POSTTRAUMATIC STRESS DISORDER SYMPTOMS, PERSONALITY TYPES AND SOCIAL SUPPORT AMONG ORPHAN STUDENTS IN SECONDARY SCHOOLS IN GEM SUB-COUNTY,KENYA

BY

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DECLARATION

Declaration by the candidate;

This thesis is my original work and has not been presented for a degree in any other university.

Sign…… Date…….

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DEDICATION

This work is dedicated to God and my Family.

ABSTRACT

The epidemic of HIV/AIDS in Gem, among other causes of death, has worsened the orphan problem. According to reports from the Ministry of Health and the Education office, Gem sub-county, 40% of the students in the secondary schools are either partial or total orphans. Ugenya sub-county has about 32 % of the students orphaned while in Bondo sub-county; orphans make up 28% of the total student population yet these are neighboring sub-counties. Orphan hood is a cause of trauma that contributes to the development of Post-Traumatic Stress Disorder (PTSD). PTSD is a psychiatric disorder that may result from the experience or witnessing of traumatic events such as death of a loved one. Orphanhood has been associated with behavior problems and poor academic performance. The purpose of the study was to assess Post-Traumatic Stress Disorder symptoms among orphan students in Gem Sub-county. The objectives of the study were to find out the prevalence of PTSD symptoms among orphan students in secondary schools in Gem sub-county, determine gender differences in PTSD symptomatology among orphaned students in Gem sub-county, establish the relationship between personality traits and PTSD symptoms among students who are orphaned in Gem sub-district and examine te role of social support from school in alleviating PTSD symptomatology among orphaned students in Gem sub-county. The study was based on the Dual Representation Theory by Brewin, Dalgeish and Joseph (1996) that proposes two types of memory developed by trauma victims and the phenomenology of PTSD. Descriptive survey design which involved qualitative and quantitative strategies to collect data was used in the study. The target population consisted of 52 Deputy Head Teachers and 4568 orphans. Simple random sampling was used to identify a sample of 354 orphans using the Krejcie and Morgan (1970) formula. Pilot study was carried out among 118 orphans from 3 schools in Gem sub-county. Standardized tests such as IES-Revised and the Big Five Personality Test were used to determine the prevalence of PTSD symptoms among orphans and the relationship between personality and PTSD symptoms. Interview schedule for Deputy Head Teachers and Focus Group discussions were used to collect data. Test-retest reliability coefficient of the instruments was .7 for the IES-R .8 for the Big Five Personality Test and .7 for the interview schedule. Descriptive statistics such as frequency counts and percentages and inferential statistics such as the *t*- Test and correlation were used to analyze data. From the study, it was found that there was high prevalence of PTSD symptoms among orphaned students (over 50% had PTSD symptoms) with intrusion symptomatology scoring highest (72.2%) in Gem sub-county. Females had higher prevalence of PTSD symptomatology than males. Neuroticism was a dominant personality trait among the orphaned students and social support was perceived to be important in alleviating PTSD symptoms although most schools did not have social support systems. It is recommended that to reduce the prevalence of PTSD symptoms among orphans, counseling and child psychology be taught to all teachers. Gender-specific initiatives targeting girls be introduced to alleviate PTSD symptoms among females.

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LIST OF ABBREVIATIONS AND ACRONYMS

DEO	:	District Education Officer
DSM	:	Diagnostic and Statistical Manual
HIV	:	Human Immuno Deficiency Virus
IES-R	:	Impact of Events Scale-Revised
NEM	:	Negative Emotionality
PNS	:	Parasympathetic Nervous System
PTSD	:	Post Traumatic Stress Disorder
SAM	:	Situationally Accessible Memory
SNS	:	Sympathetic Nervous System
VAM	:	Verbally Accessible Memory

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CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter covers background of the study, statement of the problem, objectives of the study, scope of the study, limitations of the study, assumptions of the study, significance of the study and theoretical framework.

1.2 Background of the Study

The burden of orphanhood is high and continues to rise in most low and middle income countries like Kenya, Uganda and South Africa fuelled to a significant extent by the HIV pandemic and adverse socio-political circumstances. Coupled with high levels of poverty, orphans have become vulnerable (UNAIDS, 2008). Statistics available from Kenya Bureau of Statistics (2012) indicate that Kenya has an estimated population of over 41 million people, 1.7 million of whom are HIV and AIDS related orphans. In the former Nyanza province, statistics from World Health Organization,(2005) show that with a population of 5million people, 33.2% of the population are orphans of between 0-17 years.

Gem sub-county has suffered immensely from the effects of HIV/ AIDS deaths and other causes of death.According to sources from the Sub-county Education office, Gem, 40% of all the students in secondary schools in Gem Sub -county are either total or partial orphans. On the other hand, according to a Multiple Indicator Cluster Survey 2011 carried out by Kenya National Bureau of Statistics in Siaya County, neighbouring Ugenya sub-county had only 32 % of the total student population being orphans while the neighbouring Bondo Sub-county had 28 % of the students in public secondary schools being orphans. Due to the traumatizing experience associated with the death of their parents, many of the orphans are faced with academic

challenges and perform dismally and they are also faced with psychological problems due to poverty, neglect, and poor health (Lee et al. 2014). In addition, orphans face real challenges emotionally and psychologically that may lead to the development of Post-traumatic Stress Disorder (PTSD) (Schaal&Elbert, 2006).

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V, 2013), events are considered traumatic if they involve actual or threatened harm that is accompanied by feelings of intense fear, horror, or helplessness (American Psychiatric Association, 2013). In this latest edition of the DSM, PTSD is now included in a new section entitled 'Trauma and Stressor-Related Disorders' . Post-traumatic Stress Disorder, (PTSD) is a severe anxiety disorder that can develop from any event that results in psychological trauma (American Psychiatric Association, 2006).Traumatic events that can lead to PTSD include war, natural disasters, car crashes, terrorist attacks, rape, kidnapping, assault, sexual abuse, childhood neglect or death of a loved one.

This study investigated the prevalence of the PTSD symptoms among orphaned students and how it affects them. These symptoms include re-experiencing the traumatic event, avoiding reminders of the trauma and increased anxiety and emotional arousal. Victims of overwhelming events such as loss of loved ones normally have a mental and physical response that follows the traumatic event (Brewin, 2003). Such events involve an adaptive reaction, which is associated with elevated levels of stress. Orphans are likely to experience high levels of stress due to their traumatic experience. This goes in conjunction with a discharge of the sympathetic nervous system. It prepares the human body for 'fight' 'flight', or 'freeze'. Since stress releases emotions like anger and fear, and chronic stress is known to cause health problems, people have a negative association with it (Van Doonen, 2004). It therefore follows that having gone through such

traumatic experience as the loss of the parent(s), a certain level of stress develops in these orphans that may lead to development of PTSD symptoms and ultimately affect their academic performance in school and their personality negatively.

Despite the fact that some people are able to return to 'normal state' after traumatizing events due to their resilience many others remain on a level of heightened stress reactivity and sympathetic arousal.They repeatedly re-experience the traumatic life thereby completely affecting their physical and emotional lives (Bonnanno, 2004).

In a study carried out from Boston children's home, USA, on the risk factors for children exposed to trauma in developing PTSD, Mc Laughlin (2013) found that 61% of the teens (ages 13 to 17) had been exposed to at least one potentially traumatic event. These included rape, physical abuse, injuries and death of a close family member. Of the teens exposed, 4.7% had experienced PTSD under DSM-IV diagnostic criteria. Many students in Gem sub-county not only face trauma out of their loss of parentage but may also experience many other traumatic experiences that may worsen their condition. This study not only focused on teens exposed to PTSD symptoms but also the effect of social support on those affected by PTSD symptoms.

Seedat, Nood, Vythingum, Stein, & Kamnler (2000) who carried out a study in South Africa to investigate prevalence of PTSD among 307 grade 10 students found that 35% of these Western Cape province students had experienced childhood traumas, and 12.1% of these adolescents met the DSM-IV criteria for PTSD on self-report measures. This study not only focused on prevalemce of PTSD among students but also looked at how PTSD symptomatology affects character of the students.

In a study carried out in Rwanda (Schaal, 2012) to compare rates of mental health disorders in Rwandan genocide perpetrators with those of genocide survivors and to investigate potential predictors of symptoms of PTSD, it was found that there were high rates of mental disorders in both groups and symptom severity of PTSD was higher in females than in males. Whereas the Rwandan study correlated severity of PTSD symptoms to trauma exposure and females who were victims or perpetrators of gender violence, the current study correlated PTSD symptoms severity to orphaned students.

According to Roberts, Okaka, Browne, Oyok & Sondorp, (2008) NorthernUganda has one of the world's highest rates of mental illnesses that result from horrific experiences. Basing its report on a research by a team of British and Ugandan psychiatrists, it reveals that PTSD was significantly high in the region due to the violence that had been experienced due to civil war. This led to many dying and leaving behind hordes of orphans. These orphans sufferd psychologically and this eventually affected their personalities. They tended to be withdrawn and became susceptible to negative emotionalty. The Ugandan study focused on orphans from situation of war whereas the current study was based on orphans who have arisen mostly from peaceful situation.

In a study to investigate the importance and effectiveness of social support in promoting resilience after trauma among Internally Displaced Persons (IDPs) and specifically survivors of the Kiambaa fire incident after the Kenyan Post-election violence of 2007, Sambu (2015) found that social support is a key element in building resilience in these traumatized individuals. The present study sought to find out if social support has any positive impact on traumatized orphaned students.

Most of the studies cited in this section focused on trauma developing from other traumatic events like violence, fires, accidents, rape among others (Seedat,2000) rather than orphanhood.

1.3 Statement of the Problem

Orphanhood is a major problem in secondary schools and the number of orphans in secondary schools in Gem sub-County continues to grow. According to reports from the DEO's office in Gem sub-county, 40% of all the students in secondary schools in Gem sub- county are either partial or total orphans. Compared to other neighboring sub- counties of Ugenya and Bondo, this is a problem since the two sub-counties have orphanhood rates of 32% and 28% respectively. Rarieda sub-county has orphanhood rate of 31% while Siaya sub-county has orphanhood rate of 35%. Because of their traumatic experience and status, orphans are likely to develop PTSD symptoms and this would ultimately affect their academic life in school and their personality. Their condition is normally worsened by lack of proper social support to alleviate their condition. Their academic performance and their relationship with other students are likely to suffer. The study assessed Post-Traumatic stress disorder (PTSD) symptoms among the orphans and investigated the role of personality as a factor in the development of PTSD symptoms and the impact of social support on the orphans.

1.4 Purpose of the Study

The purpose of this study was to assess PTSD symptoms among orphan students in secondary schools in Gem sub-county, and examine the role of social support in alleviating the symptoms of PTSD in orphans in Gem, Siaya County, Kenya.

1.5 Objectives of the Study

The objectives of the study were to:

1) Establish the prevalence of PTSD symptoms among orphaned students in secondary schools in Gem sub-county.

2) Determine gender differences in PTSD symptomatology among orphaned students in Gem sub-county.

3) Determine personality types associated with PTSD symptoms among orphaned students in Gem sub -county.

4) Examine the role of social support in alleviating PTSD symptoms among orphaned students in Gem sub-county

1.6 Research Questions

The following were the research questions for the study:

1). What is the prevalence of PTSD symptoms among orphaned students in secondary schools in Gem sub-county

2) Is there gender differences in PTSD Symptomatology among orphaned students in secondary schools in Gem sub-county

3) What are the personality types associated with PTSD symptoms among orphaned students in secondary schools Gem sub-county.

4) What is the role of social support in alleviating PTSD symptoms among orphaned in secondary schools in Gem sub-county.

1.7 Scope of the Study

The study was carried out within Gem sub-county, Siaya County in public secondary schools. The study targeted orphaned students aged between 14 – 18 years in public secondary schools. This is because majority of students in secondary schools are between ages 13-18. The study also targeted Deputy Head Teachers of the sampled schools.

1.8 Limitations of the Study

The researcher used the questionnaire method in data collection which did not allow the respondents to give reasons for their responses. This was solved by the researcher clarifying areas whenever it was felt necessary. The questionnaire method could also lead to lack of conscientious responses. This was resolved by ensuring the survey was short and the questions simple. The descriptive cross-sectional survey method that the researcher used could only describe the data collected but could not be used to draw conclusions on causal relationships especially on personality and trauma symptoms.

1.9 Assumptions of the Study

The study was based on the assumption that:

1) The orphans in the study would have experienced trauma due the death of either one or both parents.

2) There are certain personality traits that are more susceptible to PTSD symptomatology than others.

3) The Deputy Head- teachers had intimate knowledge of, and interaction with the orphans under study.

1.10 Significance of the Study

The study may be of significance to education officials in understanding the prevalence of PTSD among orphans. They may therefore see the need to institute appropriate policies to address problems facing such orphans. The study may also be useful to Guidance and Counseling teachers in secondaryschools to understand those students with PTSD and to seek therapeutically accepted solutions for the affected students.

The study will also contribute immensely to knowledge of PTSD and its symptomatology, an area that has not been very well researched on in Kenya. Most of the studies that have been carried out in this area have been based in Europe and Americas.

1.11 Theoretical Framework

1.11.1 Dual Representation Theory

The study was based on the Dual Representation Theory (Brewin, Dalgeish&Joseph 1996). The theory posits that traumatic experiences are encoded into two separate memory systems at the time of the trauma. One system stores the individual's conscious experience of the trauma, while the other stores the individual's non-conscious experience of the trauma. Although the two systems operate in parallel, one may dominate more than the other at specific times (Brewin, 2003; Brewin& Holmes, 2003). The following figure provides an illustration of dual representation theory.

