to notify the researcher when the students would be available depending on their timetable. University of Nairobi students were invited to attend a briefing session on the research at the Taifa Hall, while the Technical University of Kenya students held a similar session at U-block hall. The students who responded to the notices in the respective institutions were briefed and sensitized on the importance and significance of the study. They were informed that participants would be selected randomly from the undergraduate students.

The sampling was done from the students who attended this first briefing and recruitment session. Those who attended the briefing and were willing to participate in the study were given the consent document to read and those still willing to continue signed the consent forms. After signing the consent forms, the participants were given the socio-demographic questionnaire and BDI to fill for baseline assessment. They were requested to respond to all the questions in the BDI and the sociodemographic questionnaire as accurately as possible. Those who scored 14-28 on the BDI met the inclusion criteria of manifesting symptoms of mild to moderate depression. From the UON, those who met the inclusion criteria were 136 respondents and they were assigned to form the experimental group while from TUK 137 respondents met the inclusion criteria and they were assigned to form the control group.
3.7 Data Collection Instruments

A structured questionnaire developed by the researcher was used to collect socio-demographic data of the respondents (Appendix A). The demographic information gathered included age, gender, and level of study among others. The second instrument that was used in this study was BDI, (Beck, A. 1964). According to the APA, BDI is a 21-item self-report rating inventory that measures characteristic attitudes and symptoms of depression. The BDI has been developed in different forms and it takes approximately 10 minutes to complete (Appendix B). Internal consistency for the BDI ranges from .73 to .92 with a mean of .86 (Wang & Gorenstein, 2013). The BDI demonstrates high internal consistency, with alpha coefficients of .86 and .81 for psychiatric and non-psychiatric populations, respectively. It has been used in a non-clinical adolescent sample in Brazil and has been found to have a validity of 0.82 (Gorenstein, Andrade, Zanolo, & Artes, 2005), and in a psychiatric population in Spain, the validity is 0.83 (Poole, Bramwell, & Murphy, 2009). In Kenya, the BDI has been used to evaluate Major Depression among young people living in coastal Kenya and has been found to have a validity of 0.82 (Otiende et al., 2017).

The BDI has 21 questions, each graded on a scale rating of 0 to 3. Scoring is achieved by adding the score for each of the 21 questions, by counting the number on the right-hand side of each question marked. The highest rating available for the entire test would be 63, and the lowest possible score for the test would be zero. A total score of zero to thirteen is considered to be within normal limits. A score of fourteen to nineteen is mild depression, and that of twenty to twenty-eight is moderate depression. Scores of twenty-nine and above indicate severe depression which will require referral to a psychiatrist/health facility. The target group for this study was the students who had mild and moderate depression, among who SST was applied to
mitigate for depression. The SST was carried out using an SST manual, modified by the researcher from the Life skills training manual (Appendix C).

3.8 Data Collection Procedures

After the proposal was approved by the School of Human and Social Sciences of Daystar University, the researcher then sought ethical clearance from the Daystar University Ethics Board. After ethical clearance, a permit was sought from the National Commission for Science, Technology, and Innovation (NACOSTI). After the permit from NACOSTI was obtained, permission was then sought from the administration of each university. The authorization letters from these organizations were used to seek entry into the sampled university colleges with permission from the principles of these colleges. Research assistants were then recruited and trained for one week. They were taken through the questionnaires, the research problem, the research methodology, ethical considerations, SST manual, and how to administer the research instruments.

Data collection involved a baseline survey, a midline survey three months after the intervention, and an end-line survey after six months of intervention. Recruitment of respondents was done through placing advertisements in the sampled departments with permission from heads of these departments. The class representatives also assisted in linking the students with the researcher. The students who responded to the advertisements held the first meeting with the researcher and the research assistants. The first meeting with the respondents was held on their respective campuses. Those from the University of Nairobi met at Taifa Hall while those from the Technical University of Kenya met at Uhuru Hall. In this first meeting, the researcher introduced herself and the research assistants and familiarized them with the students and their campus environment. Then the researcher explained to the
respondents about the purpose of the study, its benefits, the risks involved, and ethical considerations. They were given the consent document to read and those who accepted to continue signed consent forms.

Data collection tools were then administered to all those who signed consent forms in both the experimental and control groups. This was the baseline data. The respondents were instructed on what was expected as they responded to the questions in the tools. After they had completed filling out the required information in the tools, they put all the questionnaires into sealed boxes for confidentiality and security. The questionnaires were then organized, labeled, secured, and transported to the researcher’s office. The researcher then scored the BDI to identify those who met the inclusion criteria (having mild to moderate depression). Those who met the criteria were communicated through SMS, while those with severe cases of depression were referred for treatment in their respective institutions. The questionnaires were then assigned numbers and kept in the researcher’s office under lock and key.

The SST intervention was administered to the experimental group soon after the collection of the analysis of the baseline data. Three months after the intervention, midline data was collected again from both the experimental and the control groups for comparative analysis. Six months after the intervention, the last assessment was done to both groups which comprised end line data and again comparative analysis was done. The study procedures are summarized in the flow diagram Figure 3.1.
The social skills training comprised of instructions, discussions, role-plays, and demonstrations in various areas of social skills as summarized in Table 3.1.

Figure 3.1: Flow Diagram for the Study Procedure
Table 3.1: Treatment Plan

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Activities</th>
<th>Expected outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-awareness</td>
<td>-Brainstorming</td>
<td>-Appreciation and understanding of self-awareness in relation to coping with challenges in campus environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Discussions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Self-esteem</td>
<td>-Discussions and presentations.</td>
<td>-Assess personal self-esteem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Simulation</td>
<td>-Understand and appreciate the impact of self-esteem in coping with challenges of campus life.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Self-assessment</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Interpersonal relationships</td>
<td>-Brainstorming</td>
<td>-Identify the types and importance of interpersonal relationships.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Simulation</td>
<td>-Appreciate the role played by interpersonal relationships in coping with challenges of life in campus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Discussions</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Assertiveness</td>
<td>-Brainstorming</td>
<td>-Identify situations that require assertiveness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Role plays</td>
<td>-Make an action plan on how to enhance assertiveness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Discussions</td>
<td>-Demonstrate ways of being assertive.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Demonstrations</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Negotiation</td>
<td>-meaning of negotiation.</td>
<td>-discuss the meaning of negotiation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-types of negotiation</td>
<td>-Identify the different types of negotiation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-steps in the process of negotiation</td>
<td>-understand the steps in the process of negotiation.</td>
</tr>
</tbody>
</table>

3.9 Pretesting

The socio-demographic questionnaire and the BDI were pretested before the actual data collection. Pretesting helped in checking the respondents' understanding of the tools, and their use of the tools in terms of timing, item responses, and clarity. Pretesting was done with 10% of the sample, which was obtained from Kenya Science Daystar University.
Campus, a campus of the University of Nairobi. The students from Kenya Science Campus did not participate in the final study.

3.10 Data Analysis Plan

Collection of Data

Data Coding

Data Analysis Using SPSS Methods: Descriptive, Correlation, T-Test

Data Presentation Using Tables, Graphs and Charts

Figure 3.2: Flow Diagram for the Data Analysis Procedure

Completed questionnaires containing raw field data were collected soon after they were filled by the respondents. They were then put in sealed boxes to ensure confidentiality and security as they were transported to the researcher’s office from where further processing was done.

On receiving the data, editing was done to ensure that data is accurate and consistent with other facts gathered. Editing involved examining the data to detect errors and omissions. After editing, the data was coded and then double entered into the computer. It was then cleaned and analyzed, and this procedure was repeated at baseline, midline, and endline. During coding, number and letter symbols were assigned to the responses to make it possible to assign classes to every data item. Classification in turn reduced data into homogenous groups that share common
characteristics. The classified data was then tabulated by arranging it into columns and rows after summarizing it. This was done electronically using SPSS version 22.0 for descriptive and inferential analysis for quantitative data.

Data analysis leads to meeting the objectives of this study. Objective one was to determine the current prevalence of depression among students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya. The second objective was to establish the factors related to depression among university students. These two objectives were determined by using measures of central tendency namely the mean, mode, and median. These measures gave information on the items that tend to cluster. Measures of dispersion which include variance, standard deviation, and interquartile range were also used to describe how the data items are scattered. The third objective was to evaluate the effectiveness of social skills training as an intervention for depression among the students. For this objective, the effect of SST was calculated for both experimental and control groups. T-test was used to calculate the mean difference scores at midline and endline across the controls and experimental groups.

The differences in mean were calculated using a 95% confidence interval. The presentation of data was in form of tables and figures. Socio-demographic characteristics were presented in form of tables and pie-charts or bar graphs.

3.10 Ethical Considerations

The proposal was first presented to the School of Human and Social Sciences of Daystar University. When the school approved the proposal, the researcher then sought ethical clearance from the Daystar University Ethics Board. Then the proposal was forwarded to NACOSTI for clearance. After clearance by NACOSTI, the proposal together with a letter requesting permission to collect data from the
university students was forwarded to the management of the University of Nairobi and the Technical University of Kenya.

An explanation of the purposes of the research and the expected duration of the subjects’ participation, as well as a description of the procedure to be followed, were given. Participants were informed that there would be no physical intrusive procedures, but some of the questions could evoke some painful emotions. If that happens in the course of the study, the researcher would allow for debriefing during successive assessments and after the SST treatment. Those who required further help were informed to visit the counseling department of their colleges. In addition, the contact for the researcher and those of the supervisors of this research were provided in case of further need for help and inquiries.

Benefits from the study included increasing knowledge and giving an understanding of symptoms of depression and depressive symptoms, its control, and management. With such an understanding, the participants can know when they are getting depressed and take the appropriate actions. At the same time, the social skills learned during the study can also be applied to other conditions such as stress and this may help them to improve on how they deal with challenges of the campus environment. There was no compensation since the study was done in their place of residence.

The participants were informed that participation is voluntary and that they were free to participate without coercion and could withdraw at any stage of the study. There were no penalties for not participating or withdrawing from the study after giving consent. Then they signed the consent forms (Appendix E). Confidentiality was also observed throughout the study by ensuring that no names were used but instead, admission numbers were used which were labeled differently.
before the data was entered into the computer. Admission numbers for individuals were only known to the researcher. To further conceal the identity, results were reported in terms of groups and not individuals.

3.11 Summary

This chapter has covered various aspects of the study’s research methodology. The study used a quasi-experimental design. The study sites were two public universities in Kenya, and the target population was students from the Schools of Engineering of the two universities. The sample size was determined using a simple random sampling method. Data were collected using two instruments, the socio demographic questionnaire and Beck’s Depression Inventory. Social skills training was the treatment that was applied, and three assessments were done. Data analysis was done using SPSS methods. Ethical considerations included confidentiality and debriefing during and after the treatment.
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter provides presentation, analysis, and interpretation of data of the research findings. It focuses on results from background data as well as data related to the study objectives. The main aim of this study was to determine the effectiveness of social skills training as an intervention in reducing depression among students at the University of Nairobi and at the Technical University of Kenya. The specific objectives were three. The first specific objective was to determine the current prevalence of depression among students studying engineering degree courses at the University of Nairobi and at the Technical University of Kenya. The second objective was to establish the factors related to depression among university students, and the third one was to evaluate the effectiveness of social skills training as an intervention for depression among the students. Several analytical tests have been applied including descriptive, correlation, and independent t-tests. The chapter starts by presenting results from demographic data and then findings based on the study objectives. Results are presented in form of tables, charts, and bar graphs. There are two phases of this study, mainly prevalence and intervention phases.

4.2 Analysis and Interpretation

4.2.1 Response Rate

A total of 900 questionnaires were administered to both UON and TUK institutions at 450 questionnaires per institution. At UON, out of 450 questionnaires administered, 420 students responded to the questionnaires and consented to participate, this constituted 93.3% response rate. Also, at TUK, out of the 450
questionnaires administered, 432 students responded to the questionnaire and consented to participate and this constituted 96% response rate. The socio-demographic questionnaire and the BDI were administered for baseline assessment. According to Mundy (2002), a 60% response rate in research is marginal, 70% response rate is reasonable, 80% response rate is deemed good, and a response rate of at least 90% is excellent. Accordingly, the response rates in the present study – 93.33% for the UON and 96% for the TUK – were excellent. Owing to the excellent response rates in the present study, it was expected that the threat of sampling biases would be minimized.

Out of 852 participants, (UON n=420; TUK n=432), a total sample of 273 respondents from both institutions met the inclusive criteria to participate in the intervention phase of this study and this constituted 32% of the total respondents. These 273 respondents were purposively assigned to the study groups which were experimental group (UON n= 136) and control group (TUK n=137). The recruited participants were students who exhibited mild or moderate depression as per the BDI assessment tool. The response rate was considered satisfactory since it exceeded the minimum required number of 246 as demonstrated in Table 4.1.