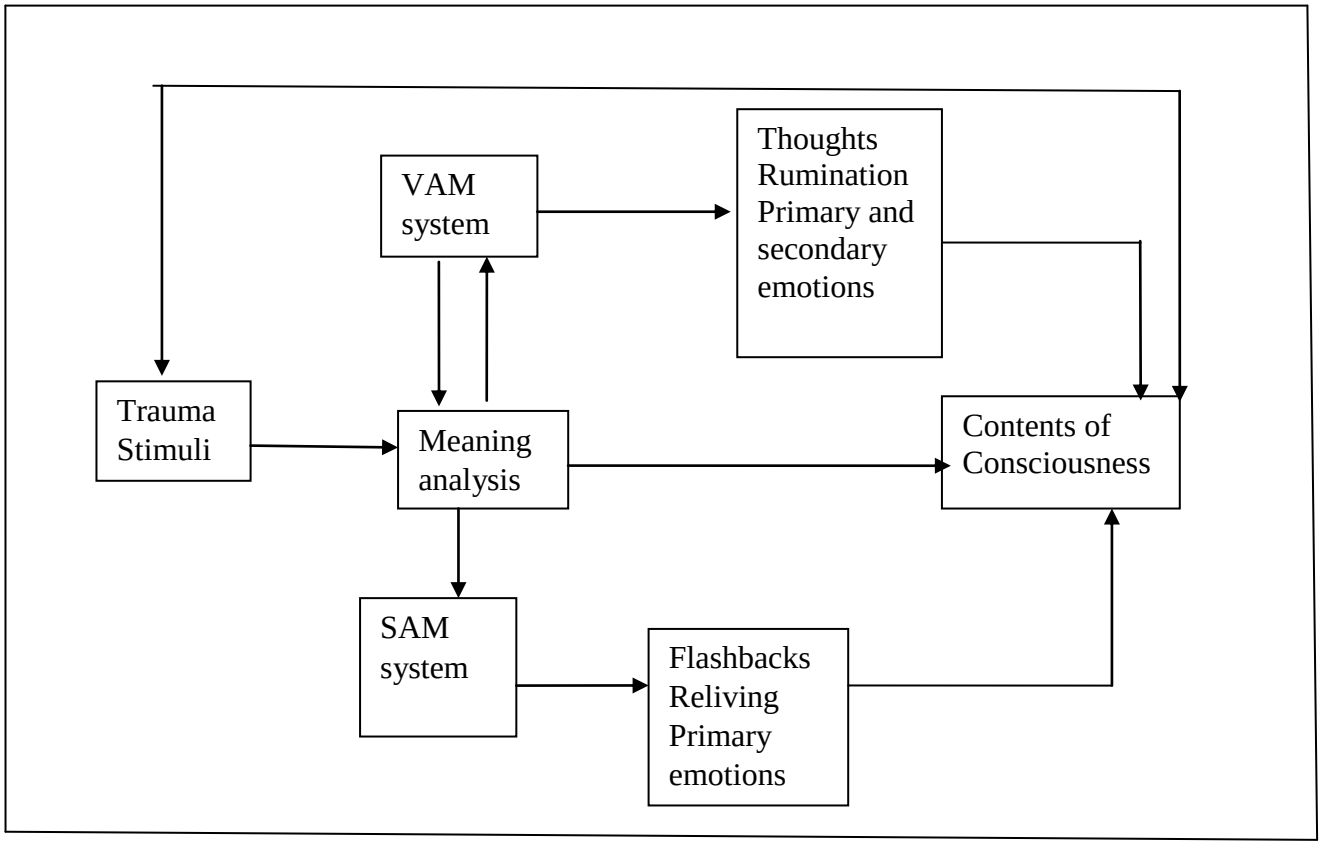

Figure 1.1 Dual Representation model on PTSD (Brewin, 2003, p.109)

VAM

The term *verbally accessible memory* or VAM refers to the system storing of the individual's conscious experience of the trauma. Trauma memories stored in the VAM system are verbally available to the trauma victim and are integrated with the other autobiographical memories the individual has. Therefore, these memories can be communicated to others. The information contained in these memories is however, limited because only what the individual consciously focused on before, during and after the event is included (Brewin, 2003; Brewin& Holmes, 2003).

VAM memories contain some information regarding sensory details, as well as physical and emotional responses experienced during the event (Brewin et.al, 1996). They contain the individual's cognitive appraisals of the implications of the traumatic event both at the time of its occurrence and following. These appraisals lead to two types of emotions, *primary emotions* and *secondary emotions.* Primary emotions (for example fear and helplessness) result from the appraisals made at the time of the event while secondary emotions (e.g. hopelessness about the future) result from the appraisals made following the event (Brewin& Holmes, 2003).

SAM

The second system which stores the individual's non-conscious experience of the trauma is termed *situationally accessible memory* or SAM. SAM memories are quite different from those stored in the VAM system as they do not use a verbal code. Therefore, it is difficult for the individual to communicate these with others (Brewin & Holmes, 2003). The information included in SAM memories cannot be retrieved in a deliberate manner. Instead, this information can only be retrieved when the individual is met with stimuli that are similar to the original trauma. Exposure to such stimuli can for example, result in the individual experiencing flashbacks or trauma- specific dreams/emotions (Dalgeish, 2004).

The information an individual stores in the SAM system is the result of level perceptual processing that occurred during the traumatic event. Therefore, the SAM system stores auditory and visual information as well as information regarding the individual's bodily responses that was not stored in the VAM system. Unlike VAM memories that are accompanied by both primary emotions and secondary emotions, SAM memories are accompanied only by primary emotions such as fear, helplessness and horror (Brewin, 2003).

Trauma memory

Brewin (2010) posits that a trauma memory consistsof a number of features. These features are represented as F1-F20 in his model. He suggests that the odds of the fear system being inhibited by a VAM memory increases as the number of features stored in the VAM system grows.

Illustration *a* in figure 2 demonstrates an example of a trauma memory in a typical beginning phase. Only a few features (F1-F7) of the trauma memory are stored in the VAM system at this point. If the individual is faced with the trauma reminders that correspond to features F1-F7, the fear system will most likely not be activated (Brewin, 2001). However, if the individual is faced with trauma reminders corresponding to any of the other features, the fear system is likely to be activated. This activation in turn leads to the individual experiencing a flashback (Brewin, 2001, 2003).

Illustration *b* demonstrates a trauma memory in which all the features stored in the SAM system have been transferred to the VAM system to create a complete memory. According to Brewin (2001), this would theoretically permanently inhibit the fear system from becoming activated. He notes that in reality, however; this is not the case. This is due to the fact that information stored in the SAM system is likely to remain more detailed than the information stored in the VAM system. Therefore, the fear system is still at risk of activation under very special conditions.

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a) Incomplete VAM-fear system activated. b) Complete VAM memory fear system inhibited.

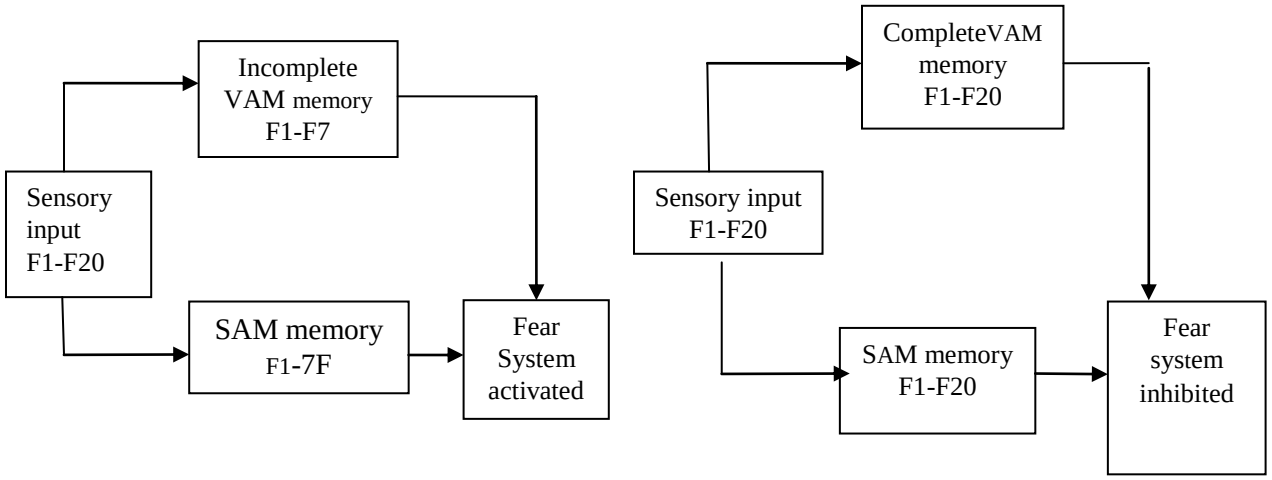


Figure 1.2 Incomplete and complete VAM memories of PTSD (Brewin, 2001, p.382)

The Dual Representation Theory (DTR) assumes that traumas experienced after early childhood and even later in life give rise to 2 sorts of memory, one verbally accessible and the other, automatically accessible through appropriate situational cues. These different types of memory can explain the complex phenomenology of PTSD, including the experiences of reliving the traumatic event and of emotionally processing the trauma. The theory considers three possible outcomes of the emotional processing of trauma; successful completion, chronic processing, and premature inhibition of processing.

This theory remains consistent with other Cognitive-processing models in that the quality of social support is fundamental to affective adjustment, and that emotional processing is the mechanism by which one integrates their traumatic experience into their specific memory system(Brewin, 2001). This theory can therefore be seen to maintain three basic elements:the

impact of the trauma on the individual's beliefs, schemas, and assumptions , the experienceresults in the generation of complex emotions and physiological reactions, and successful integration of new and old information is necessary for adjustment.

This theory is relevant to the present study since it has been shown that after a traumatic experience, individuals attempt to dissociate from the event. They might attempt to distract themselves from memories of this event, primarily to preclude negative mood state. Ozer, Best, Lipsey,& Weiss (2003) have shown that dissociation shortly after the traumatic event i.e. peritraumatic dissociation is highly related to subsequent PTSD.

This is also relevant to the study in that due to the traumatic event of loss of parent(s), the orphan will store in the VAM experiences like the nature of death, the time, the feelings etc. Such experiences can be verbally accessed and be communicated to others. On the other hand, there are other experiences about the death of the parent that the orphan may not recall at will and may only be retrieved when met by a stimulus like sound, sight etc. This is the Situationally Accessible Memory (SAM).

1.11.2 Operational Definition of Terms

Orphan- A student in secondary school in Gem Sub-county whose parent(s) has died.

Oxytocin- A mammalian hormone produced by the hypothalamus and plays an important role in the neuroanatomy of intimacy (also called 'the bonding hormone')

Personality- A set of qualities or behaviors that make an orphan distinct from others

Posttraumatic Stress Disorder-A psychiatric disorder that may result from the experience or witnessing of a traumatic event such as death of a parent.

Social Support- Any form of assistance, material or psychological offered to orphans

Symptomatology- The set of symptoms characteristic of PTSD i.e re-experiencing, avoidance and hyper arousal

Trauma- An event that causes great psychological distress

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The chapter covers related literature review on PTSD prevalence among orphans, gender and PTSD, personality and PTSD and social support in relation to PTSD.

2.2 PTSD Prevalence Among Orphans

A number of studies have investigated the prevalence of PTSD symptoms among orphans across the globe. In a crosss sectional study to measure the prevalence of PTSD symptoms among Chinese heathcare workers exposed to physical violence, Lei Shi et al (2017) noted that the prevalence was 28.8% (n=368). In another study carried out in Bosnia and Herzegovina to assess the psychological health of war traumatized children, Hasanovic, Sinanovic, Selimbasic and Pajevic (2006) found that of the 186 children, 90 (48.4%) had been forced into refuge because of the war. Loss of a family member was the most frequent tragedy among children in the SOS children's village, who also experienced the highest number of other types of trauma. PTSD was present in 51.6% of the 186 children, with the highest prevalence among children in the SOS village. PTSD was higher among children who lost a parent but lived with the surviving parent than among those in the orphanages or children living with both parents. Loss of a parent was associated with higher frequency of PTSD and depression. The loss of both parents was associated with even much higher prevalence of PTSD. Whereas the study by Hasanovic et. al focused on children in orphanages and refugee camps who had been orphaned, this study dealt with students who were in schools.

In a study carried out in Rwanda to investigate the level of trauma exposure and the rates of mental health disorders in Rwandan widows and orphans exposed to the genocide, it was found

that widows displayed more severe mental health problems than orphans. Forty one percent of the widows as compared to 29% of the orphans met the symptom criteria for PTSD (Schaal, Dusingizemungu, Nadja & Elbert, 2011). Analysis from the study showed that PTSD severity was predicted mainly by cumulative exposure to traumatic stressors and by poor physical health status. Whereas the Rwandan study studied general mental stress among widows, this study focused on PTSD as amental problem among teens who have been orphaned.

A decade after the 1994 Rwandan genocide, Schaal & Elbert (2006) interviewed a total of of 68 Rwandese orphans about their war experiences and PTSD symptoms. The two samples comprised youth living in a child headed household or in an orphanage. Of the sample, 44% had PTSD symptoms. Furthermore, it is strongly suggested that the type of care received subsequent to becoming an orphan has significant impact on the mental distress an orphan goes through (Ahmad, Qahar, Siddiq, Majeed & Rasheed, 2004). The circumstances surrounding an orphan's condition in a developing country cannot but compound their internal developmental problems

In a study carried out in South Africa by Cluver (2009) on PTSD in AIDS orphaned children exposed to high levels of trauma, it was found that children in South Africa were exposed to multiple traumas, but AIDS orphaned children are at particular risk for posttraumatic stress. The prevalence rate of PTSD among the orphans was over 30%. Whereas most of the studies above focused on institutionalized orphans in orphanges and SOS homes, the current study focused on orphans who were either staying in schools or in their homes.

2.3 Gender and PTSD

Although most trauma victims experience PTSD symptoms soon after a trauma, only a small but significant minority go to develop PTSD. This can be attributed to gender factors. A meta-

analysis by Tolin & Foa (2006) addressed gender differences in PTSD and trauma exposure and confirmed that females are at greater risk for developing PTSD even though they are less likely to be exposed to traumatic events. This study by Tolin and Foa (2006) was majorly carried out by identifying articles investigating prevalence of potentially traumatic events as well as the prevalence and severity of PTSD among female and male participants through searches. The present study on the other hand used descriptive survey design to collect data from orphaned students and analysed the results.

Ditlevsken & Elkit (2010) examined the combined effect of gender and age on PTSD in order to describe a possible gender differences in life distribution of PTSD. PTSD was measured based on the Havard Trauma Questionnaire part iv (HQ-IV) and the results showed that men and women differed in lifespan distribution of PTSD. The highest prevalence of PTSD was seen in the early 40s for men and in the early 50s for women, while the lowest prevalence for both genders was for those in the early 70s. Women had overall two-fold higher PTSD prevalence than men. Although the present study looked at gender differences in PTSD, it was done among teen orphans of secondary school-going age. PTSD prevalence in this study was measured using the Impact of Events Scale-Revised (IES-R).

According to Ehlers and Clark (2000) cognitive models of trauma response focus on the role of appraisal in evaluating the threat of a traumatic event and the ability to cope with that threat. They continue to say that when a trauma victim appraises the event as catastrophic, they continue to feel, even after the event has passed. This constant feeling of danger likely worsens symptoms of posttraumatic stress because the victim is unable to return to an adaptive stress response. This more common in females than males. In general, negative cognitive appraisals of a traumatic event are associated with increased risk for posttraumatic disorders (Nixon & Brayant, 2005).

Additional research has examined trauma victims' feelings of intense fear, helplessness and horror and demonstrated a positive association between these emotional responses immediately following a trauma and development of PTSD symptoms (Ozer, 2003). Studies specifically comparing gender differences in perceptions of fear, horror and helplessness revealed that women are more likely than men to view comparable events as threatening and therefore likely to experience PTSD (Noms, Foster &Welsshaar, 2002).

Oliff (2007) points out that one of the most consistent findings in the epidemiology of PTSD is the higher risk of this disorder in women. It is suggested in his study that the women's higher risk may be due to the type of trauma they experience, their perception of threat and loss of control and higher levels of peri-traumatic dissociation among other reasons.sPeritraumatic dissociation is posited to be harmful to trauma victims because it may lead to inadequate consolidation of the traumatic memory. As a result, the victim may be unable to adequately process trauma-related cognitions and emotions, and therefore fail to engage in an adaptive stress response (Hegadoren, 2006). Females appear to engage in more peritaumatic dissociation than males (Bryant & Harvey, 2003) although not all studies reported this effect (Punamaki, Komproe, Qouta, Elmasri & De long, 2005).

Another factor to consider in the examination of gender differences is the extent to which men and women feel a sense of mastery, or control over events that occur in their lives. When trauma victims believe they have the ability to alter their life circumstances, they are less likely to exaggerate the severity of potential danger or ruminate on what has happened to them (Benight& Bandura, 2004). In addition, they are more likely to engage in effective coping strategies and more motivated to remove themselves from potentially harmful environments. Studies have shown that individuals who report low mastery or self-efficacy suffer from post traumatic

distress than those who report high mastery or self-efficacy (Benight, et al. 2000) and interventions focused on improving coping self-efficacy have been successful at reducing PTSD symptoms (Freuh, Turner, Beidell, Mirabella, & Jones, 1996; Ozer and Bandura, 1990). On the other hand, individuals who believe they have control over their current response to the trauma and over the chance of the trauma happening again appear to be more resilient to developing PTSD (Frazier, Berman, & Steward, 2002). The National Cormobidity study based on interviews with a representative national sample of 8,098 individuals between the ages of 15-54 found that 60.7% of men and 51.2% of women have experienced at least one traumatic event in their lifetime. However, the estimated lifetime prevalence of posttraumatic stress disorder is 10.4% among women and only 5.0% among men (Kessler, Sonnega, Bromet, Hughs, & Nelson, 1995). Other studies have also demonstrated higher rates of mood and PTSD symptoms in girls than in boys (Pynoos, 1993) or for example, in African-Americans aged 7-18 (Fitzpatrick &Boldzidar,1993), males were more likely than females to be victims of and witnesses to violent acts but symptoms of post traumatic stress disorder were more severe in victimized females.

In a survey conducted in South Africa at three secondary schools (N=307) Seedat,(2000) noted that there were high rates of PTSD (12.1%), with girls reporting more trauma exposures and PTSD symptoms than boys. Given these preliminary findings and given the high rates of criminal violence in South Africa (victims of crime survey, 1998), it was predicted that S.African respondents, especially females, would endorse considerably higher rates of trauma and PTSD.

In another study conducted in Uganda by Robert (2008) to investigate factors associated with PTSD and depression amongst internally displaced persons in northern Uganda, it was discovered that over half (54%) of the respondents met symptom criteria for PTSD and over two-

thirds (67%) of the respondents met symptom criteria for depression. More than half of the respondents who met the criteria for PTSD were women.

Seedat (2004) assessed trauma exposure, posttraumatic stress symptoms and gender differences in adolescents from two African countries discovered that in a sample of 2041 boys and girls, more than 80% reported exposure to severe trauma either as victims or witnesses. Kenyan adolescents, compared to South African adolescents, had significantly higher rates of exposure to witnessing violence (69%v58%), physical assault by a family member (27%v14%) and sexual assault (18%vz14%). Kenyan adolescents had much lower rates of PTSD. Boys and girls were equally likely to meet symptom criteria for full PTSD and partial PTSD, and PTSD symptom clusters (re experiencing, avoidance, and hyper arousal symptoms) did not differ significantly by gender.

Most of the studies seen in this section for example Roberts (2008), Tolin & Foa (2006) have focused on gender disparity in PTSD among older persons who have been traumatized by other reasons than orphanhood. Possible traumatic events included physicalassault, sexual assault and other related traumatic events.The current study focused on gender disparity among teens who were orphans.

2.4 Personality and PTSD

A number os studies have shown that although exposure to potentially traumatic events is common, development of PTSD is relatively rare, which is one of the reasons PTSD remain a controversial psychiatric entity. In a systematic study conducted on Pubmed, PsycINFO, and academic search from 1980-2012, Jakvic, Brajkovic, Ivezic, Topic, & Jakokjevic (2012) found that PTSD is positively related to negative emotionalty, neuroticism, harm avoidance, novelty-

seeking, self-transcendence, hostility and trait anxiety. This raises the possibility that some individuals may have pre-trauma vulnerability in their personality for developing diagnosable PTSD symptoms (Lauterbach & Vrana, 2001).

Engelhard, Van de Hout, & Kindt, (2003) did a prospective study that tested two possibilities. One, if neuroticism can be a risk factor for PTSD symptomatology or two, if the relationship might be based on context overlap in arousal symptoms. They used 1370 women early in pregnancy measuring neuroticism and baseline arousal symptoms. 126 of them had pregnancy loss and assessed for PTSD symptoms. Results showed that pre-trauma neuroticism strongly predicted PTSD symptoms after pregnancy loss. The current study on the other hand looks at if PTSD symptoms can be predisposed in orphans due to their traumatic experience.

Nielsen, Anderson, & Hugh, (2015) in a study to investigate the influence of predisposing personality traits on the development of PTSD symptoms among Danish soldiers deployed in Afghanistan found significant relationship between the pre-existing personality traits of neuroticism with the development of symptoms of PTSD. A number of studies on the correlation between personality and PTSD symptoms have been on soldiers and very little done on orphanhood status.

A longitudinal study of the relationship between personality, coping, social support and PTSD symptoms was done by Faurbach & Lawrence (2003). The study was on 158 adult burn survivors. They completed questionnaires on each of the variables while in hospital. Results showed that neuroticism was the most important personality dimension in predicting PTSD symptoms. The study by Faurbach et al (2003) was a longitudinal study on adult burn survivors but my study was cross-sectional study on orphaned students of between 14-18 years.

Cox, Mac Pherson, Enns, & Williams, (2004) investigated elevated neuroticism in association with the presence or absence of PTSD in a nationally representative sample of adults who had experienced a traumatic stressor. In separate regression analyses, elevated levels of neuroticism was significantly associated with PTSD symptomatology among men and women who had experienced one or more traumatic events. It is evident that majority of studies on personality have focused on other traumatic events rather than orphanhood as a stressor.

In a study of victims of road traffic accidents and to investigate the contribution of personality and peritraumatic dissociation in the developmemt of PTSD symptoms in them, Holeva and Terrier, (2001) found that although neuroticism and peritraumatic dissociation were significantly correlated with PTSD symptoms, only the personality dimensions were indepenedent and significant predictors of subsequent PTSD .

It is to be noted that most of the researchers that have been done on personality and PTSD symptomatology have focused on adults who have experienced traumatic experiences rather than orphanhood. Most of the researchers have also been in the developed world and not in Kenya. This research therefore addressed the correlation between Big Five personality traits (and not just neuroticism) and PTSD symptoms in orphans of school-going age.

2.5 Social Support and PTSD

According to UNICEF (2008), there are an estimated 132 million orphans in sub Saharan Africa, and the importance of researching on their adverse circumstances and how to improve their well being cannot be under estimated. Many studies report the psychological trauma associated with the situation experienced by orphans in crisis (see Schaal& Elbert, 2006). Research communicates that orphans, particularly in developing countries, have a significantly greater

tendency towards symptoms related to PTSD and need support to alleviate such symptoms (Schaal& Elbert, 2006).

De long (2012) discussed social support systems and the ways in which they impact persons diagnosed with posttraumatic stress disorder. The study analysed three different variables race/ethnicity, gender and trauma in a group of 200 adults diagnosed with PTSD. She used the Social Support Questionnaire (SSQ), the Inventory of Socially Supportive Behaviors (SSB), and the Social Reactions Questionnaire (SRQ) to compare differences in the three variables. The current study on the other hand did not use standardized tests but formulated appropriate questionnaires and Discussion Groups to determine the extent of social support given to orphans and how this impacted on their PTSD symptoms.

In an attempt to compare the influence of separate domains of support on post-traumatic cognitions, Woodward, Eddinger, Henschei & Dodson, (2015) used Multi-group path analysis to examine a model in a sample of 170 victims of intimate partner violence and 208 motor vehicle accident victims. Support from friends, family and a close other were each predicted to influence posttraumatic cognitions, which were in turn predicted to influence PTSD. Analyses revealed that support from family and friends were each negatively correlated with posttraumatic cognitions, which in turn were positively associated with PTSD symptoms. Social support from a close other was not associated with posttraumatic cognitions. The present research focused on finding out if orphans received adequate social support from school and not from family or friends to help alleviate their status.

Dal et al. (2016) did a follow-up assessment of PTSD symptoms in flood victims 13-14 years after they were diagnosed with PTSD in 2000 to measure the prevalence rate of PTSD and

identify the association between social support and the recovery from PTSD. A follow-up survey was done between 2013-2014 to diagnose victims of flooding of 1998 in China and who had been diagnosed as having PTSD in 2000. The study concluded that social support was significantly associated with recovery from PTSD. This study on the other hand was not a follow up survey spanning years but focused on orphans who had lost their parents and who were probably suffering from PTSD symptoms.

To determine the correlation between social support and PTSD symptomatology in women traumatized by the war and post-war social insecurity in Bosnia and Herzegovina, Klaric et al (2008) used 187 randomly selected women who were exposed to a wide spectrum of traumatic events during the war. They concluded that sources of social support which the traumatized women drew from family, friends and co-workers moderated the effects of PTSD symptoms in the victims. Their study focused on women only while my study includedboth both boys and girls who had been orphaned and how social support alleviated their PTSD symptomatology.

Andrews, Brewin, & Rose (2003) investigated gender differences in social support levels and benefits in 118 male and 39 female victims of violent crime assessed for PTSD symptomatology. Within 1 month post-crime, both genders reported similar levels of positive support and support satisfaction, but women reported significantly more negative responses from family and friends. Overall negative responses and support satisfaction , but not positive support were significantly associated with PTSD symptoms. The current study targeted orphans who had not necessarily sufferd criminal acts.

To examine whether perceived social support buffered the impact of PTSD symptoms on suicidal behavior, Pangiot, Gooding, Taylor, & Tarrier, (2014) studied 56 individuals who had

previously been exposed to traumatic event. They were assessed for PTSD symptoms, perceived social support and suicidal behavior. Results indicated that perceived social support, moderated the impact of the number and severity of PTSD symptoms on suicidal behavior. The study was onlylimitedto suicidal characters while this study researched on all orphans whether suicidal or not.

Maselesele, & Idemudia, (2013) investigated the relationship between mental health and posttraumatic stress disorder sypmtoms after orthopaedic trauma, and to find out if social support moderates the relationship between mental health and PTSD. They carried out a cross-sectional study and collected data using the Revised Civilian Mississippi scale for PTSD. Although the study found a statistically significant relationship between mental health and PTSD after orthopaedic trauma, perceived social support did not moderate mental health or illness. The current study used the Impact of Events Scale-Revised to collect data to determine PTSD symptomatology.

It is noted that most of the researches that have been done to investigate if social support alleviates PTSD symptoms and builds resilience in the victims have been on adults traumatized by factors other than orphanhood. In addition, very liite research on the same has been done in Africa and Kenya in particular.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

The chapter covers the research design, the study area, the target population, sample size and sampling techniques, instrumentation, data collection procedures, methods of data analysis and ethical considerations.

3.2 Research Design

Descriptive survey design and correlation research were adopted in this study. Frankel and Wallen (2009) describe descriptive survey as that method that involves asking a large group of people questions about a particular issue. Information is obtained from a sample rather than an entire population at one point in time, which may range from one day to a number of weeks. Such surveys are only concerned with conditions or relationships that exist, opinions that are held, processes that are on-going, effects that are evident or trends that are developing. Orodho (2003) notes that this design enables the researcher to gather information, summarize it, present it and interpret it for more clarification. This method has the advantage that it presents an opportunity to fuse both quantitative and qualitative as a means to reconstruct the 'what is' of a topic. In this study, descriptive survey was used used to collect data about the orphans and the presence of PTSD among them. Descriptive survey was used collect date and analyse data on PTSD prevalence.

Correlation design measures the relationship between two variables. It has the advantage that it allows general predictions. However, it cannot prove that one variable causes a change in another. It is also advantageous in that it allows the researcher to investigate naturally occurring variables that maybe unethical to conduct or impractical to conduct experimentally (McLeod,

2008). In this study, correlation design was used to measure the relationship between personality and PTSD Symptomatology.

3.3 Study Area

The study was carried out in Gem Sub-county of Siaya County in Kenya. Gem sub-county covers an area of about 405 km^2 with a population of about 160,675 people according to government census carried out in 2009. It has a population density of 397.7 people per km^2. According to the census report, males are 76,527 while females are 84,148 and the total number of households being 37,202 with an average household size of 4.32 (Kenya Bureau of Statistics, 2012).