<table>
<thead>
<tr>
<th>Total Tools</th>
<th>Response (%)</th>
<th>Sample Size Rate (%)</th>
<th>Experimental/control</th>
</tr>
</thead>
<tbody>
<tr>
<td>UoN 450</td>
<td>420 (93.3)</td>
<td>136 (32.4)</td>
<td>Experimental</td>
</tr>
<tr>
<td>TUK 450</td>
<td>432 (96.0)</td>
<td>137 (31.7)</td>
<td>Control</td>
</tr>
<tr>
<td>Total 900</td>
<td>852 (94.6)</td>
<td>273 (32)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 indicates that the researcher interviewed a total of 852 students from both institutions out of 900 questionnaires administered and this constituted 94.6% for the prevalence phase of the study. Out of this, 273 students met the inclusion criteria which constituted 32%. These were students who exhibited mild or moderate
depression symptoms as per the BDI assessment tool. The sample was considered satisfactory since it exceeded the minimum required number of 246.

4.2.2 Demographic Information

This section provides results on respondents’ demographic information. It is categorized into two, that is, demographic data from the University of Nairobi students and those from the Technical University of Kenya.

4.2.2.1 Age of the Respondents

<table>
<thead>
<tr>
<th>AGE</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>UoN</td>
<td>136</td>
<td>18</td>
<td>26</td>
<td>20.7132</td>
<td>1.79571</td>
</tr>
<tr>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUK</td>
<td>137</td>
<td>18</td>
<td>29</td>
<td>21.94</td>
<td>2.412</td>
</tr>
<tr>
<td>137</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings as shown in Table 4.2 revealed that on average, the majority of respondents from UON were aged 21 years, while those from TUK were aged 22 years.

4.2.2.2 Gender of the Respondents

Figure 4.1: Gender of Respondents
The findings revealed that majority of the respondents were male in both institutions. This means that there are more male students undertaking engineering courses compared to females. In the subsequent analyses, the researcher compares the contribution of both male and female students to their level of depression. Figure 4.1 shows results on the gender of the respondents from both UON and TUK.

4.2.2.3 Place of Residence

![Figure 4.2: Place of Residence](image)

Based on the findings, majority of the students from UON reside in hostels, while for TUK a large percentage of the students stay alone. The findings imply that UoN accommodates more students in hostels compared to TUK. Figure 4.2 shows the results on the place of residence of students from both institutions.

4.2.2.4 Distance from Place of Residence to Campus

<table>
<thead>
<tr>
<th></th>
<th>UON</th>
<th>TUK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distance</strong></td>
<td><strong>Frequency</strong></td>
<td><strong>Percent</strong></td>
</tr>
<tr>
<td>0-2KM</td>
<td>12</td>
<td>17.6</td>
</tr>
<tr>
<td>2-3KM</td>
<td>17</td>
<td>25.0</td>
</tr>
<tr>
<td>3-4KM</td>
<td>15</td>
<td>22.1</td>
</tr>
<tr>
<td>5KM or more</td>
<td>24</td>
<td>35.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>68</td>
<td>100</td>
</tr>
</tbody>
</table>
Findings of the study revealed that a large number of students live approximately five Kilometers or more from the main campuses. This is shown in Table 4.3.

![Figure 4.3: Students with Dependents](image)

4.2.2.5 Students with Dependents

Majority of the students in both institutions indicated that they had no dependents. The findings reflect the expectation given that the respondents are students and most of them do not have income. However, a small percentage of the students could be working part-time and may have people who depended on them. Figure 4.3 shows results on respondents’ dependents from both institutions.

4.2.2.6 Monthly Expenditure

<table>
<thead>
<tr>
<th>Table 4.4: Monthly Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>UON</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>TUK</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Based on the findings, majority of the students from UON spend around Ksh 13,000 per month, while those from TUK spend about Ksh 9,000. This is shown in Table 4.4.
4.2.2.7 Main Person Who Pays School Fees

Table 4.5: Main Person Who Pays School Fees

<table>
<thead>
<tr>
<th></th>
<th>UON</th>
<th></th>
<th>TUK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Guardian</td>
<td>3</td>
<td>2.2</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Help</td>
<td>42</td>
<td>30.9</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Parents</td>
<td>77</td>
<td>56.6</td>
<td>73</td>
<td>53.3</td>
</tr>
<tr>
<td>Myself</td>
<td>6</td>
<td>4.4</td>
<td>51</td>
<td>37.2</td>
</tr>
<tr>
<td>Sibling</td>
<td>2</td>
<td>1.5</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Sponsor</td>
<td>6</td>
<td>4.4</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100</td>
<td>137</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.5 shows the distribution of main person who pays the school fees of the respondents and other expenditures. The results revealed that majority of the students from both institutions are financed by their parents, HELB loan, and some finance themselves as shown in table 4.5.

4.2.2.8 Year of Education

Table 4.6: Year of Education

<table>
<thead>
<tr>
<th>Year</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22</td>
<td>16</td>
<td>13</td>
<td>9.5</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>44</td>
<td>29</td>
<td>21.2</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>15</td>
<td>79</td>
<td>57.7</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>8.8</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>22</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100</td>
<td>137</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.6 shows the frequency of the year of education of the respondents. From the results, the frequency of respondent’s year of education was higher among Year 2 at UON (44%) and Year 3 at TUK (57.7%) compared to other levels of respondents’ year of education at both institutions. This suggests that higher proportion of respondents at UON were in the second year while those from TUK were in the third year. The researcher sought to establish the relationship between the year of study and students' depression.
4.2.2.9 Major Courses

Table 4.7: Major Courses at UON

<table>
<thead>
<tr>
<th>UON</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering</td>
<td>58</td>
<td>42.6</td>
</tr>
<tr>
<td>BSC Civil Engineering</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>43</td>
<td>31.6</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Environmental &amp; Biosystems Engineering</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Geospatial Engineering</td>
<td>13</td>
<td>9.6</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>136</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.7 shows the distribution of the respondents’ major courses at UON. The findings indicated that at UON, the frequency of biosystems engineering was higher at 42.6% compared to civil engineering at 33.6% and other courses. This implies that biosystems and civil engineering courses are the most preferred at UON as shown in table 4.7.

Table 4.8: Major Courses at TUK

<table>
<thead>
<tr>
<th>TUK</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.tech</td>
<td>24</td>
<td>17.5</td>
</tr>
<tr>
<td>Building &amp; Construction</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>9</td>
<td>6.6</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>21</td>
<td>15.3</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>43</td>
<td>31.4</td>
</tr>
<tr>
<td>Electrical &amp; Electronics Eng</td>
<td>9</td>
<td>6.6</td>
</tr>
<tr>
<td>Geospatial Engineering</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>11</td>
<td>8.0</td>
</tr>
<tr>
<td>Structural Engineering</td>
<td>5</td>
<td>3.6</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>5</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As shown on Table 4.8, the findings also showed that at TUK, the frequency of electrical engineering was higher at 31.4% as opposed biotechnology at 17.5%, civil engineering at 15.3% and other area of specializations. Table 4.8 indicates that electrical, biotechnology, and civil engineering courses are the most preferred courses at TUK.
4.2.2.10 Religious Affiliation

Figure 4.4: Religious Affiliation

Figure 4.4 presents the frequency of religious affiliation of the respondents. Based on the findings, a large percentage of students in both institutions are either Catholics or Protestants as shown in figure 4.4.

4.2.2.11 Friendship

Table 4.9: Friendship

<table>
<thead>
<tr>
<th></th>
<th>UON</th>
<th>TUK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td>Yes</td>
<td>130</td>
<td>95.6</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.9 presents the respondents’ friendships at the university. According to the findings on this table, the distribution of respondents who have friends at UoN was higher at 95.6% as opposed to the respondents who do not have friends at 4.4%. Similarly, the frequency of respondents who have friends at TUK was higher at 98% compared to those who do not have friend at 2%. The result from this study shows that a higher proportion of participants from both institutions have friends.
4.2.2.12 Number of Friends from Each Gender

Table 4.10: Number of Friends from Each Gender

<table>
<thead>
<tr>
<th></th>
<th>Female Friends</th>
<th>Male Friends</th>
<th>Female Friends</th>
<th>Male Friends</th>
</tr>
</thead>
<tbody>
<tr>
<td>UON</td>
<td>136</td>
<td>136</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td>N</td>
<td>Minimum</td>
<td>Maximum</td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1500</td>
<td>0</td>
<td>1500</td>
</tr>
<tr>
<td>N</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td></td>
<td>92.53</td>
<td>243.489</td>
<td>94.72</td>
<td>240.213</td>
</tr>
<tr>
<td>TUK</td>
<td>137</td>
<td>137</td>
<td>137</td>
<td>137</td>
</tr>
<tr>
<td>N</td>
<td>Minimum</td>
<td>Maximum</td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>900</td>
<td>0</td>
<td>800</td>
</tr>
<tr>
<td>N</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td></td>
<td>110.18</td>
<td>166.362</td>
<td>127.7</td>
<td>170.478</td>
</tr>
</tbody>
</table>

According to Table 4.10 above, the findings for each gender at UON showed that both male and friends ranged from 0 – 1500, while at TUK female friends ranged from 0 – 900 and male friends ranged from 0-800 as shown in Table 4.10.

4.2.2.13 Club Membership

Table 4.11: Club Membership

<table>
<thead>
<tr>
<th></th>
<th>UON</th>
<th>TUK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>No</td>
<td>107</td>
<td>78.7</td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
<td>21.3</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.11 presents respondents club membership. The respondents were asked if they were members of any club or society. Majority of the respondents from both institutions reported that they were not members of any club (78.7%). Club membership is expected to enhance students’ social skills and subsequently reduce their level of depression.

4.2.2.14 Leadership Position

Table 4.12: Leadership Position

<table>
<thead>
<tr>
<th></th>
<th>UON</th>
<th>TUK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>No</td>
<td>127</td>
<td>93.4</td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>6.6</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.12 presents the frequency of leadership position the respondents held. Based on the findings above, majority of the respondents from both institutions cited
that they were not in any leadership position as shown in Table 4.12. The researcher sought to establish the relationship between leadership and students’ depression.

4.2.2.15 Relationship with Other People

Figure 4.5 shows the distribution of the rate at which the respondents related with other people. The results obtained as shown in figure 4.5 showed that the largest percentage of the respondents from UON reported that they were social with other people while the largest percentage of those from TUK cited that they were very social with other people.

4.2.3 Prevalence of Depression among University Students

The first objective of the study was to determine the current prevalence of depression among students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya. Among UON students, the largest proportion of respondents at 66.5% did not have depression. However, of those who presented with depression, the frequency of Mild depression was slightly higher at
17.8% compared to moderate depression at 14.5% and severe depression at 1.2%.

Table 4.13 below presents the severity of depression among UON respondents.

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Depression</td>
<td>279</td>
<td>66.5</td>
</tr>
<tr>
<td>Mild Depression</td>
<td>75</td>
<td>17.8</td>
</tr>
<tr>
<td>Moderate Depression</td>
<td>61</td>
<td>14.5</td>
</tr>
<tr>
<td>Severe Depression</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>420</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.14 presents the prevalence of depression at University of Nairobi among the engineering students. As indicated on the Table, 66.5% of the respondents did not present with depression. However, the prevalence of depression was 33.5%.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Depression</td>
<td>279</td>
<td>66.5</td>
</tr>
<tr>
<td>Depressed</td>
<td>141</td>
<td>33.5</td>
</tr>
<tr>
<td>Total</td>
<td>420</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.15 presents the distribution of severity of depression among TUK respondents. The results indicate that higher proportion of respondents (67.1%) did not present with depression. However, the frequency of Mild depression was 16.4% which was higher compared to Moderate depression at 14.4% and severe depression at 2.1%.

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal limits</td>
<td>290</td>
<td>67.1</td>
</tr>
<tr>
<td>Mild Depression</td>
<td>73</td>
<td>16.9</td>
</tr>
<tr>
<td>Moderate Depression</td>
<td>64</td>
<td>14.8</td>
</tr>
<tr>
<td>Severe Depression</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>432</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.16 presents the prevalence of depression among the TUK respondents. It is indicated from the Table that 67.1% of the respondent did not present with depression. The prevalence of depression among the TUK respondents was 32.9%.
These were the respondents with depressive symptoms that ranges from mild to severe depressive symptoms.