The sub -county has two divisions namely Yala division and Wagai division and it borders Alego-Usonga Sub-County to the west, Emuhaya sub-county to the East, Bondo sub-county to the south and Mumias sub-county to the north. The main economic activity is crop farming and owing to the large population, many people practice peasant farming with very minimal commercial farming.

The sub-county is served by two main roads, that is, Kisumu-Siayaroad and Kisumu-Busia road and a myriad of feeder roads developed by the Millennium Development Goals Project. A major setback is lack of electricity in majority of households.

According to the Kenya Bureau of statistics records, the poverty index of Gem sub-county is at 57.9%, a fact which is mirrored at the national level. The Constituency Development Fund (CDF) has, however, contributed immensely in improving infrastructure in the sub district especially in the building and improving of schools (Kenya Bureau of Statistics, 2012).

The sub-county experiences annual rainfall of between 1,170mm and 1,450mm with a mean annual temperature of 21.75 and a range of 13 degrees centigrade and 30 degrees centigrade. The infant mortality rates are at 112/1000 and under five mortality rate at 102/1000. Life expectancy in the sub-county is at 56 years. There are a total of 157 schools in the sub-county with 105 being primary and 52 secondary schools. The teacher pupil ratio is about 1: 53.

Gem sub county was targeted in that 40% of all the students in the schools in the sub-county are orphans as compared to the neighbouring Ugenya sub-county and Bondo sub-county whose Orphanhood rates are at 32% and 28% respectively (Kenya Bureau of Statistics,2012).

3.4 Target Population

The study population comprised 52 Deputy Head teachers and 4568 orphans from form one to four.

3.5 Sample Size and Sampling Techniques

Simple random and stratified sampling techniques were used in this study. Simple random sampling technique was used because it gives each individual the same probability of being chosen at any stage during the sampling process and it requires minimum advance knowledge of the population. Using The Krecjie and Morgan (1970) formula, a sample size of 354 orphans was selected using simple random samplingtechnique. According to them, a sample size of 354 would be representative of the orphan population of 4568. Krecjie & Morgan (1970) formula is as follows:

S=X2NP(1-P)/d2(N-1)+X2P(1-P)

S=required sample size

X2=the table value of chi square for one degree of freedom at the desired confidence level

N= the population size

P=the population proportion (assumed to be .50 since this would provide the maximum sample size)

d= the degree of accuracy expressed as a proportion (.05)

Stratified random sampling technique was used to classify the schools into 3 strata of boys' schools ,girls schools and mixed schools for purposes of representation. Three schools were identified. A total of 180 boys and 174 girls were selected from the 3 categories of schools.

Purposive sampling was used to select 15 Deputy headteachers of the sampled schools. This technique was used because of its power in selecting information-richcases for in-depth interviews and discussions, (Patton,1990).

3.6 Instrumentation

The instruments for collection of data were an interview schedule, focus group discussion guide and standardized tests to measure PTSD Symptoms and Personality among orphans. These tests were The Impact of Events Scale- Revised (IES-R) and the Big Five Personality Test. The IES-R was chosen since it is a solid measure of post-trauma phenomena that can augment related assessement approaches in clinical and research settings. It is one of the most widely-used self-report measure within the trauma literature (Beck et al. 2008). For the Big Five Personality test, since 1990s, there has been increasing evidence to support the Big Five traits model over other

models. The traits seem to be the result of approximately equal influence from environment and hereditary circumstances.

3.6.1 Students' Focus Group Discussion

Three focus group discussions were aimed at finding if the orphans received any form of social support, either psychological or material from their schools. Some of the areas of discussion included knowledge of Guidance and Counseling departments, if the orphans received support from the school,if their orphan status affected their academic performance among other issues (see appendix page 98).

3.6.2 Deputy Head Teacher's Interview

This interview was based on the Deputy Head Teacher's perspective and opinions on the role of personality as a risk factor in the development of PTSD symptoms among orphans, the role of gender in the development of PTSD symptoms and the contribution of social support in the alleviation of PTSD symptoms among orphans (see appendix page 97). Face to face interviews are characterized by synchronous communication and can take advantage of social cues like voice, intonation, body language of the interviewee which can give the interviewer a lot of extra information, (Opdenakker, 2006).

3.6.3 The Impact of Events Scale- Revised

The Impact of Events Scale- Revised (IES-R) is a standardized instrument developed by Weiss and Marmar (1997) to determine prevalence of PTSD symptoms (see appendix page 90). The researcher used it specifically to determine the prevalence of PTSD symptoms among sampled orphans in sampled secondary schools in Gem sub-county.

This instrument is a 22-item self-report measure whose items are rated on a 5-point scale ranging from 0-4. The values are assigned as follows:

Not at All (NA)=0; A Little Bit (LB)=1; Moderately (M)=2; Quite a Bit (QB)=3; Extremely (E)=4. The IES-R yields a total score (ranging from 0-88). Scales are formed for the three sub-scales which reflect intrusion (8 items); avoidance (8 items); hyperarousal (6 items) and they show a high degree of inter-correlations=.52 to .87 (Creamer et al. 2003). High level of internal consistency has been reported, intrusion; Cronbach's alpha=.87-.94; Avoidance, Cronbach's alpha=.84-.87; Hyperarousal, Cronbach;s alpha=.79=.91 (Creamer, Bell, & Failla, 2003; Weiss and Marmar, 1997). Test-retest reliability collected across a 6-month interval ranged from .89 to .94 (Weiss and Marmar, 1997; Asukai, Kato, Kawamura, Kim, &, Yakimoto, 2002)

3.6.4 Big Five Personality Test

Another standardized test that the researcher used was The Big Five Personality Test which is widely considered to be the most robust way to describe personality differences (Cobb-Clark, Schurer, 2012). The test has shown high reliability and in Schmitt et al (2007), internal consistency of factor items based on Cronbach's alpha in a study carried out in56 S. American nations showed a reliability range of 0.70 to 0.86. The researcher used this test to determine the connection between personality and the PTSD among orphans (see appendix page 92).

3.6.5 Pilot Study

A pilot study was carried out in 3 secondary schools, a boys' school, a girls' school and a mixed school in Gem sub-county on 118 orphans who were not included in the final study. Prevalence of PTSD symptoms was noted among the piloted orphans and neuroticism was noted as a dominant trait of the piloted orphans. A trend in the data from the pilot study showed

susceptibility of the female students to PTSD symptoms as compared to their male counterparts. Five Deputy Head Teachers were also interviewed. Through the pilot study, validity and reliability of the instruments were determined. Internal consistency reliability of the instruments was determined for the total and for the sub-scales using Cronbach's alpha.

3.6.6 Reliability of the Instruments

Reliability of the instruments refers to the extent that the instrument yields the same results over multiple trials.

The questionnaires, that is, the IES-R and The Big Five Personality were administered to students on a test-retest format in a period of two weeks. A correlation analysis was carried out on the results to determine the reliability index. They were judged as reliable as they attained a Pearson's Product Moment Correlation Coefficient of .7 and .8 for the IES-R and The Big Personality Test respectively. The deputy headteachers' interview was at .7.

3.6.7 Validity of the Instruments

Validity of the instruments refers to the extent that the instrument measures what it was designed to measure.

Content and face validity of the instruments was done by experts from Maseno University in the Department of Educational Psychology as well as the researcher.

3.7 Data Collection Procedures

The researcher sought permission to collect data from Maseno University through School of Graduate Studies. Consent to collect data was also sought from Maseno University Ethics Review Committee (see page 107). Consent was also sought from the County Director of Education, Siaya County and the Sub-county Director, Gem sub-county. The researcher also

visited the sampled schools to seek permission from the Principals to conduct the study and requested the respective Parents Association to allow the students participate in the study. Data was then collected by administering the questionnaire and conducting interviews to the respondents. Data was collected by use of standardized tests, interview schedule and focus

3.8 Methods of Data Analysis

The data collected was sorted, edited, coded, classified and then tabulated. Quantitative data was analyzed using descriptive statistical measureswhich included, means and standard deviations, frequency counts and percentages to analyse the prevalence of PTSD symptoms among sampled orphans. The result has been presented in form of a table. Inferential statistics was carried out to determine gender differences among the sampled orphans. Correlation analysis was carried out to determine the correlation between PTSD symptoms and different types of personality traits. Qualitative data from the Deputy Headteachers and orphans on social support was transcribed then organized into various themes covered by the study objectives. This was done using inductive thematic analysis as outlined in Braunn & Clarke (2006).

3.8 Ethical Considerations

The British Education Research Association (BERA)(2011) guidelines on education research emphasize the need for research to be conducted in ways that will not jeopardize future research. Participation of the respondents was voluntary. They were also informed of the benefits of the research. The research was conducted in an ethical manner and all participants treated with dignity and utmost respect. The participants were also informed about the purpose of the research.

The researcher also ensured that the confidentiality and privacy of the participants was upheld. All respondents were given an opportunity to express themselves confidentially and their opinion respected in regard to the items identified for the purpose of research. The researcher sought permission to carry out the research from Maseno University Ethics Review Committee (MUERC).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Overview

This chapter presents demographic data of the respondents, results and discussion and of the study. To assess the prevalence of Posttraumatic Stress Disorder symptoms among orphaned students in secondary schools in Gem sub-county, the study sought the views and opinions of orphaned students and Deputy Head-teachers in Gem sub-county. The results and the discussions of the findings are presented under the themes based on the objectives of the study.

4.2 Demographic Characteristics of the Respondents

Male and female orphaned students were sampled from secondary schools in Gem sub-county. They were aged between 14-18 years. The demographic distribution of the respondents indicated that of the 354 copies of questionnaires issued to orphaned students in Gem sub-county, 302 were completed and returned. The rest were either incomplete or spoiled. Of the returned, 51.9% (157) were males while 48.7% (145) were females. This constituted 85.31% of the total number of copies of questionnaires which was sufficient to give a meaningful computation of the responses for data analysis. According to Keeter, Kennedy, Dimock, Best, &, Craighill, (2006), a low response rate of less than 50% can give rise to sampling bias while higher response rate assures more accurate survey results. Richardson (2005) stated that 50% is regarded as an acceptable response in social research surveys. The respondents were either partial or total orphans and they were students in secondary schools

Table 4.1 : ***Age Distribution of the Respondents***

(n=302)

AGE (Years)	14	15	16	17	18
BOYS	23	36	35	42	29
GIRLS	26	23	30	32	26

4.3 PTSD Prevalence

In order to determine prevalence of PTSD symptomatology, frequency analysis was conducted based on the three sub-scales of PTSD symptoms that is avoidance, hyperarousal and intrusion. **Table 4.2** shows results in percentages from the frequency analysis. According to Weiss &Marmar (1997) mean score of between 0-1.5 is considered mild case while mean score of 1.5-2.5 is moderate. However, one who scores a mean of 2.5 to 4.0 is seen as high.

Table 4.2: ***Frequency and percentages of PTSD prevalence***

Level of PTSD	Avoidance		Hyperarousal		Intrusion	
Prevalence	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Mild	9	3.0	15	5.0	41	32
Moderate	133	44	111	36.7	80	26.5
High	160	53	176	58.3	218	72.2

Results from Table 4.2 indicate that over 50% of all the sampled orphan students had PTSD Symptoms and the intrusion sub-scale had the highest with 72.2% scoring high. That is to say

that over 70% scored means of more than 2.5 on the intrusion sub-scale, over 58% on the hyperarousal sub-scale and 53% on the avoidance sub-scale. (See Appendix D,E,F for actual frequencies). The results in Table 4.2 further show that in all the three sub-scales, the orphans who had mild symptomatology were less than 10%. This could be attributed to the fact that the burden of orphanhood is high and continues to rise in middle and low income countries due to the ravages of HIV/AIDS and coupled by adverse socio-political circumstances. These results in Table 4.2 reveal that the prevalence of the PTSD symptomatology among the sampled orphans is high. Such orphans would suffer from symptoms like trouble falling asleep, being reminded about the sad event and by pictures about it popping in their mind. These results suggest that certain extreme conditions extinguish normal capacities for resilience, at least among adolescents.

The findings are in line with the Dual Representation theory (Brewin, 2003). The theory posits that traumas experienced after early childhood and even later give rise to 2 sorts of memory, one verbally accessible and the other automatically accessible through appropriate situational cues. These different types of memories can explain the complex phenomenology of PTSD, including the experience of reliving the traumatic event and the frequent flashbacks among the learners as can be seen from the results of the study.

This result also supports the findings by Hasanovic at al. (2006) who found that of the orphaned chidren in SOS villages, PTSD symptoms were present in 51.6% of them. The aim of the study was to assess the psychological health of war-traumatized orphaned children in Bosnia & Herzegovina. 186 children were assessed (93 girls and 93 boys) for PTSD and depression. Data was collected using Children's PostraumaticStress Reaction Index and Childern's Depression

Inventory. The study shows that most orphaned and traumatized chidren would suffer from Posttraumatic Stress Disorder.

The results from Table 4.2 are in line with a study carried out in Tanzania by Myovela (2012) to assess the prevalence of Postraumatic Stress Disorder and associated mental health problems among 350 intitutionalized orphans. It was a cross-sectional study of orphans aged between 7-17 years from 15 orphanages. Standardized scales were used to measure level of PTSD symptoms. 44% met the DSM-V criteria for PTSD. This shows that PTSD also affects those orphans who are institutionalized.

It can therefore be noted that orphanhood is a traumatic experience to students. Although it may not leave physical scars on the orphan, the subsequent psychological effect is very traumatic and in many cases affect their academic performance and personality negatively. This is normally worsened by the fact that orphanhood is normally accompanied by loss of steady source of income and uncertainity about future life and survival.

4.4 Gender Differences in PTSD Symptomatology

The impact of Events Scale-Revised was used to collect date on gender differences and levels of PTSD Symptomatology among the orphans. An independent t-test was run to determine if there were differences in PTSD symptoms between males and female orphaned students. There were no outliers in the data as assessed by inspection of a box plot. PTSD scores were normally distributed for each gender and as per the output of the Levene' test, variances were equal across the two groups.