Table 4.16: Prevalence of Depression Among TUK Respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No depression</td>
<td>290</td>
<td>67.1</td>
</tr>
<tr>
<td>Depressed</td>
<td>142</td>
<td>32.9</td>
</tr>
<tr>
<td>Total</td>
<td>432</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.17 presents the overall severity of depression among all the study respondents. The findings indicate that 66.8% of the students (combined UON and TUK) exhibited no depression, 17.4% registered mild depression level, 14.7% had moderate depression while 1.1% of the respondents exhibited severe depression.

Table 4.17: Overall Severity of Depression among all the Study Respondents

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Depression</td>
<td>569</td>
<td>66.8</td>
</tr>
<tr>
<td>Mild Depression</td>
<td>148</td>
<td>17.4</td>
</tr>
<tr>
<td>Moderate Depression</td>
<td>125</td>
<td>14.7</td>
</tr>
<tr>
<td>Severe Depression</td>
<td>10</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>852</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.18 shows the overall prevalence of depression among the respondents from both Universities combined. The overall prevalence of depression among the respondents from this study was 33%.

Table 4.18: Overall Prevalence of Depression among the Respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Depression</td>
<td>569</td>
<td>67</td>
</tr>
<tr>
<td>Depressed</td>
<td>283</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>852</td>
<td>100</td>
</tr>
</tbody>
</table>

An unpaired t-test was run between the BDI scores for the TUK School of Engineering Science and Technology students (N = 432) and the BDI scores for the UON School of Engineering students (N= 420) at a 95% confidence interval. This was to test whether there was any significant difference in depression prevalence between UON and TUK students. The results were as indicated in Table 4.19.

Table 4.19: Independent T-Test for the Two Sets of Data

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std.</th>
<th>Std. Error</th>
<th>F statistics</th>
<th>P-value</th>
</tr>
</thead>
</table>

144
The test resulted in a p-value of 0.365. In most statistical analyses, a p-value equal to 0.05 is taken as the significance cut-off. If the p-value between two sets of data is less than 0.05, the conclusion is that the means of the two sets of data are significantly different and thus there is a significant difference between the sets. If the p-value is greater than 0.05, the conclusion is that the means of the two sets of data are not significantly different and therefore there is no difference between the sets. In this study, the p-value of 0.365 meant that there was no significant statistical difference between the BDI scores for the TUK students and the BDI scores for the UON students. This means that there was no significant mean difference in depression levels between UON and TUK students and that both UON students and TUK students had more or less the same level of depression.

4.2.4 Factors Related to Depression among University Students

The second objective of the study was to establish the factors related to depression among university students. To achieve this, inferential statistics (regression and independent t-tests) were conducted to establish the relationship between selected factors and depression among university students.

4.2.4.1 Gender and Depression

The distribution of gender and depression among the participants at UON indicates that the proportion of mild or moderate depression was slightly higher among female participants at 31.6% as opposed to male participants at 31%. Similarly, among the participants at TUK the results show that the prevalence of mild or moderate depression was slightly higher among female participants at 33.3%.
compared to male participants at 32.8%. The result from this study indicates that the prevalence of depression was slightly higher among females compared to male participants. The F test statistics shows that the relationship between gender and depression was insignificant (p=0.119). This implies that depression may be prominent among female participants but gender as a variable does not related statistically with depression as indicated on Table 4.20 shown below.

### Table 4.20: Relationship between Gender and Depression

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>F statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>201</td>
<td>8.69</td>
<td>8.738</td>
<td>0.616</td>
<td>10.976</td>
<td>0.119</td>
</tr>
<tr>
<td>Male</td>
<td>651</td>
<td>9.77</td>
<td>8.197</td>
<td>0.321</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings in Table 4.20 indicate that there was no significant mean difference in depression between males and females. This was supported by a p-value of 0.119, which was greater than the critical p-value of 0.05 at a 95% confidence interval. Based on the results, the implication is that the likelihood of male and female students falling into depression is more or less the same.

#### 4.2.4.2 Year of Study and Depression

### Table 4.21: Relationship between Year of Study and Depression

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Between Groups</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4504.85</td>
<td>4</td>
<td>1126.21</td>
<td>15.069</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>45588.2</td>
<td>610</td>
<td>74.735</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50093.1</td>
<td>614</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANOVA results in Table 4.21 indicate the differences in depression level among students in different years of study. A cross-tabulation was conducted between the year of study and students’ depression levels to check if there was a statistical significant association between the variables. The ANOVA test as shown on Table 4.21 implies that there was a significant relationship between the year of study and depression (p=0.000).
Table 4.22: Relationship between Participants’ Year of Study and Depression using Chi-square

<table>
<thead>
<tr>
<th>Year</th>
<th>Normal limits</th>
<th>Mild Depression</th>
<th>Moderate Depression</th>
<th>Severe Depression</th>
<th>Total</th>
<th>Chi-Square (P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>109</td>
<td>29</td>
<td>12</td>
<td>1</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>97</td>
<td>49</td>
<td>45</td>
<td>4</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>226</td>
<td>48</td>
<td>56</td>
<td>4</td>
<td>334</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>75</td>
<td>14</td>
<td>9</td>
<td>1</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>62</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>569</td>
<td>148</td>
<td>125</td>
<td>10</td>
<td>852</td>
<td>60.347(0.000)</td>
</tr>
</tbody>
</table>

Table 4.19 shows the relationship between participants’ year of study and depression using Chi-square. The finding from this test reaffirmed that there was a significant relationship between the respondents’ Year of study and depression (p=0.000).

Figure 4.6: The Mean Plot Showing the Mean DBI as it Affects Respondents in Different Years of Study
Based on the means plot in Figure 4.7, second-year students had the highest likelihood of falling into depression, followed by those in the fourth year, then the first year, the third year, while fifth-year students had the lowest likelihood of falling into depression. The findings imply that a second-year student taking an engineering course in either UON or TUK is likely to register higher depressive symptoms compared to students in other years.

4.2.4.3 Age and Depression

The relationship between age and depression was assessed and the results are as shown in Table 4.23.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>26.552</td>
<td>2.697</td>
</tr>
<tr>
<td>Age</td>
<td>-0.791</td>
<td>0.125</td>
<td>-6.35</td>
</tr>
<tr>
<td>R square</td>
<td>0.045</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F statistics</td>
<td>40.327</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: BDI
The regression results in Table 4.23 indicate that there is a negative and significant relationship between age of the students and depression. This is supported by a coefficient of -0.791 and a p-value of 0.000<0.05 at a 95% confidence interval. The findings imply that the level of depression among the students decreases with respondents’ age. That is, as the students become older, their depressive symptoms decline.

4.2.4.4 Dependents and Depression

From the results, 151 out of the 852 students who responded to the questionnaires in this study reported that they had dependents while 701 had no dependents. Out of 151 who had dependents, 93 had depression (61.5%) while among those who had no dependents 180 out of 701 were depressed (25.7%). This suggests that students who had dependents were more likely to suffer depression compared to those who had no dependents.

<table>
<thead>
<tr>
<th>Dependents</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>F statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>701</td>
<td>8.63</td>
<td>8.011</td>
<td>0.303</td>
<td>4.066</td>
<td>0.000</td>
</tr>
<tr>
<td>Yes</td>
<td>151</td>
<td>13.62</td>
<td>8.609</td>
<td>0.701</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings shown in Table 4.24 show that there is a significant mean difference in depression between students with dependents and those without dependents. This is supported by a p-value of 0.000, which is less than the critical p-value of 0.05 at a 95% confidence interval. Students with dependents had a higher depression mean compared to those without dependents. Based on the results, the implication is that the likelihood of students with dependents falling into depression is significantly higher compared to those without dependents.

4.2.4.5 Monthly Expenditure and Depression
The relationship between the level of expenditure and depression was determined and demonstrated in the Table below.

**Table 4.25: Relationship Between Monthly Expenditure and Depression**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>12.419</td>
<td>0.445</td>
<td>27.91</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>-0.274</td>
<td>0.033</td>
<td>-8.294</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>R square</td>
<td>0.075</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F statistics</td>
<td>68.785</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: BDI

The regression results in Table 4.25 reveal a negative and significant relationship between expenditure and depression. This is supported by a coefficient of -0.274 and a p-value of 0.000 which is less than 0.05 at a 95% confidence interval. These findings imply that the level of depression among the students decreases with an increase in expenditure. A person’s expenditure level points to his or her level of income or ease with which he or she accesses resources to spend. Students with limited access to money for personal use are likely to have low expenditure levels unlike those who can easily access money for personal use. The negative correlation between the BDI scores and the expenditure levels suggests that the more the money a student has for personal use the less likely the student will suffer depression. This may be an indicator of the economic status of the family and it may suggest that the lower the socioeconomic status of a student’s family the more likely the student will suffer depression.

4.2.4.6 Friendship and Depression

**Table 4.26: Relationship between Friendships and Depression**

<table>
<thead>
<tr>
<th>Friendship</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>F statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>21</td>
<td>16.31</td>
<td>4.918</td>
<td>4.752</td>
<td>0.04</td>
</tr>
<tr>
<td>Yes</td>
<td>841</td>
<td>9.37</td>
<td>8.091</td>
<td>0.279</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The findings as shown in Table 4.26 reveal that there is a significant mean difference in depression between students with friends and those without friends. This is supported by a p-value of 0.04 which is less than the critical p-value of 0.05 at a 95% confidence interval. Students with friends had a lower depression mean compared to those with friends. Based on the results, the implication is that students with friends are less likely to fall into depression compared to those without friends. The study found out that the more the friends that the students had, including friends of the opposite sex, the less likely to suffer mild or moderate depression and severe depression or MDD they were. The more sociable a student was the lower his BDI score was. Students who make new friends easily are likely to have more friends than those who have difficulties having new friends. This suggests that friendship is important in managing depressive symptoms.
4.2.4.7 Club Membership and Depression

Table 4.27: Relationship between Club Membership and Depression

<table>
<thead>
<tr>
<th>Club Membership</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>F statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI No</td>
<td>427</td>
<td>11.66</td>
<td>8.916</td>
<td>0.431</td>
<td>98.353</td>
<td>0.000</td>
</tr>
<tr>
<td>BDI Yes</td>
<td>425</td>
<td>7.37</td>
<td>7.095</td>
<td>0.344</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings as shown in Table 4.27 reveal that there was a significant mean difference in depression between club and non-club members. This is supported by a p-value of 0.000, which is less than the critical p-value of 0.05 at a 95% confidence interval. The students belonging to a club had a significantly lower depression mean compared to those with no club. This means that club membership is important in managing depressive symptoms.

4.2.4.8 Leadership and Depression

Table 4.28: Relationship Between Leadership and Depression

<table>
<thead>
<tr>
<th>Leadership</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>F statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI No</td>
<td>788</td>
<td>9.27</td>
<td>8.041</td>
<td>0.286</td>
<td>12.515</td>
<td>0.021</td>
</tr>
<tr>
<td>BDI Yes</td>
<td>64</td>
<td>12.58</td>
<td>10.974</td>
<td>1.372</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As indicated on Table 4.25, the results revealed that there is a significant mean difference in depression between students in leadership and those not in leadership. This is supported by a p-value of 0.021, which is less than the critical p-value of 0.05 at a 95% confidence interval. Based on the findings, students in a leadership position had a significantly higher depression mean compared to those not in leadership. This means that students who are in leadership are at a higher risk of getting depressed compared to those who are not in leadership and therefore leadership is an important contributor to depression among university students.

4.2.4.9 Place of Residence and Depression

The relationship between place of residence and depression was established.
The means of BDI scores for students residing in different places were plotted in Figure 4.7. Based on the mean plots, students living in hostels have a high likelihood of falling into depression, followed by others, then self while those staying with parents are less likely to fall into depression.

**Table 4.29: Relationship Between Place of Residence and Depression**

<table>
<thead>
<tr>
<th>Place of Residence</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>954.167</td>
<td>3</td>
<td>318.056</td>
<td>4.441</td>
<td>0.004</td>
</tr>
<tr>
<td>Within Groups</td>
<td>30654.8</td>
<td>428</td>
<td>71.623</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31609</td>
<td>431</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANOVA results in Table 4.29 also demonstrate the relationship between place of residence and depression. The findings reveal that there was a significant relationship between depression levels among the students and their place of residence. This is shown by a p-value of 0.004, which is less than the critical p-value of 0.05 at a 95% confidence interval.