Table 4.3:***Results of t-tests for PTSD symptoms by gender***

(n=302)

	Male			Female			95% CI for MD	
	M	**SD**	**N**	**M**	**SD**	**N**	**t**	**df**
Avoidance	2.37	0.48	157	2.70	0.53	145	5.522	300
Intrusion	2.58	0.51	157	2.91	0.47	145	5.991	300
Hyperarousal	2.37	0.56	157	2.74	0.56	145	5.820	300

p=.000

There is statistically significant mean difference in all the 3 levels of PTSD symptoms between males and females.

For avoidance sub scales, males (M=2.37 SD=0.48) and females (M=2.7 SD=0.53) t (300)=5.52, p=0.000

For the intrusion sub-scale, males (M=2.58 SD= 0.50) and females (M=2.91 SD=0.47) t (300)=5.99, p=0.000

For the hyperarousal sub-scale, males (M=2.4 SD=0.56) and females (M=2.7 SD=0.56) t (300)=5.82, p=0.000

Results show that female orphans tend to have higher PTSD symptoms than male orphans. This has been shown in all the three sub scales of avoidance, intrusion and hyperarousal. These results show that female orphans tend to be affected more by traumatic experiences like death of a loved one as compared to their male counterparts. This has been attributed to a number of factors

ranging from peritraumatic dissociation and lack of mastery or resilience when faced with traumatic experiences. Women also have been shown to be more liable to take self-blame for traumatic experiences around them thus worsening their symptomatology.The higher symptomatology in women has also been attributed to biological factors (Oliff, 2007).

A similar view has been noted by Brayant& Harvey (2003) who suggest that the higher risk of PTSD symptomatology in females is due to lower or lack of mastery or control over traumatic events that occur in their lives as compared to men. However, some have argued that the increased prevalence among females is due to a report bias because males tend to under-report and females tend to over report symptoms of PTSD (Saxe & Wolfe, 1999). According to Tolin and Foa (2002), men and women might also respond to trauma differently in terms of their immediate peritraumatic and posttraumatic cognitions and behaviours.

Compared to male trauma survivors, female trauma survivors endorsed more self blame for the event, greater belief that they were incompetent or damaged, and greater belief that the world is dangerous. However, in another study carried out by Galovski (2011), males and females seeking treatment for PTSD related to interpersonal assault expressed comparable levels of PTSD severity, depression, guilt, and trait anger. But the same study found that males reported higher levels of state anger and females reported more health –related complaints. The findings in Table 4.3 are in line with a study that the higher degree of negative affectivity in females may result in more reactive emotional and somatic responses in females compared to males (Zeidner, 2006). Pierce, Newton, Buckley, &, Keane, (2006) in the same way purport that the higher symptomatology of PTSD among females as compared to males is due to the use of emotion-focused coping strategies in females.

Females handle stressful situations differently. Women in stressful situations may use a tend-and-befriend response rather than the fight-or- flight response. Emotion-focused, defensive and palliative coping are more prevalent in women while problem-focused coping is higher in men. (Oliff, 2017). On top of such coping strategies, it has also been suggested that the higher symptomatology among females is because females are more likely to blame themselves for the trauma and to see themselves and the world in a negative light following a traumatic experience unlike males (Cromer and Smyth, 2010). In this study therefore, it is likely that emotion focused strategies could account for higher PTSD symptomatology among females. This state of affairs has also been attributed partly to biological factors by Taylor (2000).

4.5 Personality and PTSD Symptoms

To determine if there is a relationship between personality of the orpharned students and PTSD, the Big Five Personality test was administered on the sampled orphans. The Personality test is called Big Five since it tests the prevalence of five personality traits in individuals. These include openness, conscientiousness, extroversion, agreeableness and neuroticism. Every individual has all the five traits in varying degrees. A frequency test was carried out using SPSS to find the prevalence of the different personality traits among the orphans. The following data was generated.

Table 4.4: ***Mean differences between the personality traits***

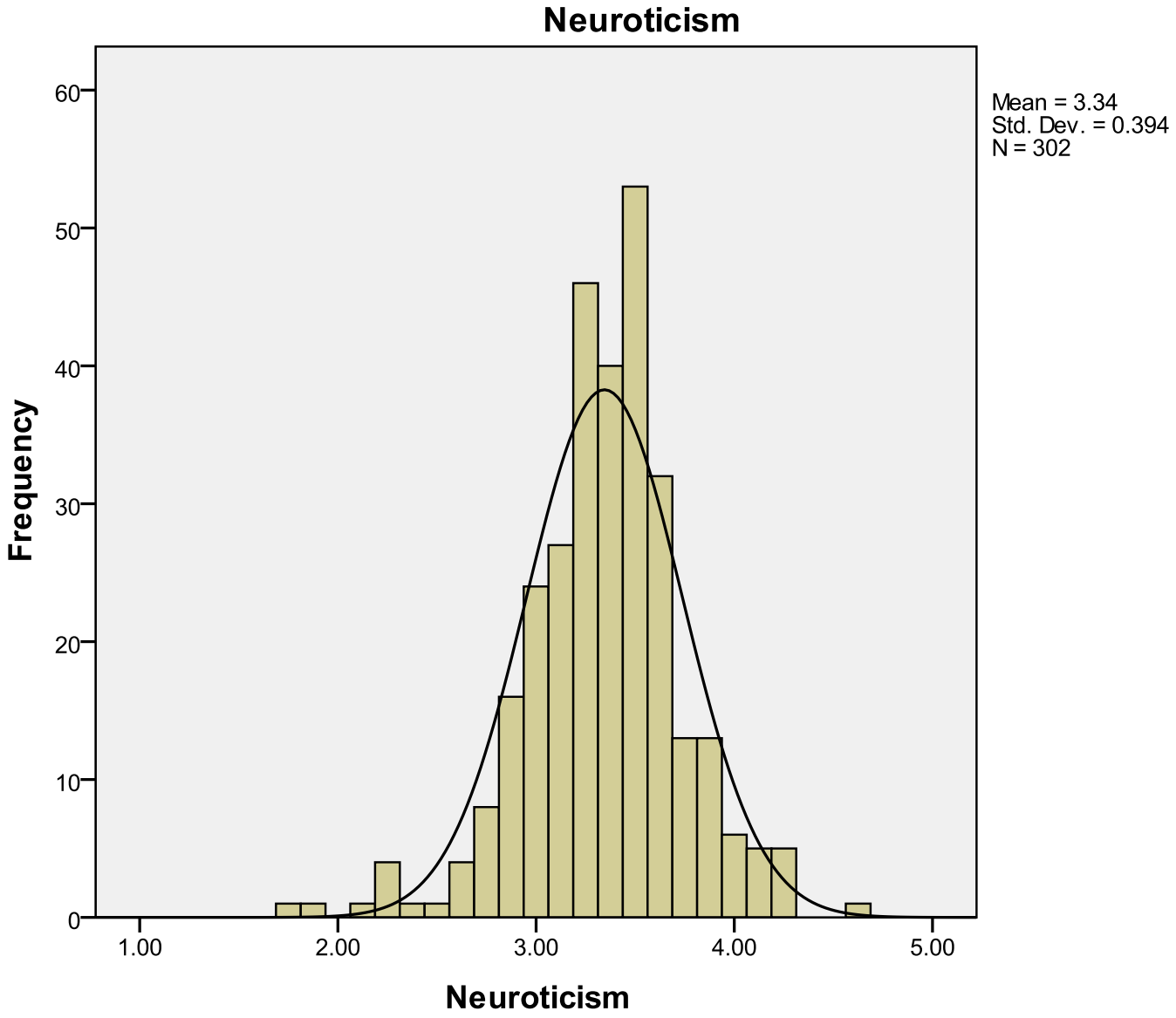
(n=302)

	Extroversion	Agreeableness	Conscientiousness	Openness	Neuroticism
Mean	2.41	2.67	2.77	2.73	3.36
Median	2.50	2.56	2.67	2.70	3.38
Std Deviation	.55	.58	.56	.48	.40

Hogan (1996) gave a benchmark for rating mean scores of the big five personality. Mean of between 1-2 was considered mild or low, mean of 2-3 was considered moderate while means above 3 were considered high. Table 4.4 shows that out of the five personality traits, neuroticism was significantly predominant among the sampled orphans scoring a mean of 3.34 as compared to extroversion (2.41), agreeableness (2.67), conscientiousness (2.77) and openness (2.73). With a maximum score of five, the score for neuroticism is significantly high.

Neuroticism has a number of underlying traits including being nervous, unpleasant emotions eg anger, anxiety, depressionand pessimistic approach to work; extraversion includes traits like assertiveness, excitement, seeking warmth, activity and positive emotions among others. Openness has underlying traits as being inventive, consistent, appreciation for art, adventure, preference for novelty and being imaginative; on the other hand, conscientiousness includes being efficient, dependable, show self-discipline, act dutifully, aim for achievement,and show preference for planned rather than spontaneous behavior. Agreeableness has underlying traits as being compassionate, friendly,and cooperative (Grocza & Goldberg, 2007)

To further illustrate the findings in table 4.4 is the data below that shows the prevalence of different personalty traits in the sampled orphans by use of histograms.

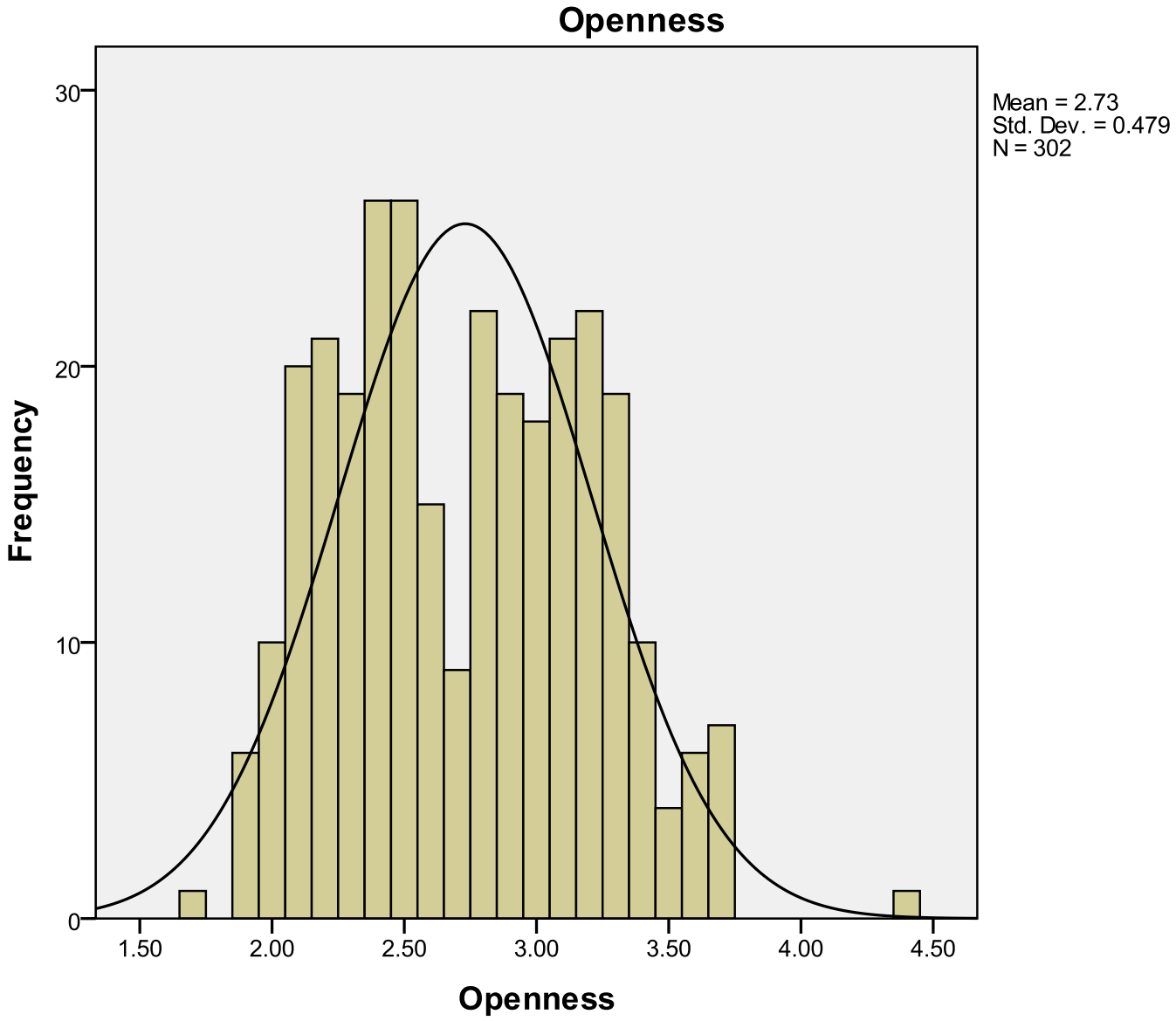


(n=302)

Figure 4.1 Histogram showing neuroticism scores

From Figure 4.3, it can be seen that the scores obtained for the domain of neuroticism fit well beneath the curve. The mean score for neuroticism sub-scale is 3.34 which is quite high scores showing that the majority of the sampled orphans had strong signs of neuroticism. Over 50 of the participants scored means of 3.6 while none of the participants had mean of 1.0.45 participants

scored mean of 3.3. The above figure illustrates the fact that majority of the orphans scored scores of between 3.0 and 4.0 which is an indication that neurotic tendencies like nervousness, trait anger, depression, pessimism and general negativity was common among the respondents. This finding is consistent with a study done by Engelhard (2007) who observed that PTSD is positively related to negative emotionality for example, neuroticism, harm avoidance, hostility, anger and anxiety.It is important to note that the respondents scored moderately high scores in the other personalty traits but all these are not comparable to neuroticism.