*Figure 4.7: Means Plots*

The means of BDI scores for students residing in different places were plotted in Figure 4.7. Based on the mean plots, students living in hostels have a high likelihood of falling into depression, followed by others, then self while those staying with parents are less likely to fall into depression.
Table 4.30: Factors Ranking Based on Beta Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>20.315</td>
<td>5.815</td>
<td>3.493</td>
<td>0.001</td>
</tr>
<tr>
<td>Dependents</td>
<td>4.281</td>
<td>1.009</td>
<td>4.242</td>
<td>0.001</td>
</tr>
<tr>
<td>Leadership</td>
<td>2.37</td>
<td>1.358</td>
<td>1.746</td>
<td>0.082</td>
</tr>
<tr>
<td>Gender</td>
<td>0.401</td>
<td>1.019</td>
<td>0.394</td>
<td>0.694</td>
</tr>
<tr>
<td>Friendship</td>
<td>-3.322</td>
<td>4.169</td>
<td>-0.797</td>
<td>0.426</td>
</tr>
<tr>
<td>Club Membership</td>
<td>-2.175</td>
<td>0.862</td>
<td>-2.523</td>
<td>0.012</td>
</tr>
<tr>
<td>year</td>
<td>-0.55</td>
<td>0.542</td>
<td>-1.016</td>
<td>0.31</td>
</tr>
<tr>
<td>Residence</td>
<td>-0.282</td>
<td>0.47</td>
<td>-0.601</td>
<td>0.548</td>
</tr>
<tr>
<td>Expenditure</td>
<td>-0.274</td>
<td>0.099</td>
<td>-2.757</td>
<td>0.006</td>
</tr>
<tr>
<td>Age</td>
<td>-0.253</td>
<td>0.187</td>
<td>-1.352</td>
<td>0.177</td>
</tr>
</tbody>
</table>

a Dependent Variable: BDI

Table 4.30 results indicate that the dependents factor has the greatest direct influence on elevated levels of depression among students, followed by leadership and then gender. This means that students who have dependents are more likely to fall into depression, followed by those in leadership. On the other hand, results indicate that friendship ranks highest among factors that reduce depression in students, followed by the club membership, year of study, residence, expenditure, and lastly age. This implies that friendship is a significant contributor to reduced depression among students.
4.2.4.9 Correlation Results

**Table 4.31: Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>BDI</th>
<th>Gender</th>
<th>year</th>
<th>Age</th>
<th>Dependent</th>
<th>Expen</th>
<th>Club Membership</th>
<th>Lea</th>
<th>dership</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BDI</strong> Pearson Correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender Pearson Correlation</td>
<td>0.055</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.106</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Pearson Correlation</td>
<td>-.165**</td>
<td>.103*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>615</td>
<td>615</td>
<td>615</td>
<td></td>
<td>615</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Pearson Correlation</td>
<td>-.213**</td>
<td>-0.017</td>
<td>*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.622</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent Pearson Correlation</td>
<td>.228**</td>
<td>0.055</td>
<td>0.005</td>
<td>0.063</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.107</td>
<td>0.896</td>
<td>0.068</td>
<td>0.068</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenditure Pearson Correlation</td>
<td>-.274**</td>
<td>0.058</td>
<td>0.043</td>
<td></td>
<td></td>
<td>137*</td>
<td>.193*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.093</td>
<td>0.288</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership Pearson Correlation</td>
<td>-.158**</td>
<td>0.034</td>
<td>0.018</td>
<td>0.033</td>
<td>0.056</td>
<td>7</td>
<td>1</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.316</td>
<td>0.651</td>
<td>0.339</td>
<td>0.103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club Membership Pearson Correlation</td>
<td>-.257**</td>
<td>0.018</td>
<td>0.071</td>
<td>0.026</td>
<td>*</td>
<td></td>
<td>**</td>
<td>.093**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.599</td>
<td>0.079</td>
<td>0.445</td>
<td>0</td>
<td>0</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership Pearson Correlation</td>
<td>.159*</td>
<td>.152</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.002</td>
<td>0.737</td>
<td>0.027</td>
<td>0.976</td>
<td>0</td>
<td>0</td>
<td>0.177</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td>852</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

The correlation results in Table 4.28 indicated that there was a positive but insignificant relationship between gender and depression among university students (r=0.055, p=0.106). This implied that gender (male or female) is not a significant
factor in determining depression among the students. The results also indicated a negative and significant relationship between year of study and depression among university students ($r = -0.165, p=0.000$). This implied that an increase in the year of study is associated with a decrease in depression among engineering students. Further, results showed that there was a negative and significant relationship between age and depression among university students ($r = -0.213, p=0.000$). This implied that an increase in age is associated with a decrease in depression among engineering students. The results further indicated a positive and significant relationship between dependents and depression among university students ($r = 0.228, p=0.000$). This implied that having dependents is a significant factor in determining depression among engineering students.

The findings also revealed a negative and significant relationship between expenditure and depression among university students ($r = -0.274, p=0.000$). This implied that an increase in expenditure is associated with a decrease in depression among engineering students. In addition, results indicated a negative and significant relationship between friendship and depression among university students ($r = -0.158, p=0.000$). This implied that having more friends is associated with a decrease in depression among engineering students.

The findings further revealed a negative and significant relationship between club membership and depression among university students ($r = -0.257, p=0.000$). This implied that belonging to a club is associated with a decrease in depression among engineering students. Finally, the study findings indicated a positive and significant relationship between leadership and depression among university students ($r = 0.105, p=0.002$). This implied that being in leadership is associated with increased depression among engineering students.
4.2.5 Effectiveness of Social Skills Training as an Intervention for Depression

The third objective of the study was to evaluate the effectiveness of social skills training as an intervention for depression among the students. To achieve this objective, the researcher conducted independent t-tests at three stages: baseline, midline, and endline to compare the depression levels between the control and experimental group. The participants were assessed for depression at three different stages; baseline, midline, and endline. These assessments were done at an interval of three months.

4.2.5.1 Baseline Data

The BDI was used to assess depression levels for both the experimental (UON) and the control (TUK) group and the results for the two groups were compared. The data obtained was plotted in a line graph as shown in Figure 4.8.

![Figure 4.8: Line Graphs Using Baseline Data](image-url)
It can be observed that the two-line graphs are close to each other and overlapping in some parts. This suggests that the BDI scores for the experimental and the control groups were not different. However, an independent t test was done to assess whether there was any significant difference in BDI scores for the two sets of data. Table 4.29 shows the results of the t test.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>F statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>UON</td>
<td>136</td>
<td>19.31</td>
<td>2.983</td>
<td>0.256</td>
<td>1.082</td>
</tr>
<tr>
<td></td>
<td>TUK</td>
<td>137</td>
<td>18.97</td>
<td>3.171</td>
<td>0.271</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.32 shows that there were 136 students with a mean BDI score of 19.31 for the experimental group. The control group had 137 participants who had a BDI score of 18.97. Although the two means differ slightly, the t-test results show that there was no significant mean difference in the distribution of depression levels between experimental and control groups at baseline. This is shown by a p-value of 0.365, which is greater than 0.05 at a 95% confidence interval. This means that there is no significant difference in the distribution of depression at baseline across the research groups; experimental and control groups.

Subsequent assessment at baseline, the experimental group was offered the SST intervention. The SST involved training participants in various techniques that would enable them to communicate and interact with others effectively. These techniques were divided into intrapersonal and interpersonal. Intrapersonal skills included self-awareness and self-esteem while interpersonal skills included interpersonal relationships and assertiveness. These were trained through instructions, role-playing, group discussions, case studies, and feedback. Three months after SST intervention was administered, midline assessment was done for both experimental and control groups and the results were again compared for the two groups.
4.2.5.2 Midline Data

The BDI scores for the experimental and the control group were compared and plotted in a line graph as shown in Figure 4.10.

![Line graphs Using Midline Data](image)

**Figure 4.9: Line graphs Using Midline Data**

Figure 4.9 shows line graphs using midline data. It can be observed that the line graph for UON is lower than that of TUK. This suggests that the BDI scores for the experimental group had reduced within the three months and were now lower than for the control group. An independent t test was then done to test the significance of the difference in BDI scores between the two sets of data. The results were as shown in Table 4.33.

<table>
<thead>
<tr>
<th>Table 4.33: Independent T test at Midline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>BDI</td>
</tr>
<tr>
<td>Control</td>
</tr>
<tr>
<td>Experimental</td>
</tr>
</tbody>
</table>

The results in Table 4.30 indicate that there were 136 participants in the experimental group whose BDI means had gone down from 19.31 at baseline to 16.56 at the midline. The control group consisted of 133 participants whose BDI mean had
gone slightly higher from 18.97 at baseline to 19.01 at the midline. This suggests that the means for the two sets of data were different. The t-test implies that there was a significant mean difference in depression levels between experimental and control groups. This is shown by a p-value of 0.000, which is less than 0.05 at a 95% confidence interval. The experimental group (UON) has a significantly lower depression mean compared to the control group (TUK). From the findings, the implication is that the SST intervention was effective in reducing depression. After three more months, the endline assessment was done in which the BDI was used to assess the levels of depression, and the results were again compared for the experimental and the control groups.

4.2.5.3 Endline Data

Figure 4.10 shows line graphs using endline data. It can be observed that the line graph for UON is much lower than that of TUK. This suggests that the depression level of the experimental group remained lower compared to that of the control group.

![Figure 4.10: Line Graphs using Endline Data](image-url)
A t test done to assess the significance of the difference between the means of the two sets of data gave the results as indicated in Table 4.34.

**Table 4.34: Independent T-test at Endline**

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>F statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>133</td>
<td>19.27</td>
<td>2.733</td>
<td>0.237</td>
<td>11.103</td>
<td>0.000</td>
</tr>
<tr>
<td>Experimental</td>
<td>127</td>
<td>15.07</td>
<td>2.233</td>
<td>0.198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results in Table 4.34 indicate that there were 127 participants in the experimental group with a BDI mean score of 15.7 which is lower than the midline score of 16.56. In the control group, there were 133 participants with a mean BDI score of 19.27 which is slightly higher than the midline score of 19.01. From table 4.25 above, the t-test done found out that there was a significant means difference in depression levels between experimental and control groups. This is shown by a p-value of 0.000, which is less than 0.05 at a 95% confidence interval. The experimental group (UON) has a significantly lower depression mean compared to the control group (TUK). The outcome suggests that the SST intervention was even more effective in reducing depression among the experimental group at the endline than at midline.

**Table 4.35: One-way ANOVA**

<table>
<thead>
<tr>
<th>Period</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1223.88</td>
<td>2</td>
<td>611.938</td>
<td>84.232</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2876.92</td>
<td>396</td>
<td>7.265</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4100.8</td>
<td>398</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.32 shows a one-way ANOVA test which revealed that there was a significant mean difference in depression levels among the students based on the data collection period. This was shown by a p-value of 0.000, which was less than the critical p-value of 0.05 at a 95% confidence interval. Based on the mean plots above, the level of students’ depression decreased as one moves from baseline through the midline to the endline. This implied that at the endline, the level of depression among
engineering students at the University of Nairobi (experimental group) was significantly lower compared to the other two periods, that is, baseline and midline. The findings further support the effectiveness of social skills training intervention in lowering depression among the students.

![Graph showing means plots](image)

**Figure 4.11: Means Plots**

A mean plot shown in figure 4.12 showed that the level of students’ depression decreased as one moves from baseline through the midline to the endline. This implied that at the endline, the level of depression among engineering students at the University of Nairobi (experimental group) was significantly lower compared to the other two assessments; that is, baseline and midline. The findings further support the effectiveness of social skills training intervention in lowering depression among the students.

**Table 4.36: Post Hoc Test Results**

<table>
<thead>
<tr>
<th>(I) groups</th>
<th>(J) groups</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Midline</td>
<td>2.750*</td>
<td>0.327</td>
<td>0</td>
<td>2.11</td>
</tr>
<tr>
<td>Endline</td>
<td>Baseline</td>
<td>4.238*</td>
<td>0.333</td>
<td>0</td>
<td>3.58</td>
</tr>
<tr>
<td>Midline</td>
<td>Baseline</td>
<td>-2.750*</td>
<td>0.327</td>
<td>0</td>
<td>-3.39</td>
</tr>
</tbody>
</table>
From the post hoc test results in Table 4.33, the BDI levels for the experimental group dropped more at the endline compared to the midline. Based on the findings, the BDI of the students dropped 1.488 more at the endline than at midline. This affirms that the social skills intervention was more effective at the endline than at midline.

Table 4.37: Independent T test between Gender and Depression

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midline</td>
<td>Female</td>
<td>42</td>
<td>15.98</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>94</td>
<td>16.82</td>
</tr>
<tr>
<td>Endline</td>
<td>Female</td>
<td>41</td>
<td>14.88</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>86</td>
<td>15.16</td>
</tr>
</tbody>
</table>

Findings in Table 4.34 indicate that there was no significant mean difference in depression level between males and females at both midline and endline. This was supported by the p values of 0.103 and 0.504, which are greater than the critical p-value of 0.05. Based on the results, the drop in BDI between male and female students was more or less the same both at midline and endline.

4.3 Summary of Key Findings

The results of this study have been presented, analyzed and interpreted out of which quite a lot of salient findings emerged. The following were the highlights.

Regarding the prevalence of depression among students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya, the result showed that the prevalence of depression among UoN students studying engineering degree was 33.5%. Similarly, the prevalence of depression among the
TUK students studying engineering degree was 32.9%. The overall prevalence of depression among the general population who responded to the study was 33%.

This study found out that depression was slightly higher among female respondents compared to male participants. However, the difference was insignificant (p=0.119). Also, the finding from this study implies that a second-year student taking an engineering course in either UON or TUK is likely to present higher depressive symptoms compared to students in other years. A significant relationship was found between year of study in the university and depression (p=0.0001). In addition, this study found a significant negative coefficient relationship between age and depression -0.791 (p=0.0001). This can be interpreted to mean that the level of depression among the students decreases with age. That is, as the students become older, their depressive symptoms decline. Moreover, the result from the study shows that the likelihood of students with dependents having depression is significantly higher compared to those without dependent (p=0.0001). Another factor related to depression among the participants was on finance and expenditure. The results show a negative significant coefficient of -0.274 and a p-value of 0.000 which implies that the level of depression among the students decreases with an increase in expenditure. Further finding shows that Students with friends had a lower depression mean compared to those with friends (p=0.04). Similarly, it was found that students belonging to a club had a significantly lower depression mean compared to those with no club (p=0.0001). Interestingly, this study found that students who are in leadership role are at a higher risk of getting depressed compared to those who are not in leadership role (p=0.021). Another factor found to be significant of depression is place of residence (p=0.004). It was found that students living in hostels have a high likelihood of falling into depression compared to other form of residence.
Concerning the effectiveness of social skills training SST as an intervention for depression among the participants, the finding from this study implies that the experimental group (UON) has a significantly lower depression mean compared to the control group (TUK). The outcome suggests that the SST intervention was effective in reducing depression among the experimental group (p=0.0001). This shows that SST intervention was effective to reduce depression symptoms among the university students.

4.4 Summary

This chapter has presented the data that was collected at the three stages of the study, baseline, midline, and endline. It has also presented the data after it was analyzed, and the presentation was done in form of figures, tables, and charts. An explanation has also been given on the meaning of the data. The chapter has also demonstrated how the data was used to meet the three study objectives.
CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter reports summary of the major findings, discussions, conclusions, and recommendations based on the findings. The main aim of this study was to determine the effectiveness of social skills training as an intervention in reducing depression among students at the UON and at the TU-K. The specific objectives were to determine the current prevalence of depression among students studying engineering degree courses at the UON and the TU-K; to establish the factors related to depression among university students, and to evaluate the effectiveness of social skills training as an intervention for depression among the students.

5.2 Discussions of Key Findings

5.2.1 Prevalence of Depression among University Students

In the first objective, the study sought to determine the prevalence of depression among students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya. In this study, Beck’s Depression Inventory (BDI) was used to measure the levels of depression among university students. Although this instrument is not designed for diagnostic purposes, it has been recommended for use in detecting depressive disorders in nonclinical populations (Ganesh, Animesh, & Supriya, 2012).

The result from this study shows that the overall prevalence of depression among the participants from both UON and TUK studying engineering degree courses was 33%. Conversely, these 33% of university students with more severe depression were presenting with different severity of depression ranging from mild, moderate, and severe depression. Specifically, the proportion of depression was slightly higher...
at UON (33.5%) compared to TUK (32.9%). The statistical test shows that there was no significant difference in the distribution of depression among the two institutions. Both UON and TUK are public universities in Kenya, situated within Nairobi city. It was therefore expected that the students experience similar challenges that are likely to dispose of them to depression.

The result from this study aligns with the prevalence study on depression among Iranian university students where Sarokhani et al. (2013) reported that the prevalence of depression among university students was 33%. It is also consistent with another study that observed a depression prevalence of 33% among university students (Ibrahim et al., 2013). However, a previous study on depression prevalence among University Students in Kenya reported a prevalence of 41.3% which was slightly higher than the observation made in the current study (Othieno et al., 2014). This difference could be due to the universities' increased efforts in putting up measures to intervene for depression and other psychological problems among the students. Examples of such measures that have been put in place in the last five years include peer counseling, student counselors in every campus, and sensitization programs to sensitize students on various psychological issues. All these measures are aimed at intervening for various psychological issues including depression.

Other studies have observed different prevalence rates of depression among university students. In a study entitled “Depression among Students of a Professional Degree: Case of Undergraduate Medical and Engineering Students”, Fatimah et al. (2016) found out that 19.29% of the students were clinically depressed. The study was carried out among Pakistan university students. Another study among Chinese students Lei et al. (2016) found out that the overall depression prevalence among university students was 23.8%. The study was entitled “Prevalence of Depression
among Chinese University Students: A Meta-Analysis” study. In all these studies which were from different parts of the world, depression prevalence among university students was found to range between 19% and 42%. The current study found out that depression prevalence among Kenyan university students was 33% which is within the range of the findings of the other studies on depression among university students.

The current study also revealed that the most common type of depression was mild depression in both universities (17.4%), followed by moderate depression (14.7%) then severe depression (1.1%). This is consistent with another study on depression which observed that mild depression was the most common (26.4%), followed by moderate depression (18.8%) and then severe depression (Ruth, Shim, Baltrus, Jiali, & Rust, 2011). However, in a study among university students in Mangalore city India, it was observed that moderate depression was the most common with a prevalence of 41.2%. This was followed by mild depression with a prevalence of 26.6% and severe depression with a prevalence of 11.4% (Naushad et al, 2014).

Consistent with other studies such as Othieno et al. (2014), the current study observed that mild and moderate depression symptoms were more common than severe depression (p=0.004). According to Marcus et al. (2012), an individual who is experiencing mild or moderate depression would have difficulties in performing daily activities such as work and social activities but would not cease to function completely. However, a person experiencing severe depression may abandon their daily responsibilities both social and work-related thereby ceasing to function in their social environment (American College Health Association, 2019). This means that if effective intervention for depression is applied at the stage of mild or moderate depression, the condition can be prevented from getting to severe depression where the individual may cease to function. By applying effective intervention, the condition
can be prevented from getting pathological and therefore the need to identify an effective intervention.

According to WHO, the prevalence of depression among the general population was estimated to be only 4.4% (WHO, 2017). This suggests that university students are between seven and eight times more likely to suffer depression than the general Kenyan population. The difference between depression prevalence among university students and the depression prevalence across the general population should move policymakers, as well as the academia, to consider the best approaches of dealing with the depression challenges among the university students. The markedly high depression prevalence among the university students supports the widespread calls for establishing and expanding counseling and mental health resources for university students and other young people in general via enhanced counseling resources in the relevant university departments (Kumaraswamy, 2013).

According to the current study, the prevalence of depression had no significant difference between male and female students in both universities. The likelihood of male and female students falling into depression was more or less the same. This is because both male and female students experience similar life challenges in the campus. This is similar to findings of another study that was done among university students in Kenya which found out that a male student had similar chances of falling into depression with a female student (Othieno et al., 2014). The results of the current study are also consistent with those of another study done among Iranian students which observed that there were no differences in depression among genders (Sarokhani et al, 2013). However, some studies have observed different results in relation to gender. In a study among university students in India, it was noted that the prevalence of depression was slightly higher among males compared to females.
(Naushad et al., 2014). This difference was attributed to coping styles or hormonal differences, where they asserted that females had better-coping styles than males. The study also revealed that among Indian students, male students can often develop anxiety arising from the need for timely employment to enable them to take up various responsibilities as society demands. Kenyan University students who graduate in engineering degrees have equal chances for employment regardless of their gender and therefore employability factor was not applicable in this study.

The current study observed that depression prevalence was highest among second-year students and lowest amongst fifth-year students. Some other studies have reported different findings where it was observed that depression was more prevalent among students who were in their first years of study compared to those in other years (Eisenberg et al., 2007). In the current study, it was noted that the first-year students were still adjusting to the university environment with high expectations of the future given that these are the students who were always top in their secondary schools. However, in their second year, they realize that things were more difficult than they thought. The first-year exams in the school of Engineering at the University of Nairobi are usually released in the first semester of the second year. The students realize that they are no longer the top in their classes. Those who do not pass all exams are either referred to repeat various units or discontinued from proceeding to the next year of study. This can cause stress which may later lead to depression. The fifth-year is where the lowest depression prevalence was observed. This could be due to the realization that the students have gone through the other four years successfully and now they are looking forward to completing their courses successfully and adopt the coveted title ‘Engineer’ which is quite exciting to the students.
5.2.2 Factors Related to Depression among University Students

In the second objective, the study sought to establish the factors related to depression among university students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya. This study found out that several factors are associated with depression among university students. Some of these factors have a positive correlation with depression while others have a negative correlation.

5.2.2.1 Factors that had Positive Correlation with Depression

These are the factors which as they increased the levels of depression also increased. They included having dependents and gender. However, the correlation between gender and depression was not significant. This could be because both male and female students go through similar challenges on campus. The factor that ranked the highest in this category was the dependents factor. Students were asked to state whether they had any dependents and who the dependents were. Majority of those who confessed to having dependents were taking care of their children with a few taking care of their parents or siblings. Students with dependents face unique challenges associated with caregiving. Caregiving involves assisting another individual in their daily activities and providing emotional and financial support (Penning & Zheng, 2016). Among the challenges that students’ caregivers experience includes the need to get accommodation in spacious houses and employ caregivers to take care of their dependents when the students are attending classes. This is not always possible because most of these students also experience financial challenges. The caregiving demands may also lead to failure to cope with the workload and academic stress and these may negatively affect the academic progress of the student. The result is that the students get stressed to a point that they can no longer cope.
resulting in their dropping out of college or suspending their studies to a more convenient time. Whatever choice the student opts for, it may lead to depression.

These findings are consistent with those of another study that investigated the impact of caregiving on the physical, psychological, and professional aspects of the caregivers. In the study, it was observed that university students who were caregivers experienced challenges as a result of which they often neglected their education, putting education on hold or dropping out entirely, which can impact their future career (Irfan, Irfan, Ansari, Qidwai, & Nanji, 2017). The current study’s observations were also consistent with another study that was done in the United States of America (Talley & Montgomery, 2013). The study observed that there were various challenging elements associated with offering care to others which can be overwhelming and can pre-dispose the caregivers to depression. The toughest of the challenges include caregiver burnout, lack of personal privacy, sleep deprivation, and overwhelming tasks. When young people are caring for others, there is a high chance that the caregiver’s stress can lead to burning out affecting caregivers’ mental stability, relationships, and health adversely (Penning & Zheng, 2016). When the caregiver experiences burnout, he or she becomes inefficient in executing his or her caregiving roles. He or she also becomes ineffective in caring for himself or herself. The burnout comes from the many stressors that define giving of care (Talley & Montgomery, 2013).

When a student caregiver is stressed and does not access the requisite emotional and physical support, the stress makes him or her susceptible to an assortment of problems such as burnout, anxiety, as well as depression. The caregiver suffers reduced energy levels, compromised immunity, disrupted sleep patterns, reduced job satisfaction, and reduced patience (Talley & Montgomery, 2013). Similar
observations were made by Reed, Clarke, and Macfarlane (2012) in their study on caregivers.

To assist university students who are caregivers, the universities can encourage and facilitate registration of the caregivers in various support groups which can act as avenues in which caregivers share their concerns and get encouraged by learning that others are facing similar challenges.