(n=302)

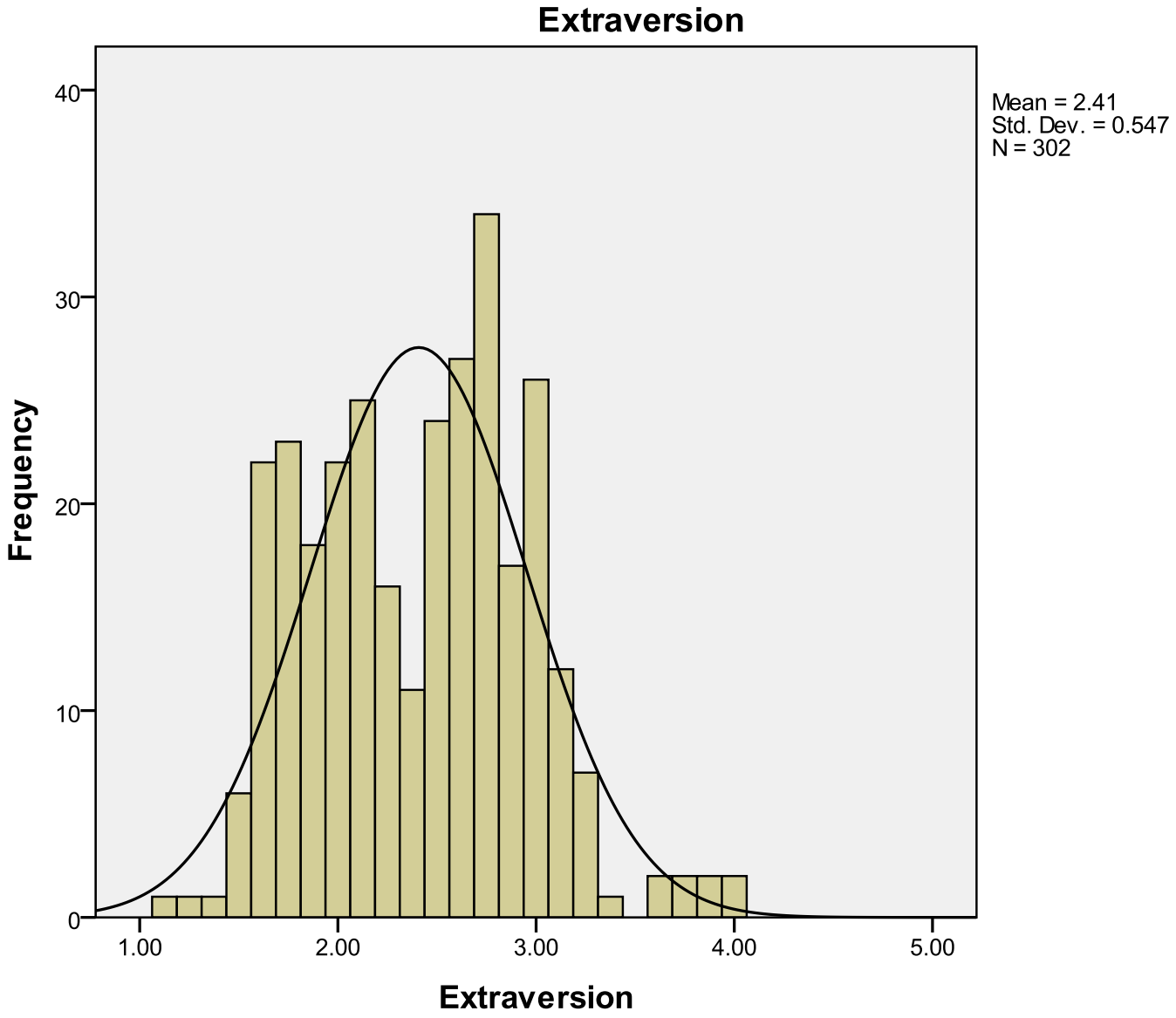
Figure 4.2 Histogram showing openness scores

Openness has underlying traits like being inventive, consistent, appreciation for art and adventure, imaginative and preference for novelty .The Big Five test questions that were to

address this trait incuded; I see myself as one who is, original, is curious about many things, is a deep thinker, is imaginative, is inventive, loves art and, prefers work that is routine.

As compared to neuroticism trait, openness has a mean of only 2.73 and less than 10 respondents have scores of 3.5. Majority of the respondents got scores of less than 3.5. Only about 25 respondents scored 2.5. This shows that very few orphans have trait openness and therefore majority of them are likely to be withdrawn.

The findings are in line with a study carried out in Ethiopia by Bhargava (2005) who studied the well-being of orphans. The study revealed that orphaned children showed more emotional and social adjustment problems. Low level of openness is an example of such social difficulties.

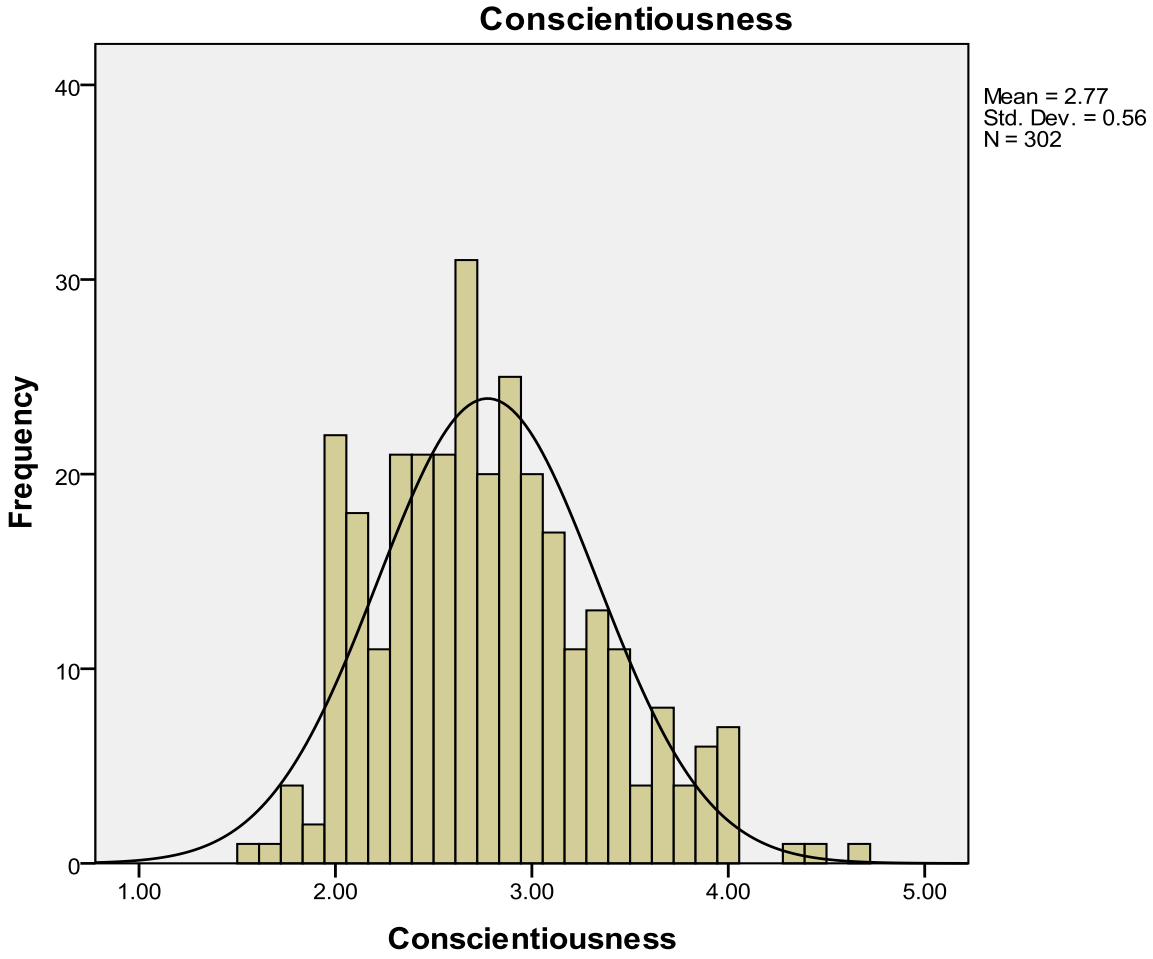


(n=302)

Figure 4 .3 Histogram showing extroversion scores

Extroversion as one of the traits of The Big Five has various underlyng traits including assertiveness, excitement, seeking warmth and general positive emotions (Mathews et al,2003). Questions in the questionnaire that sought to capture this trait included; I see myself as one who is, talkative, is full of energy, generates a lot of enthusiasm, has an assertive personality, and is

outgoing. Figure 4.5 shows lower tendency to extroversion among orphans as compared to neuroticism. Whereas the respondents scored a mean of 3.3 for neuroticism, they only scored a mean of 2.4 for extroversion. This implies a tendeny towards neuroticism among the sampled orphans as compared to extroversion. Only about 4 participants scored a mean of 4.0 for extroversion while for neuroticism 15 participants had means of 4.0 and above. The highest score was 2.8 that was obtained by only about 34 participants and this shows a tendency towards introversion.



(n=302)

Figure 4.4 Histogram showing conscientiousness scores

Conscientiousness as one of the traits in the Big Five Traits has other underlying traits including being efficient, dependable, showing self-discipline, act dutifully, aim for achievement and preference for planned rather than spontaneous behavior (Paunonen& Ashton,2001).

The respondents were asked a number of questions from the questionnaire to get the level of conscientiousness among the sampled orphans. Some of the questions included ; I see myself as someone who : does a thorough job, can be somewhat careless, is a reliable worker, gererates a

lot of happiness, tends to be disorganized, tends to be lazy, perseveres until the task is finished and makes plans and completes them. Figure 4.6 shows that conscientiousness is low as compared to neuroticism among the orohans, The mean for conscientiousness is 2.77 which is much lower than that for neuroticism.

Correlational analysis was further carried out to determine the strength of the relationship between the PTSD symptoms of avoidance, hyperarousal,intrusion and the five personality traits of the Big Five.

Table 4.5: ***Correlations between PTSD symptoms and personality Traits***
(n=302)

VARIABLES	Avoid	Hyper	Intr	Agree	Extra	Consce	Open	Neuro
Avoidance		.251	.178*	-.258*	-.238*	-.219*	-.218*	.137
Hyperarousal.			541*	-.174*	-.237*	-.152*	-.161*	.94
Intrusion				-.070	-.175*	-.087*	-.187	.089

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

Notes For sex 0= male, 1= female. Avoid-Avoidance, Hyper- Hyperarousal, Intr- Intrusion, Extra- Extroversion, Consce- Conscientiousness, Open- Openness, Neuro- Neuroticism

Table 4.5 clearly indicates that there is strong negative correlation with the three PTSD symptoms and personality traits like extraversion, conscientiousness, agreeableness and openness. On the other hand, the three PTSD symptoms have positive correlation with neuroticism with the strongest being hyperarousal symptom. The table shows that the more an orphan is suffering from hyperarousal, the less he or she would be extroverted, conscentious,

open or agreeable. The same case is applicable in the other two symptoms ie intrusion and avoidance.

Traumatized people are used to dissociation which is like not feeling their bodies; the memories cause them to shut themselves down, go numb, blank and frozen in order not to feel anything. This would affect their personality more toward neuroticism and less towards extroversion. These findings are consistent with a study by Ahern et al.(2004) that suggests that neuroticism and negative effectivity play a role in the development of PTSD.

Negative emotionalty (NEM) refers to dispositions toward negative mood and emotion and a tendency towards adversarial interactions with others. It is synonymous with neuroticism, subsuming traits relating to anxiety, alienation, and aggression and is thought to be linked to functioning of the neurobiological system underlying defensive behavior (Miller, 2004). This NEM has been closely related to PTSD symptomatology in a number of studies. Similarly, Cox et al.(2004), and Van Zeist, De Beurs, Beckman, Deeg, &, Van Dyck (2003) have shown that among individuals exposed to trauma, NEM is a significant predictor of PTSD even after controlling for a range of other important risk factors such as gender, early parental separation, preexisting anxiety/ depression, and parental mental disorder. Miller (2004) asserts that NEM is both a risk factor for PTSD and a dimension of personalitythat is altered as a consequence of trauma exposure. These studies support the findings in Table 4.5 that show a strong relationship between neurotic personality and PTSD symptomatology.

The findings are also in line with the results of a study carried out in Uganda among orphans. Sengendo and Nambi (1997) found that many orphans showed signs of stress. According to their

findings, orphans become withdrawn and passive or develop sadness, anger, fear and antisocial behavior. In other words, they become more or less introverts.

It can therefore be noted that the orphans who go on to develop PTSD symptoms may end up becoming introverts. This may affect their interaction with fellow students and also affect their academic performance.

4.6 PTSD Symptomatology and Social Support

Three Focus groups consisting of 8 orphans each drawn from sampled schools in the sub-county were engaged. Participants provided information from the group discussions in regard to:

1 How the orphans perceive the school's effectiveness in meeting their psychological needs

2. How the orphans perceive the school's effectiveness in meeting their material needs

3. If the orphans appreciate the role played by Guidance and Counseling department in their psychological well-being.

4.What major challenges affect their academic performance and general well-being as orphans.

From these discussion groups, the researcher learnt that none of the orphans had received any form of psychological assistance from the Guidance and Counseling departments in their schools. This is despite the fact that 6 orphans out of the 8 in a particular group admitted to having at one time required the services of a counselor to share their feelings with.

It was also noted that 5out of 8 orphans in another group did not actually know who the person responsible for Guidance and Counseling was and if there was any department by that name in their schools.

" I have never met the guidance and counseling teacher and many of my fellow students do not know who he is," reported an orphan.

From the three groups,it was also learnt from their discussion that the sampled schools had never offered any form of material or financial assistance to their plight e.g fee waiver. They identified lack of school fees and other necessities as major challenges to their education and academic performance.

" School fees is a big hindrance to my performance since I spend a lot of time at home" reported one.

The orphans admitted that their needy situation has contributed to their below average academic performance in their schools as they would stay long away from school due to school fees. All the groups were unanimous in the fact that some form of social support would help to alleviate the psychological effects of their orphanhood.

" I think I would be a better person and perform better in class if I worried less about my school fees and how to get basic needs in school," said another.

An in-depth interview was carried out among 15 Deputy-Principals within Gem sub-county to establish if social support is offered to orphans in their schools and if the orphans statuses affect their personality and alleviate their symptoms. All the Deputy Principals reported that the number of orphans in their schools were half of the school population.

'Most of the students that we admit are orphaned either partially or totally' reported a Deputy Principal.