5.2.2.2 Factors that had a Negative Correlation with Depression

These are factors which as they increased depression decreased. They included leadership, friendship, club membership, expenditure, and age. Leadership was one of the factors that had a negative correlation with depression. It was observed that students in leadership were less likely to fall into depression compared to those who were not in leadership. At the universities, student leaders are nominated and elected by the students themselves. In most cases, students who are elected are those who demonstrate maturity and ability to handle responsibilities. Elections follow a campaign period in which the aspiring leaders explain to the other students their ability to handle responsibilities. Most of the students who are elected to leadership have a history of leadership in their secondary schools and good academic performance. Once elected into leadership, this acts as a training ground for future leadership. Indeed, most of the student leaders become political leaders in the country once they leave college. These findings correspond to those of a study among Ghana university students which observed that being in leadership at the university enhances a student’s leadership capacity and did not show any negative impact of leadership on the academic performance or psychological wellbeing (Ahiatrogah & Koomson, 2009).
Friendship ranked the highest among factors that reduce depression in students. The study found out that the more the friends that the students had, including friends of the opposite sex, the less likely to suffer depression. This suggested that friendship between students is a significant contributor to reduced depression. These results are consistent with other studies on depression among university students (Ibrahim et al., 2013; Othieno et al., 2014). Students who quickly make new friends would have more friends than those who have trouble making new friends. These students exhibit a strong sense of social relations. Those who lack the sense of social interaction will feel helpless and lonely. It has been noted that loneliness and hopelessness are some of the leading predictors of depression and that a student’s social connectedness in the multicultural university context has a marked buffering effect on depression (Furr et al., 2001).

University students are at a transition stage from adolescence to early adulthood, the stage at which they explore their identity and shape their social characteristics. At this stage of development, friends are very important as a source of social support because friendship makes the students feel appreciated and a sense of social connectedness. Studies have shown that social support is important in promoting mental health and reducing stress, while a lack of social support may result in depression among university students (Bukhari & Afzal, 2017).

Erik Erikson, a psychologist of the 20th century, developed a psychosocial theory for human development which he divided into eight stages. As people go through these stages, Erikson claimed that they had learned skills that would help them excel in the future. If they had difficulty attaining those abilities, however, they may be struggling. According to Erikson, the majority of university graduate students are in the sixth stage of development which he also referred to as young adulthood.
The sixth stage that Erikson called 'intimacy vs. loneliness' has to do with the stage in our lives where we start to develop positive, intimate relationships with others and it's the period between 18-40 years. According to Erikson, performance at this point means having safe, satisfying relationships while failure means experiencing solitude or isolation. He described intimacy as any kind of romantic relationship that involves sharing with others, and that can help establish deep personal connections. Erikson claimed this is the time that people would build lasting relationships, satisfying relationships with those that are not family members.

Isolation, on the other hand, is an effort by a person to escape intimacy due to fear of commitment or reluctance in openly opening up to others. Isolation may keep anyone from developing healthy relationships. Isolation can make us feel sad, and that can lead to depression. All these reasons are due to the crucial role played by friendship during this transitional period.

Club membership was another factor that was associated with depression. The study established that students who were members of clubs were less likely to suffer depression than their colleagues who did not belong to any club. Club membership is an indicator of social connectedness since it is in these clubs that the students can interact and make more friends. These findings are consistent with a study that aimed to determine the role played by social connectedness in the prevention of mental and behavioral disorders, which demonstrated that social connectedness significantly reduced the levels of depression and hopelessness (Rossi, Stratta, & Capanna, 2012). The findings were also consistent with another study by Eisenberger & Cole (2012) who observed that social connection may reduce depressive symptoms by modifying the function and connection of neural pathways that are involved in the control of negative emotions and stress.
Social connectedness has been defined as the person’s subjective awareness of being in close relationship with the social world, an attribute of the self in which the person perceives himself as being in a lasting interpersonal relationship with the social world (Rossi et al., 2012). A socially connected person can connect with other people and team up with them in various social activities such as those performed by various club members in universities. Social connectedness satisfies the need for belongingness in a social environment. Failure to meet this need may lead to frustration and isolation which can in turn predispose somebody to depression.

The Year of education was another factor that correlated with depression. This study found out that there was a significant difference in depression levels among the students in different years of study. Accordingly, second-year students had the highest likelihood of falling into depression. While the current study observed no trends in the relationship between the year of study and depression levels, some other studies which have reported similar findings have also reported different trends. In their study of depression among university students, Naushad et al. (2014) noted that levels of depression increased with an increase in the year of study. Another study observed that levels of depression decreased as the students advanced in their year of study (Hysenbegasi et al., 2005).

The current study observed very high levels of depression among second-year students compared to those in the other years of study. It was noted that Engineering students in the experimental group (UON) usually received their examination results after each academic year before they proceed to the next year of study. At the beginning year of the second year of study, the students received their results in which some of them had passed all units and they were allowed to proceed to the next academic year. Those who failed in three units or less were allowed to do
supplementary exams as they continued with their second year while those who failed more than three units were supposed to repeat the whole academic year. Having come from secondary school where students started form one together and they completed secondary education together, separation into different categories after only one year at university could be a major cause of stress leading to depression. This suggests the need for counseling services to be focused more on the students at the beginning of their second year of study and more so before the release of their first-year examination results.

Place of residence was another factor that had a negative correlation with depression. The findings reveal that there was a significant difference in depression levels among the students based on their place of residence. Based on the results, students living in hostels have a high likelihood of falling into depression, followed by others, then self while those staying with parents are less likely to fall into depression. Joining the university provides an opportunity for most of the students to start living an independent life. It could be their first time in their lives for those living in university hostels to live alone without any constraints on their sleep patterns, the food they want to consume, and how much time they spend on things such as video games or social media. They also adjust to new routines and workloads, adjust to living with roommates, and find out how to contribute to them. Money and personal relationships may also serve as essential sources of stress. These adjustments can be difficult to cope with and can predispose them to depression (Heckman et al., 2014).

For the students who reside with their parents, they continue depending on their parents for their transport, food, housing, and even accommodation. This gives them a sense of security and as such, they have fewer things to worry about compared to those who live independently. These findings are consistent with those of another
study done among Pakistan university students which revealed that students who reside at home have the support of their parents and siblings while those who live in hostels have to deal with their problems individually (Iftikhar & Ajmal, 2015).

Monthly expenditure was another factor that had a negative and significant correlation with depression. The study observed that there was a significant negative correlation between monthly expenditure and levels of depression, and this implied that the level of depression among the students decreased with an increase in expenditure. Expenditure levels give pointers to the students’ level of income or ease with which he or she accesses resources to spend. Students with limited access to money for personal use are likely to have low expenditure levels unlike those who access money for personal use easily. This was consistent with another study on depression among UK undergraduate students which observed that the risk of depression was higher in students from lower socioeconomic backgrounds compared to those from higher socioeconomic backgrounds (Ibrahim et al., 2013).

Findings of the current study were also consistent with another study from twenty-three countries on different continents which observed that poorer socioeconomic background and a low sense of control were associated with depressive symptoms within each country (Steptoe, Ardle, & Tsuda, 2007). The study was also consistent with a study among students of the University of Michigan who observed that students reporting current financial struggles were more likely to screen positive for depression than those who had no financial struggles (Eisenberg et al., 2007).

According to a study conducted by Tracy, Zimmerman, and Galea, (2008), there is a close relationship between depression and family socioeconomic statuses, whereby members from low-income families were more likely to suffer depression than those from high-income families. The present study suggests that family
socioeconomic statuses are likely to be closely related to depression among family members, including members studying at the university. In their study on depression among university students, Eisenberg et al. (2007) made similar findings and they reported that the students who grew up in poor families were more likely to get depressed than those who grew up in well-up families. Transiting from high school to university presents several challenges to the students. While it marks the beginning of an independent life free from supervision by teachers and parents, it also means leaving a familiar environment of friends and relatives. Together with these, the university student is faced with many financial challenges including food and clothing (Ibrahim et al., 2013).

While in secondary students are unified by dressing in uniform and eating the same food in the dining hall, in university each student dresses and eats what he or she can afford. Monthly expenditure for each student is dictated by the economic background of the students since most undergraduate students are not in any form of employment. Students from high-income backgrounds can afford high monthly expenditure but not so for those from low-income backgrounds (Iftikhar & Ajmal, 2015). Students from low-income backgrounds are disadvantaged as they watch their peers eat and dress in a manner that they cannot afford. This disparity can predispose students from poor backgrounds to depression.

The study also observed that there was a negative and significant relationship between age and depression where the findings showed that the level of depression among the students decreased with age. This meant that younger students had a higher risk of getting depression compared to the older ones. Findings of the current study were consistent with a study among American University students which observed that older students reported lower levels of depression compared to the younger
students (Eisenberg et al., 2007). However, these findings differ from those of another study done among Malaysian university students which observed that there was no relationship between depression and age (Dawood, Mitsu, Ghadeer, & Alrabodh, 2017).

In another study among Mangalore city university students in India, it was found that the prevalence and frequency of depression increased significantly with the participants’ age (Naushad et al., 2014). In the current study, some students were as young as eighteen years old meaning that they were still in their teenage years. Others were nineteen years old and therefore were just transiting from teenage to adulthood. This transition could be a main cause of stress and therefore depression. At the same time, the younger students were still settling in the university environment and were shy to interact with people whom they were not familiar with and therefore they had few friends. However, as the students grew older, they get more familiar with the university environment and they start making more new friends who act as social support thereby cushioning the students from depression symptoms. Cultural differences could also explain the differences observed between Kenyan students and those from India and Malaysia.

5.2.3 Effectiveness of SST as an Intervention for Depression

In the third objective, the study sought to evaluate the effectiveness of social skills training as an intervention for depression among the students. The results showed that SST intervention has been successful in reducing student depression. The study revealed that the students who went through the SST intervention were found to have a significant reduction of depression levels compared to those who did not go through the intervention. This was indicated by the mean differences between the two
groups which were insignificant at baseline (P=0.365), significant at midline (P=0.000) and significant at endline (P=0.000).

SST is a form of psychotherapy used to help individuals develop their social skills so they can become socially competent. It is a type of behavioral therapy that teachers, therapists, and trainers use to support individuals with problems related to others. SST can be targeted to combat depression through assertiveness which is one of the qualities that helps anxious individuals learn to set boundaries for others, meeting their own needs, and becoming more comfortable about social interactions. Evidence indicates that patients who are distressed because they continue to withdraw from others will benefit from training in social skills by learning to improve meaningful social connections with others rather than withdrawing (Bellack & Hersen, 1979).

According to Dam-Baggen and Kraaimaat (2000), humans are often referred to as social beings who spend most of their lives interacting with others. The nature and quality of those interactions have a great impact on behavior and mood. Faulty interpersonal relationship patterns have been associated with many psychological dysfunctions including depression (Seo, Ahn, Byun, & Kim, 2007). Analyses of failures in interpersonal relationships have viewed them as consequences or by-products of other difficulties such as anxiety and depression. It is therefore expected that interpersonal relationships would improve when such psychological problems are addressed. In the current study, different social skills were applied to mitigate depression.

One of the social skills that were applied as an intervention for depression in this study was interpersonal relationships. An interpersonal relationship is an association between two or more people that may endure for a long time. Good
interpersonal relationships enable people to communicate effectively and connect with others in a social environment. According to Erozkan (2009), people who are socially connected feel secure since they offer social support to each other. A person in such an environment is less likely to get depressed. Poor interpersonal relationships can both cause and are caused by depression. A person with poor interpersonal relations is not able to form social connections with others and as a result, the individual can get isolated and this may result in depression. On the other hand, a person who is depressed usually harbors negative feelings and attitudes that may prevent him from interacting with others and this may result in the individual getting isolated (Imamoglu & Aydin, 2009).

In the current study reduction in depression after the students were trained in interpersonal relationships can be attributed to the students developing socially and emotionally. This result was consistent with results from another study on depression among students in which it was found that positive peer relationships form the basis of motivation in the students’ academic and non-academic progress. Many of the benefits associated with successful interpersonal relationships have been described as a buffer against stress and risk, instrumental assistance for tasks, regular emotional support, co-operation in joint activities, and a foundation for social and emotional growth (Martin, Marsh, McInerney, Green, & Dowson, 2007).

Another social skill that was trained in this study as an intervention for depression was self-esteem. Self-esteem refers to a person's beliefs about their worth and value. Self-esteem is a belief rather than a fact and beliefs are based on the experiences that one has gone through. It also has to do with the feelings that follow from a person’s sense of worthiness or unworthiness and it influences people's choices and decisions (Andrews, 1999). A person who values himself highly has high self-
esteem and can therefore undertake challenging tasks. On the other hand, a person who attaches a low value to himself has low self-esteem and he shies off from undertaking challenging tasks. According to Brown, Bifulco, and Andrews (2009), people with high self-esteem feel good about themselves and life, which makes them even more optimistic and better able to deal with the ups and downs of life. People with weak self-esteem are also even more self-critical. They find it more challenging to come back from difficulties and defeats, and this can lead them to avoid tough circumstances that could further diminish their self-esteem as a result of feeling even worse about themselves.

One of the symptoms of depression is worthlessness, which is an indicator of low self-esteem, implying that low self-worth is a predisposing factor for depression. In the current study, training the students on self-esteem enabled them to develop high self-esteem and this resulted in a significant reduction in depression symptoms. These results are consistent with the results of a study that was done among Turkey university students to determine the effects of self-esteem on psychological symptoms among university students. In the mentioned study, it was observed that there was a negative correlation between self-esteem and depression. Students who had low self-esteem were more likely to be depressed compared with those who had high self-esteem (Gürhan et al., 2017).

Self-awareness was the other social competency in which the students were educated. Self-awareness is how a person knows and understands their character, emotions, motivations, and desires, consciously. Self-awareness helps us to formulate a description of our actions based on past thoughts and feelings and present ones. This helps us to understand what is happening in our minds, and why. Self-awareness helps a person to understand the strengths and limitations of his or her character. It also
helps us to have more control over our emotional responses particularly those that harm us (Goverover, & Chiaravalloti, 2014).

The more we are aware of ourselves, the more we respond to the changes in life. This is because, if we have a clear understanding of ourselves, we will view ourselves as special and distinct individuals and this empowers us to make adjustments and build on our strengths, as well as recognize our areas of weakness where improvements might be needed. Self-awareness can enable somebody to notice triggers for mental conditions such as depression and avoid them (Dana, Lalwani, & Duval, 2007). Having the ability to identify such triggers would enable somebody to make decisions that would deal with the triggers and prevent the individual from getting into the mental condition. In the current study, training students in the skill of self-awareness enabled them to identify situations that would dispose of them to depression and to deal with them in the most appropriate way. As a result, those students who were trained in self-awareness skills had depression symptoms reduce significantly compared to those who did not receive the intervention. These findings were consistent with findings of a study by Goverover and Chiaravalloti (2014) which revealed that individuals who had a higher level of self-awareness had a lower risk of getting depressed compared to those who had a lower level of self-awareness.

Another social skill that was trained in this study was assertive skills. Being assertive means being able to stand up for one’s rights while also respecting the rights and beliefs of others. According to Rathee (2015), assertive individuals can communicate their emotions, feelings, and values truthfully and reasonably and are therefore able to articulate their point without offending or disturbing others. Assertiveness allows individuals to behave in their own best interests, to stand up without excessive pressure, to express true emotions confidently, and to express
personal rights without violating others' rights (Peneva & Mavrodiev, 2013). Assertive people do not see themselves superior to others, so they are not aggressive, neither do they see others superior to them, so they are not passive. They appreciate that they are of equal value to others and that each individual has his or her preferences which must not always be met (Qadir & Sugumar, 2013).

With this understanding, an assertive person will not always expect his or her preferences to be met and neither will he or she expect to meet all the preferences of other people. Assertive people also see others not as a threat when they make requests, but as partners who can work together for greater benefits of both parties. If somebody gets upset because of not having his requests met, an assertive person will not blame himself for it but will know that it was the other person’s choice. An assertive person feels comfortable expressing his opinion on whether it will be acceptable or not. When his views are not acceptable, he agrees to disagree with others without feeling offended or offending others. This helps in building self-confidence. Assertiveness allows people to express their views there and then and it is dealt with (Prakash & Devi, 2015). This saves time and energy which the individual would have spent to think over and over again about the issue. On the other hand, if one is not assertive, he is not able to express his views and this results in a situation building up and the person spends a lot of time thinking about it over and over again.

In the current study, students who were trained in assertive skills had a significant reduction of depression symptoms compared to those who were not trained in assertive skills. This implies that the training enabled the students to become more assertive and this resulted in a reduction in depression levels. Results of the current study are consistent with those of a study done among Iranian university students which found out that those students who were assertive and had the power of saying
no, had less stress in their lives. They would easily get their needs met and similarly, they would help others to get their needs met too. This way they were able to have stronger and more supportive relationships implying that they had reliable social support, and this would help them with stress management, leading to a reduction in depression symptoms (Pourjali & Zarnaghash, 2010).

Negotiation skills were also trained as one of the social skills. Negotiation involves two or more people finding an acceptable solution to a shared problem. It is a method of settling differences, by which compromise or agreement is reached while avoiding argument and dispute (Bartos, 2005). In negotiation, individuals aim to achieve the best possible outcome for their position, while ensuring fairness and seeking mutual benefit and maintaining a relationship (Carneiro, Novais, Andrade, Zeleznikow, & Neves, 2012). In the current study, it was found that students who were taught negotiation skills had a significant reduction in depression levels compared to those who were not trained in negotiation. On learning negotiation skills, the students were in a better position to resolve disputes among themselves and with the university administration. This resulted in the students having fewer problems to deal with and this reduced their stress resulting in a reduction in depression symptoms. These findings compare with those of a recent study that found out that people who had good negotiation skills had lower depression levels compared to those who had poor negotiation skills (Herbst, Dotan, & Stohr, 2017).

5.3 Conclusion

Based on the findings, the study concluded that about a third of the students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya was going through different levels of depression ranging from mild, moderate, and severe depression. The findings imply that depression is a serious
concern among students studying engineering degree courses and therefore should not be ignored.

Further, the study concluded that various factors are related to depression among university students studying engineering degree courses at the University of Nairobi and the Technical University of Kenya. In particular, age, year of study, expenditure, friendship, dependents, leadership, and club membership factors had a significant contribution toward depression among the students. The findings imply that the mentioned factors are critical in determining the level of depression among university students.

Finally, the study concluded that social skill training was effective as an intervention for depression among the students. The students who went through the intervention (experimental group) were found to have a significantly lower depression level compared to those who did not go through the intervention (control group). The findings imply that the social skill training program is effective in the reduction of depression. Further, the study concluded that the longer the SST intervention program, the more effective it is, this is because the intervention was more effective at the endline compared to the midline.

5.4 Recommendations

Based on the first objective, the study established that about a third of the students were suffering from mild, moderate, and severe cases of depression. It is recommended that the students seek help from university counselors to be able to deal with depressive symptoms before they become pathological. For the few cases identified as severe depression, the institutions through their counseling department need to facilitate these students in getting the necessary medical help. The study also recommends to all students to seek psychological help freely when they observe
depressive symptoms. This will ensure that students perform better and have good interpersonal relationships, and this will help them adjust better to the university environment.

The study also established various factors related to depression among university students. The key factors were year of study, expenditure, friendship, club membership, dependents, and leadership. It is recommended that students need to be aware of factors that could lead them to depression and find ways of dealing with them. For example, students should carefully choose friends to avoid getting into bad company. It is also important for students to consider joining social platforms such as clubs, which will enhance their social interaction skills and reduce the chances of depression.

Further, the study established that social skill training was effective as an intervention for depression among the students. The recommendation to the Universities’ management is to adopt and implement the SST program among the students. This will ensure that students gain skills to help them deal with depression and to focus on their studies.

5.5 Recommendations for Further Research

This study looked into depression among university students in public universities. Further studies can be done in private universities and compare the depression levels among public and private universities.

The current study was done in universities which were located in Central Business District of a capital city, Nairobi. Depression levels and the factors that are related with depression could vary with localities. For example, a study of depression among university students at Garissa County could factor in terrorism scare. This
could result to higher levels of depression. Further studies could therefore be done in other localities to establish the local variations.

This study was done and completed within a period of one year. Further studies should be done to establish the long-term retention of reduced levels of depression following social skills training as an intervention. Further studies can also be done to establish the effectiveness of social skills training alone, compared to other measures of intervention that are currently in use at universities.

REFERENCES


192


202


systematic review and meta-analysis study. *Journal of Depression Research and Treatment*, 3(6), 133-137.


Yoo, J. H. (2013). The meaning of information technology mobile devices to me, the infectious disease physician. *Infect Chemotherapy, 43*(2), 244-251.


APPENDICES

Appendix A: Socio-Demographic Questionnaire

Instructions: Please answer the following questions. Where there are choices, tick the most appropriate to you.

1. Please indicate your age in years. _____________________

2. Indicate your gender
   □ Male
   □ Female

3. Where do you live?
   □ University hostel
   □ With parents
   □ Self-rented room outside the University
   □ Others

4. If you live outside the University, how far from the main campus?
   □ 0-2 km
   □ 2-3 km
   □ 3-4 km
   □ 5km or more

5. Do you have any dependents?
   □ Yes
   □ No

6. If you have some dependents, state what your relationship with them is.
   ---------------------------------------
7. What is your average monthly expenditure in Kenya shillings? 

8. Who pays for your tuition fee and other expenditures? 

9. In which year of education are you? 

10. What course are you majoring in? 

11. What is your religious affiliation?
   - Protestant
   - Roman Catholic
   - Islam
   - None
   - Others

12. Do you have friends in this university?
   - Yes
   - No

13. If the answer to no. 12 above is yes, please indicate how many are of each gender.
   - Males
   - Females

14. Are you a member of any club or society?
   - Yes
   - No

15. If your answer to 14 above is yes, please indicate which one(s) 

16. Are you in any leadership position(s) in this University?
   - Yes
   - No
17. If your answer to no. 16 above is yes, state which one(s). -----------------------------
----

18. How would you rate your relationship with other people in this university?

- [ ] Not social
- [ ] Slightly social
- [ ] Social
- [ ] Very social
- [ ] Extremely social

19. Please provide any other information you may consider necessary for this study:
----------------------------------------------------------------------------------
----------------------------------------------------------------------------------
----------------------------------------------------------------------------------
----------------------------------------------------------------------------------
----------------------------------------------------------------------------------
----------------------------------------------------------------------------------
Appendix B: Beck Depression Inventory

<table>
<thead>
<tr>
<th>1. Sadness</th>
<th>6. Punishment Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel sad.</td>
<td>0 I don’t feel I am being punished.</td>
</tr>
<tr>
<td>1 I feel sad much of the time.</td>
<td>1 I feel I may be punished.</td>
</tr>
<tr>
<td>2 I am sad all the time.</td>
<td>2 I expect to be punished.</td>
</tr>
<tr>
<td>3 I am so sad or unhappy that I can’t stand it.</td>
<td>3 I feel I am being punished.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Pessimism</th>
<th>7. Self-Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I am not discouraged about my future.</td>
<td>0 I feel the same about myself as ever.</td>
</tr>
<tr>
<td>1 I feel more discouraged about my future than I used to be.</td>
<td>1 I have lost confidence in myself.</td>
</tr>
<tr>
<td>2 I do not expect things to work out for me.</td>
<td>2 I am disappointed in myself.</td>
</tr>
<tr>
<td>3 I feel my future is hopeless and will only get worse.</td>
<td>3 I dislike myself.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Past Failure</th>
<th>8. Self-Criticalness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel like a failure.</td>
<td>0 I don’t criticize or blame myself more than usual.</td>
</tr>
<tr>
<td>1 I have failed more than I should have.</td>
<td>1 I am more critical of myself than I used to be.</td>
</tr>
<tr>
<td>2 As I look back, I see a lot of failures.</td>
<td>2 I criticize myself for all of my faults.</td>
</tr>
<tr>
<td>3 I feel I am a total failure as a person.</td>
<td>3 I blame myself for everything that happens.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Loss of Pleasure</th>
<th>9. Suicidal Thoughts or Wishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I get as much pleasure as I ever did from the things I enjoy.</td>
<td>0 I don’t have any thoughts of killing myself.</td>
</tr>
<tr>
<td>1 I don’t enjoy things as much as I used to.</td>
<td>1 I have thoughts of killing myself, but I would not carry them out.</td>
</tr>
<tr>
<td>2 I get very little pleasure from the things I used to enjoy.</td>
<td>2 I would like to kill myself.</td>
</tr>
<tr>
<td>3 I can’t get any pleasure from the things I used to enjoy.</td>
<td>3 I would kill myself if I had the chance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Guilty Feelings</th>
<th>10. Crying</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don’t feel particularly guilty.</td>
<td>0 I don’t cry anymore than I used to.</td>
</tr>
<tr>
<td>1 I feel guilty over many things I have done or should have done.</td>
<td>1 I cry more than I used to.</td>
</tr>
<tr>
<td>2 I feel quite guilty most of the time.</td>
<td>2 I cry over every little thing.</td>
</tr>
<tr>
<td>3 I feel guilty all of the time.</td>
<td>3 I feel like crying, but I can’t.</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>Baseline</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>CRTN: _____ CRF number: _____ Page 15 patient init: _____</td>
<td></td>
</tr>
</tbody>
</table>

**11. Agitation**
- 0 I am not restless or wound up than usual.
- 1 I feel more restless or wound up than usual.
- 2 I am so restless or agitated that it's hard to stay still.
- 3 I am so restless or agitated that I have to keep moving or doing something.

**12. Loss of Interest**
- 0 I have not lost interest in other people or activities.
- 1 I am less interested in other people or things than before.
- 2 I have lost most of my interest in other people or things.
- 3 It's hard to get interested in anything.