They also observed that the number of orphans in their schools kept going up every year.For example, in one of the boys' schools, out of a population of about 1000 students, 420 were either total or partial orphans.

" The number of orphaned students we are admitting has been increasing each and every year in the last 5 years. The growth has been steady", reported another Deputy Principal.

The main aim of the interview was to find out if there was any form of social support offered to the orphans to alleviate their plight. Social support to those suffering from orphan hood and subsequent PTSD symptomatology has been shown as one of the greatest resources in coping with stress and trauma (Ozer et al. 2003). Out of the five respondents, none of their schools had put in place elaborate social support towards assisting the orphans either materially or psychologically

.*"We do not have a strategic plan in place to support the orphans either socially or materially" said another Deputy Principal, "and we only depend on support like government bursary to help the orphans financially"*

Social support in this context would include financial assistance in fee payment, provision of needs like uniforms, stationery, sanitary towels for the girls and pocket money. More importantly, social support would be in form of guidance and counseling.

Eight out of the 15 schools had functional Guidance and Counseling departments but which were more concerned with guiding and counseling those of deviant behaviors and discipline problems.

"We have guidance and counseling department with a head of department. However, the head of department is not a trained counselor. He is not very competent to handle many issues regarding the orphans. Most of the time he only deals with cases of deviant behavior", reported a Deputy Principal.

In one of the schools, there was minimal financial support towards some orphans when funds are collected from different stakeholders of the school. This was not consistent and would also depend on the academic performance of the orphan. This means that the weak performers would not benefit from this support.

It can therefore be concluded from the current findings that there is very minimal social support to orphans in secondary schools that were targeted in the study and this can heighten the PTSD symptoms severity in them. All the 15 respondents admitted that there were no immediate plans to initiate social support programmes for orphans in their schools. The Presence of PTSD symptoms among such orphans could therefore be attributed to lack of serious social support for orphans in these schools. This finding agrees with the study by Hyman, Gold, and Cott (2003) that found that there is a relationship between social support and PTSD . They found that the perceived availability of someone willing to listen to ones' problems alleviate the severity of PTSD symptomatology. Social support is a vital protective shield, 'a bandage' wrapped around a trauma- inflicted wound, making the recovery from trauma possible (House et al.,1994). This is also in line with assertions by Brewin et al (2000) who revealed that social support is the strongest predictor of PTSD, even stronger than peritraumatic dissociation.

The interview also sought to find out from the 15 Deputy Principals whether the orphan statuses affected their personalty and character generally. 9 out of 15 respondents admitted that most of the orphans in their schools were introverted and lacked self-esteem. The tended to be cold aloof and withdawn. 8 of the 15 respondents also stated that many of the orphans normally become deviants and have a tendency to break school rules.

" As one in charge of discipline, I have noted that nowadays, orphans tend to involve more in discipline problems as compared to other students," reported another Deputy Prrincipal.

Due to this, many of the orphans perform below average in academic performance. However, 6 respondents attributed the low academic performance to economic challenges that make orphans stay at home for long due to lack of school fees.

It can therefore be concluded from the above findings that there is very little social support offered to orphaned students in secondary schools in Gem sub-county. The lack of social support whether material or psychological is detrimental to the well-being of the orphans and affects their academic performance and character to the negative. It can be concluded that social support is necessary to help build resilience in traumatic experience like death of a parent and lack of social support to the orphans could heighten PTSD symptoms in them. Many school administrators are not equipped to deal with trauma in their students and many orphaned students do not get any psychological support from the school.

These findings are in line with a study by Sengendo & Nambi (2004) that show that children who are orphans face many psychological disorders that can lead to personality deviations. Their study revealed that adopting parents and schools have not provided the emotional and social support often needed for orphaned children. The school teachers do not know how to identify psychological and social problems and thus fail to offer individual and group attention.

The state of affairs as it is further contrasts the United Nations General Assembly Special Session on Children Declaration of Commitment (UNGASS DOC, Paragraph 65) that signatory countries will '…….by 2003 develop (and by 2005 implement) strategies to strengthen government, family and community capacities to provide a supportive environment for orphans with counseling, support, schooling, nutrition, and sevices.'

Poor social support following a traumatic event is among the greatest risk factors for PTSD across most types of trauma (Brewin, Andrew, & Valentine,2000; Ozer, Best, Lipsey, &Weiss, 2003) and the above findings therefore are consistent with this hypothesis. Little is however known about the mechanisms through which social support exerts its influence on either the

development or maintenance of PTSD (Vogt, King, & King, 2007). Several theorists have posited that greater social support may impact on PTSD by impeding the development and persistence of negative post-trauma cognitions (Ehlers & Clark, 2000; Guay, Billette, & Marchand, 2006). Negative cognitions about the self and the world discriminate between traumatized individuals with and without PTSD, and prospectively predict PTSD symptom severity (Dunmore, Clark, & Ehlers, 2001; Ehring, Ehlers, & Glucksmann, 2008).

However, directionality of the association between social support and PTSD symptomatology has been shown to vary over time. In earlier stages of coping with trauma, poor social support acts as a risk factor for greater PTSD severity (Kaniasty& Norris, 2008).

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1.1 Prevalence of PTSD

The first objective was to establish the prevalence of PTSD symptoms among orphaned students in secondary schools in Gem sub-county. The study sought to establish the prevalence of PTSD based on three symtomatology sub-scales of intrusion, hyperarousal, and avoidance. The results of the study revealed that on the intrusion sub-scale, over 65% of the respondents scored a mean of 2.5 out of a possible maximum of 5.0. Less than 10% of all the respondents scored a mean of less than 2.0. 116 reponents out of 302 scored a mean of 3.0 and above.

For the three sub-scales, on intrusion 72.2% of the respondents had high symptomatology while only 1.32% had mild symptomatology. For the Hyperarousal sub-scale, 58.3% of the paticipants had high scores while 36.7 had moderate symptomatology. Fot the avoidance sub-scale, 53% of the participants had high scores while only 3% had mild instance of avoidance.

5.1.2 Gender differences in PTSD Symptomatology

The second objective was to determine gender differences in PTSD symptomatology among orphans in Gem sub district. The results of the study showed that among the sampled orphans, females scored a mean of 2.69 on the avoidance sub-scale as compared to males with a mean of 2.37. The same was replicated in the intrusion sub-scale where the females had a mean of 2.92 against the males with a mean of 2.58. Finally in the hyperarousal sub-scale, the females had a mean of 2.75 compared to males who had a mean of 2.37. An independent sample t-test showed significant difference between the prevalence of PTSD symptoms between females and males p=.000(2- tailed test).

5.1.3 Personality and PTSD

The third objective sought to determine the types of personality traits associated with PTSD symptoms among orphaned studentsin Gem sub county. The study was based on the Big Five personality traits of extraversion, agreeableness, openness, conscientiousness, and neuroticism. The results of the study showed that, of the five traits, neuroticism had a more predominant mean of 3.34 out of a possible maximum of 5.0. This was much higher as compared to extraversion (2.41), agreeableness (2.67), conscientiousness (2.77) and openness (2.73).

About 50 respondents out of 302 had a mean of 3.6 while none of the respondents scored 1.0 on the neuroticism sub-scale. Over 50% of the respondents scored between 3.0 and 4.0 on this trait of neuroticism. Trait openness had less than 10 respondents attaining scores of 3.5 and above. Over 50% of the respondents scored less than 3.0 and only about 25 out of 302 respondents scored 2.5. For extraversion, the respondents' overall mean was only 2.4.

Trait extraversion had repondents' overall mean of only 2.4. Only about 4 participants out of 302 scored 4.0 and above. The highest score for extraversion was 2.8 obtained by only about 34 participants. This is much lower compared to trait neuroticism that had over 50 respondents scoring 3.7 and above. The same is replicated in trait conscientiousness where the highest score was at 2.8 attained by only about 30 respondents (N=302). Less than 5 respondents attained a mean higher than 4.0.

The correlation results also revealed that there is a strong negative correlation between avoidance symptom and agreeableness, extroversion, conscientiousness, and openness. On the other hand, there was a strong positive correlation between hypearousal, and intrusion symptoms with neurotic tendencies.

5.1.4 PTSD Symptomatology and Social Support

The fourth objective was to examine the role of social support in the relationship between orphan status and PTSD symptomatology among orphaned students in Gem sub county.

The results of the study revealed that none of the 15 schools sampled had any form of comprehensive social support either material or psychological for the orphans. 9 out of the 15 schools sampled had functional Guidance and Counseling departments which focused on correcting deviant behavior among the general student body but never had any form of social support targeting orphans. Only one of the schools had plans to initiate minimal financial support sourced from old students to assist orphans in their school.

From the students, results showed that they hardly received any form of assistance either psychological or material from their schools. The lack of any form of social support to the orphaned students affects the academic performance and personality to the negative.

5.2 Conclusions

The following were the conclusions from the study:

5.2.1 PTSD Prevalence

The prevalence of PTSD symptoms among the sampled orphans was quite high. Of the three levels of symptoms i.e Intrusion, Hyperarousal, and Avoidance, the most common was the intrusion symptom followed by hyperarousal and finally avoidance.

5.2.2 Gender Differences

Females suffered more from PTSD symptoms than males. The females suffered higher PTSD symptomatology than their male counterparts in all the three levels of symptoms of intrusion, hyperarousal, and avoidance.

5.2.3 PTSD Personality

Neuroticism was a dorminant and more prevalent trait among the sampled orphans compared to the other traits in the Big Five Personality Traits.The least commom trait among the sampled orphans was extraversion showing that orphans were more likely to be introverted than extroverted.

Orphans are therefore more likely to show more emotional and social adjustment problems and it is concluded that PTSD symptomatology is positively related to negative emotionality like neuroticism, harm avoidance, hostility, anger, and anxiety.

5.2.4 Role of Social Support

There were no comprehensive social support for orphans in the sampled schools and this greatly affected their academic performance and behaviour. The number of orphans had kept going up yearly but there was no formal social support towards them.

It was concluded that although there were Guidance and Counseling department in the sampled schools, they were not effective and hardly addressedthe psychological needs of the orphans. It is concluded that there is lack of social support either psychologicalor material to address the plight of the orphans.

The below average academic performance among the majority of the sampled orphans and deviant behavior noted in them could be attributed to lack of a formal social support to them.

5.3 Recommendations

The following are the recommendations of the study:

1. On the high level of PTSD symptomatology among the sampled orphans, it is recommended that counseling and child psychology be taught to all teachers and all schools should have a child

guidance counselor to help identify cases of PTSD symptomatology and offer psychological assistance to reduce prevalence of PTSD symptoms.

2. On the issue of gender and the higher level of PTSD symptomatology in females as compared to males, it is recommended that Education officials should initiate gender-specific supporttargeting psychological and material assistance to females in secondary schools and especially the orphaned.

3.On social support, it is recommended that there should be developed social support systems that would enhance resilience from PTSD and other personality disorders. Orphans need special guidance and counseling programmes. Schools should consider possibilityof recruiting qualified school counselors or child psychologist. The task here is to offer early warning of psychological conditions that may prevent a child from benefitting from school services and to offer referral services for the cases the professionals in the schools are not able to handle.

Psychological care should be of equal importance in the care of orphaned students as that of other needs such as providing food and school fees. Families that take care of orphans should be helped in terms of food security, income generation and counseling including information on the Rights of the Child, so as to take care of orphans better.Supporting bodies like the Constituency Development Fund should consider giving more financial assistance to the orphaned towards payment of school fees.

5.4 Suggestions for Further Research

From the study's findings, the following gaps emerged that are recommended for further research:

1) This study focused on orphans of between the ages of 13-19 that is of secondary school-going age bracket. It would, however be beneficial to compare the age distribution of PTSD prevalence in order to find potential discrepancies and in order to clarify the true extent of the vulnerability or risk of PTSD.

2) Future research should also include an examination of the association of different trauma types and their association with PTSD in order to find certain exposure biases or other possible effects seen from specific trauma types for example terrorist attack survivors

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APPENDICES

Appendix A: Impact of Events Scale- Revised (IES-R)

The IES-R is a 22-item self-report measure that assesses subjective distress. Items are rated on a 5-point scale ranging from 0 (not at all) to 4 (extremely). The IES-R yields a total score (ranging from 0-88) and sub-scale scores can also be calculated for the Intrusion, Avoidance, and Hyperarousal sub-scales.

Below is a list of difficulties people sometimes have after stressful life event in this case death of your parent(s). Please read each item and indicate how distressing each difficulty has been for you. Tick the appropriate space.

0=Not at all, 1= A little bit, 2= moderately, 3=Quite a bit, 4=Extremely

Name…… (Optional) Age……. Sex……..

1 Any reminder brought back feeling about the death	0	1	2	3	4
2. I had trouble staying asleep	0	1	2	3	4
3. Other things kept me thinking about the death	0	1	2	3	4
4. I felt irritable and angry	0	1	2	3	4
5. I avoided getting myself get upset when I thought of it	0	1	2	3	4
6. I thought about the death when I did not mean to	0	1	2	3	4
7. I felt as if the death hadn't happened	0	1	2	3	4

8. I stayed away from reminders about death 0 1 2 3 4

9. Pictures about the death popped in my mind 0 1 2 3 4

10. I was jumpy and easily startled 0 1 2 3 4

11. I tried not to think about the death 0 1 2 3 4

12. I was aware I still had a lot of feelings about the death but I didn't

deal with them 0 1 2 3 4

13. My feelings about the death were cold 0 1 2 3 4

14. I found myself acting or feeling like I was back at that time 0 1 2 3 4

15. I had trouble falling asleep 0 1 2 3 4

16. I had waves of strong feelings about the death 0 1 2 3 4

17. I tried to remove the death from my memory 0 1 2 3 4

18. I had trouble concentrating 0 1 2 3 4

19. Reminders of the death caused me to have physical reactions, such

as sweating, trouble breathing, nausea or pounding heart 0 1 2 3 4

20. I had dreams about the death 0 1 2 3 4

21. I felt watchful and on guard 0 1 2 3 4

22. I tried not to talk about the death 0 1 2 3 4

Appendix B: The Big Five Personality Test

The Big Five Personality Test is a 45-item inventory that measures an individual on the Big Five Factors (dimensions) of personality i.e. openness, conscientiousness, extroversion, agreeableness, and neuroticism. The questionnaire was used on orphans.