**13. Indecisiveness**
- 0 I make decisions about as well as ever.
- 1 I find it more difficult to make decisions than usual.
- 2 I have much greater difficulty in making decisions than I used to.
- 3 I have trouble making any decisions.

**14. Worthlessness**
- 0 I do not feel I am worthless.
- 1 I don't consider myself as worthwhile and useful as I used to.
- 2 I feel more worthless as compared to other people.
- 3 I feel utterly worthless.

**15. Loss of Energy**
- 0 I have as much energy as ever.
- 1 I have less energy than I used to have.
- 2 I don't have enough energy to do very much.
- 3 I don't have enough energy to do anything.

**16. Changes in Sleeping Pattern**
- 0 I have not experienced any change in my sleeping pattern.
  1a I sleep somewhat more than usual.
  1b I sleep somewhat less than usual.
  2a I sleep a lot more than usual.
  2b I sleep a lot less than usual.
  3a I sleep most of the day.
  3b I wake up 1–2 hours early and can't get back to sleep.

**17. Irritability**
- 0 I am not more irritable than usual.
- 1 I am more irritable than usual.
- 2 I am much more irritable than usual.
- 3 I am irritable all the time.

**18. Changes in Appetite**
- 0 I have not experienced any change in my appetite.
  1a My appetite is somewhat less than usual.
  1b My appetite is somewhat greater than usual.
  2a My appetite is much less than before.
  2b My appetite is much greater than usual.
  3a I have no appetite at all.
  3b I crave food all the time.

**19. Concentration Difficulty**
- 0 I can concentrate as well as ever.
- 1 I can't concentrate as well as usual.
- 2 It's hard to keep my mind on anything for very long.
- 3 I find I can't concentrate on anything.

**20. Tiredness or Fatigue**
- 0 I am no more tired or fatigued than usual.
- 1 I get more tired or fatigued more easily than usual.
- 2 I am too tired or fatigued to do a lot of the things I used to do.
- 3 I am too tired or fatigued to do most of the things I used to do.

**21. Loss of Interest in Sex**
- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.
Appendix C: Social Skills Training (SST) Manual

This SST manual was modified from Kenya Youth Empowerment Project (KYEP) youth internship program manual for life skills training. KYEP was a five year World Bank funded project which provided training and internship to young people with an aim of supporting government’s effort to improve youth employability through provision of training and internship. The manual was developed by Life skills Promoters who used it to train three cohorts of Kenyan Youths namely: University and diploma graduates and some form four certificate holders; Form four leavers; Standard eight leavers and secondary school incomplete education leavers. The training was done under Kenya Private Sector Alliance (KEPSA) as mandated by the Kenyan government from June 2010 to February 2016, and it was rated to be successful (KYEP Life Skills Training Manual, 2010). The manual is a big document which covers many life skills, but only the area dealing with social skills was extracted. Social skills will be taught through role playing, case studies, discussions, and short films. The following areas will be covered:

1. Introduction of social skills
   i. Explain what social skills are.
   ii. Discuss the importance of social skills.
   iii. Point out the two categories of social skills that will be taught, intrapersonal and interpersonal skills.

2. Self-awareness skills:
   i. Explain what self-awareness is.
   ii. Discuss the importance of self-awareness.
   iii. Discuss the different ways in which we can improve on ourselves.

3. Self-esteem skills:
   i. Explain what self-esteem is.
   ii. Discuss the importance of self-esteem especially to young people.
   iii. Ask participants to rate their self-esteem using a self-assessment tool which will be provided.
   iv. Discuss sources of high self-esteem.
   v. Discuss sources of low self-esteem.
   vi. Discuss different ways that can be used to improve self-esteem.

4. Interpersonal relationships:
   i. Discuss the different types of relationships.
   ii. Discuss the different stages in the development of interpersonal relationships.
   iii. Discuss the different ways of enhancing interpersonal relationships.
5. Assertive skills:
   i. Explain what assertiveness is.
   ii. Ask participants to assess their assertiveness using a self-assessment questionnaire for assertiveness.
   iii. Discuss tips for making assertive responses.

6. Conclusion of the training.
   i. Give an overview of what has been covered.
   ii. Ask the participants to reflect on what has been learnt.
Appendix D: Information to Participants

My name is Jacinta Ndegwa, a PhD student at Daystar University. I am carrying out a study on determining the effectiveness of social skills training as an intervention for depression. The information given will be used for my PhD dissertation in clinical psychology at Daystar University. I would like to request you to participate in the research.

This research will be carried out in 3 stages. In the first stage you will fill a questionnaire that will identify your socio-demographic factors, and another one that will measure the symptoms of depression. In the second stage you will be given social skills training by a team of psychologists. Those who may need help during the training will have debriefing sessions, and those who may need help after the training will see the college counsellor, the medical officer of your college, or be referred for specialized help. There will be no physical discomfort but you may experience uncomfortable feelings in the process of answering some questions. If this happens, debriefing sessions will be allowed by the researcher.

The study will provide you with knowledge on depression and depressive symptoms which you can use to assess yourself and take appropriate action. This information can also be passed to your friends and relatives. Further to this, the social skills taught will assist you to control and manage depressive symptoms before they become pathological. Participation is voluntary, therefore you are free to participate without coercion and can withdraw at any stage of the study. There will be no penalties for not participating or withdrawing from the study after giving consent.

All the information you give will be treated with confidentiality. To be able to ensure this, you are asked not to write your name on any of the questionnaires. However, you will be expected to write your admission number to assist the researcher in comparing...
the first and second psychological evaluations. This will not be used anywhere in the final report. The admission numbers will later be coded and the code will be known by the researcher only. You will not be paid to take part in the study. If you choose to take part in the study, then you should answer the questions in the questionnaires as best as it applies to you.

Should you be in need of further help, you can call me on this number 0728253421.

Signed:

Researcher, Jacinta Ndegwa
Appendix E: Informed Consent Form

I, having been explained about this study, agree to participate in the study.

Name of participant: …………………
Name of researcher: Jacinta Ndegwa
Admission number: …………
Signature: …………………
Year of study: …………………
Date: 16th August 2020
Signature: …………………
Date: …………………
Appendix F: Ethical Clearance

Daystar University Ethics Review Board

Our Ref. DU-ERB/21/11/2018/00212
Date: 21-11-2018
Jacinta Ndegwa
Dear Jacinta,

RE: EFFECTIVENESS OF SOCIAL SKILLS TRAINING AS AN INTERVENTION FOR DEPRESSION AMONG UNIVERSITY STUDENTS: A CASE STUDY OF THE UNIVERSITY OF NAIROBI AND THE TECHNICAL UNIVERSITY OF KENYA, NAIROBI COUNTY, KENYA

Reference is made to your request dated 15-10-2018 for ethical approval of your proposal by Daystar University Ethics Review Board.

We are pleased to inform you that ethical review has been done and approval granted. In line with the research projects policy, you will be required to submit a copy of the final research findings to the Board for records.

This approval is valid for a year from 21-11-2018

This approval does not exempt you from obtaining a research permit from the National Commission for Science, Technology and Innovation (NACOSTI).

Yours sincerely,

[Signature]

Mrs. Purity Kiambu,
Secretary, Daystar University Ethics Review Board

"...until the day dawns and the daystar出任 is your heart." 2 Peter 3:19 KJV
Appendix G: NACOSTI Research Permit

THIS IS TO CERTIFY THAT:

Name: Ms. Jacinta Wambui Ndegwa

Residence: Daystar University, 67954-200

Permit No.: NACOSTI/P/18/404/27163

Date of Issue: 12th December, 2018

Fee Received: Ksh 2000

NAIROBI, has been permitted to conduct research in Nairobi County on the topic:

Effectiveness of Social Skills Training as an Intervention for Depression Among University Students: A Case Study of the University of Nairobi and the Technical University of Kenya, Nairobi County, Kenya

for the period ending: 12th December, 2018

(Applicant’s Signature)

(Applicant’s Signature)

Director General

National Commission for Science, Technology & Innovation

Daystar University

Library Archives Copy
Appendix H: Authorization from Ministry of Education

Republic of Kenya
MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

РЕГИОНАЛЬНЫЙ КООРДИНАТОР ОБРАЗОВАНИЯ
NAIROBI REGION
NAIROBI HOUSE
P.O. Box 40227–00209
NAIROBI

DATE: 21ST December, 2018

Jocinta Wambui Ndegwa
University of Nairobi
P.O. Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on "Effectiveness of social skills training as an intervention for depression among university students: A case study of the University of Nairobi and the Technical University of Kenya.

This office has no objection and authority is hereby granted for a period ending 12th December, 2019.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.

KINOSI KIGORA
FOR: REGIONAL COORDINATOR OF EDUCATION
NAIROBI
Appendix I: Authorization from Nairobi City County Commissioner

The Vice Chancellor
Technical University of Kenya.

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.
Appendix J: Authorization from University of Nairobi

UNIVERSITY OF NAIROBI
OFFICE OF THE DEPUTY VICE-CHANCELLOR
(Research, Production & Extension)

PO. Box 30197 - 00100
Nairobi, Kenya
Telephone: +254-20-3303282 Ext 28711
+254-20-4943064 (D4)
Fax: +254-20-3317251
Email: ovrpe@unio.ac.ke
Website: www.unio.ac.ke

UON/RPE/3/6/Vol.XVIII/
January 11, 2019

Ms. Jacinta Ndegwa
P.O. Box 6954 – 00200
Nairobi

Dear Ms. Ndegwa,

AUTHORITY TO CARRY OUT A SURVEY WITHIN THE UNIVERSITY OF NAIROBI

I refer to your request to carry out a survey within the University of Nairobi as part of your research on “Effectiveness of Social Skills Training as an Intervention for Depression among University Students”.

I write to inform you that your request has been approved.

You are however required to share the findings of your study with the University of Nairobi by depositing a copy of your research findings with the Director, Library & Information Services on completion of your project.

[Signature]

PROF. MADARA OGOT
AG. DEPUTY VICE-CHANCELLOR
(RESEARCH, PRODUCTION AND EXTENSION)

Copy to: Director, Library and Information Services

RAD
Appendix K: Authorization from the Technical University of Kenya

Office of the Vice-Chancellor
Prof. Dr. Ing. Francis M. O. Adoso

REF: TUK/EXEC-WC/VCC/001/VOL.2/19

17th January, 2019

Jaelinta Ndegwa
P. O. Box 67954 – 00200
NAIROBI

Dear Ms. Ndegwa,

RE: REQUEST FOR PERMISSION TO COLLECT DATA

This is in reference to your letter dated 8th January, 2019 requesting for permission to collect data from our institution as part of your research entitled: “Effectiveness of Social Skills Training as an Intervention for Depression among University Students.”

I am pleased to inform you that your request has been granted accordingly by the Vice-Chancellor. Please note that the data collected should be for purposes of academic research only and cannot be used for any other purpose.

C. J. O. Kanyarudi
FOR: VICE-CHANCELLOR

Copy: Vice-Chancellor.
Appendix L: Researcher’s Profile

NAME:
Jacinta Wambui Ndegwa

EDUCATION
Daystar University, Clinical Psychology (Ph.D. Cand.) 2014 to date
Daystar University, M.A. Counseling Psychology: 2011 to 2012
University of Nairobi, BSc Biological Sciences: 2006 to 2009
Jomo Kenyatta University of Agriculture and Technology,
   Diploma in Horticulture 1984 to 1987

INTERNSHIP
University of Nairobi Clinic: 2020
Hope Counselling Centre : 2020

EMPLOYMENT
University Of Nairobi 1993 to date
Appendix M: Plagiarism Report

Jacinta Ndegwa dissertation - 02.11.2020

<table>
<thead>
<tr>
<th>Originality Report</th>
<th>Simplicity Index</th>
<th>Internet Sources</th>
<th>Publications</th>
<th>Student Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17%</td>
<td>13%</td>
<td>7%</td>
<td>9%</td>
</tr>
</tbody>
</table>

### Primary Sources

1. ecommons.luc.edu  
   Internet Source  
   2%

2. Submitted to Hodges University  
   Student Paper  
   1%

3. en.wikipedia.org  
   Internet Source  
   1%

4. www.kon.org  
   Internet Source  
   <1%

5. www.sab.ac.lk  
   Internet Source  
   <1%

6. www.gulfbend.org  
   Internet Source  
   <1%

7. Submitted to Indiana State University  
   Student Paper  
   <1%

8. link.springer.com  
   Internet Source  
   <1%

9. www.baojournal.com  
   Internet Source  
   <1%