Your task is to indicate the strength of your agreement with each statement, utilizing a scale in which 1 denotes strong disagreement, 5 denotes strong agreement, and 2, 3, and 4 represent intermediate judgments. In the boxes after each statement, tick number from 1 to 5 from the following scale:

1. **Strongly disagree**
2. **Disagree**
3. **Neither disagree nor agree**
4. **Agree**
5. **Strongly agree**

There are no "right" or "wrong" answers, so select the number that most closely reflects you on each statement. Take your time and consider each statement carefully

I see myself as someone who...

1. ...Is talkative

Strongly Disagree 1 2 3 4 5 Strongly Agree

2. ...Tends to find fault with others

Strongly Disagree 1 2 3 4 5 Strongly Agree

3. ...Does a thorough job

Strongly Disagree 1 2 3 4 5 Strongly Agree

4. ...Is depressed, blue

Strongly Disagree 1 2 3 4 5 Strongly Agree

5. ...Is original, comes up with new ideas

Strongly Disagree 1 2 3 4 5 Strongly Agree

6. ...Is reserved

Strongly Disagree 1 2 3 4 5 Strongly Agree

7. ...Is helpful and unselfish with others

Strongly Disagree 1 2 3 4 5 Strongly Agree

8. ...Can be somewhat careless

Strongly Disagree 1 2 3 4 5 Strongly Agree

9. ...Is relaxed, handles stress well

Strongly Disagree 1 2 3 4 5 Strongly Agree

10. ...Is curious about many different things

Strongly Disagree 1 2 3 4 5 Strongly Agree

11. ...Is full of energy

Strongly Disagree 1 2 3 4 5 Strongly Agree

12. ...Starts quarrels with others

Strongly Disagree 1 2 3 4 5 Strongly Agree

13. ...Is a reliable worker

Strongly Disagree 1 2 3 4 5 Strongly Agree

14. ...Can be tense

Strongly Disagree 1 2 3 4 5 Strongly Agree

15. ...Is ingenious, a deep thinker

Strongly Disagree 1 2 3 4 5 Strongly Agree

16. ...Generates a lot of enthusiasm

Strongly Disagree 1 2 3 4 5 Strongly Agree

17. ...Has a forgiving nature

Strongly Disagree 1 2 3 4 5 Strongly Agree

18. ...Tends to be disorganized

Strongly Disagree 1 2 3 4 5 Strongly Agree

19. ...Worries a lot

Strongly Disagree 1 2 3 4 5 Strongly Agree

20. ...Has an active imagination

Strongly Disagree 1 2 3 4 5 Strongly Agree

21. ...Tends to be quiet

Strongly Disagree 1 2 3 4 5 Strongly Agree

22. ...Is generally trusting

Strongly Disagree 1 2 3 4 5 Strongly Agree

23. ...Tends to be lazy

Strongly Disagree 1 2 3 4 5 Strongly Agree

24. ...Is emotionally stable, not easily upset

Strongly Disagree 1 2 3 4 5 Strongly Agree

25. ...Is inventive

Strongly Disagree 1 2 3 4 5 Strongly Agree

26. ...Has an assertive personality

Strongly Disagree 1 2 3 4 5 Strongly Agree

27. ...Can be cold and aloof

Strongly Disagree 1 2 3 4 5 Strongly Agree

28. ...Perseveres until the task is finished

Strongly Disagree 1 2 3 4 5 Strongly Agree

29. ...Can be moody

Strongly Disagree 1 2 3 4 5 Strongly Agree

30. ...Values artistic, aesthetic experiences

Strongly Disagree 1 2 3 4 5 Strongly Agree

31. ...Is sometimes shy, inhibited

Strongly Disagree 1 2 3 4 5 Strongly Agree

32. ...Is considerate and kind to almost everyone

Strongly Disagree 1 2 3 4 5 Strongly Agree

33. ...Does things efficiently

Strongly Disagree 1 2 3 4 5 Strongly Agree

34. ...Remains calm in tense situations

Strongly Disagree 1 2 3 4 5 Strongly Agree

35. ...Prefers work that is routine

Strongly Disagree 1 2 3 4 5 Strongly Agree

36. ...Is outgoing, sociable

Strongly Disagree 1 2 3 4 5 Strongly Agree

37. ...Is sometimes rude to others

Strongly Disagree 1 2 3 4 5 Strongly Agree

38. ...Makes plans and follows through with them

Strongly Disagree 1 2 3 4 5 Strongly Agree

39. ...Gets nervous easily

Strongly Disagree 1 2 3 4 5 Strongly Agree

40. ...Likes to reflect, play with ideas

Strongly Disagree 1 2 3 4 5 Strongly Agree

41. ...Has few artistic interests

Strongly Disagree 1 2 3 4 5 Strongly Agree

42. ...Likes to cooperate with others

Strongly Disagree 1 2 3 4 5 Strongly Agree

43. ...Is easily distracted

Strongly Disagree 1 2 3 4 5 Strongly Agree

44. ...Is sophisticated in art, music, or literature

Strongly Disagree 1 2 3 4 5 Strongly Agree

45. ...Is politically liberal

Strongly Disagree 1 2 3 4 5 Strongly Agree

Your gender

Female Male

Appendix C

The Deputy-Head Teachers' in-depth interview is meant to get their perspective and on the role of orphan hood status on personality and whether their schools offer social support to orphans.

Deputy-Head Teacher's Interview

1. Approximately how many orphans do you have in your school?
2. How many are total orphans and how many are partial?
3. What is the gender disparity among orphans in your school?
4. Does the school offer any form of support to the orphans?
5. If yes, which kind of support does the school provide?
6. If there is any form of support, is it sustained throughout the orphans'' life in school?
7. Do the orphans have unique personality traits?
8. Do the orphans have discipline problems in school?
9. Are the orphans cold and aloof?
10. Are the orphans outgoing and sociable?
11. Are the orphans' statuses affecting their academic performance?

Appendix D : Students' Focus Group Discussion Guide

1. Which type of orphan are you, partial or total?
2. Are you aware of the existence of Guidance and couseling department?
3. Do you know the person in charge of the department?
4. Do you receive any form of support either psychological or material from the school due to your orphan hood?
5. If so, state which type?
6. What are the main challenges you faced as orphans?
7. Do you think such challenges affect your academic performance?
8. Do you feel you are different from the non-orphans in terms of your personality?
9. Do you think that some form of support would alleviate the effect of your status as orphans.?

Appendix E: Table 1 Prevalence of PTSD based on Intrusion

Intrusion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.38	2	.7	.7	.7
	1.50	2	.7	.7	1.3
	1.63	8	2.6	2.6	4.0
	1.75	5	1.7	1.7	5.6
	1.88	6	2.0	2.0	7.6
	2.00	5	1.7	1.7	9.3
	2.13	13	4.3	4.3	13.6
	2.25	18	6.0	6.0	19.5
	2.38	24	7.9	7.9	27.5
	2.50	23	7.6	7.6	35.1
	2.63	27	8.9	8.9	44.0
	2.75	27	8.9	8.9	53.0
	2.88	26	8.6	8.6	61.6
	3.00	27	8.9	8.9	70.5
	3.13	37	12.3	12.3	82.8
	3.25	14	4.6	4.6	87.4
	3.38	11	3.6	3.6	91.1
	3.50	12	4.0	4.0	95.0
	3.63	8	2.6	2.6	97.7
	3.75	3	1.0	1.0	98.7
	3.88	2	.7	.7	99.3
	4.00	2	.7	.7	100.0
	Total	302	100.0	100.0	

Appendix F: Prevalence of PTSD based on Hyperarousal

Hyperarousal

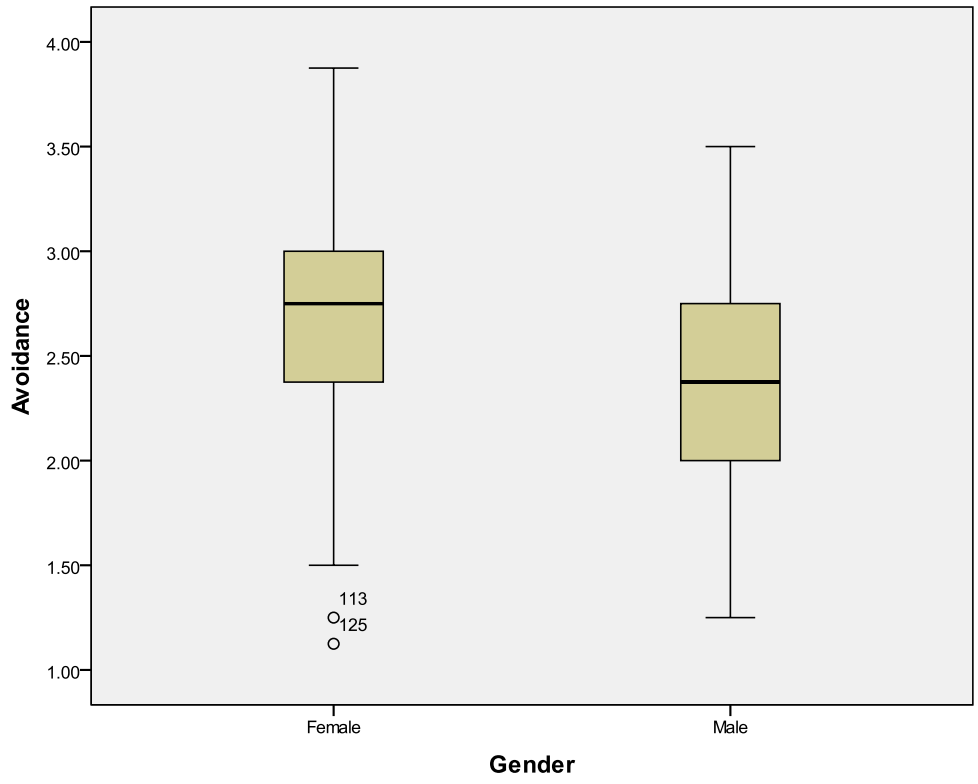
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.83	1	.3	.3	.3
	1.00	1	.3	.3	.7
	1.17	3	1.0	1.0	1.7
	1.33	4	1.3	1.3	3.0
	1.50	6	2.0	2.0	5.0
	1.67	11	3.6	3.6	8.6
	1.83	19	6.3	6.3	14.9
	2.00	15	5.0	5.0	19.9
	2.17	28	9.3	9.3	29.1
	2.33	38	12.6	12.6	41.7
	2.50	37	12.3	12.3	54.0
	2.67	26	8.6	8.6	62.6
	2.83	29	9.6	9.6	72.2
	3.00	34	11.3	11.3	83.4
	3.17	20	6.6	6.6	90.1
	3.33	7	2.3	2.3	92.4
	3.50	8	2.6	2.6	95.0
	3.67	4	1.3	1.3	96.4
	3.83	6	2.0	2.0	98.3
	4.00	5	1.7	1.7	100.0
	Total	302	100.0	100.0	

Appendix G: Table 3 Prevalence of PTSD based on Avoidance

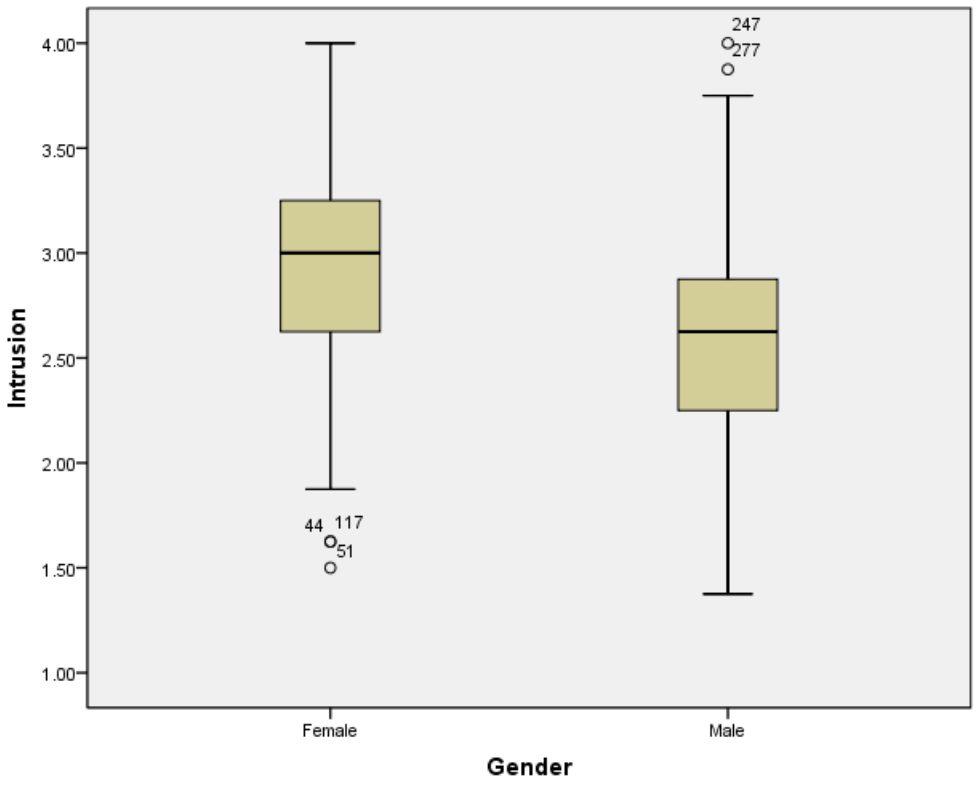
Avoidance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.13	1	.3	.3	.3
	1.25	2	.7	.7	1.0
	1.38	1	.3	.3	1.3
	1.50	5	1.7	1.7	3.0
	1.63	10	3.3	3.3	6.3
	1.75	5	1.7	1.7	7.9
	1.88	13	4.3	4.3	12.3
	2.00	19	6.3	6.3	18.5
	2.13	29	9.6	9.6	28.1
	2.25	27	8.9	8.9	37.1
	2.38	30	9.9	9.9	47.0
	2.50	25	8.3	8.3	55.3
	2.63	16	5.3	5.3	60.6
	2.75	33	10.9	10.9	71.5
	2.88	14	4.6	4.6	76.2
	3.00	23	7.6	7.6	83.8
	3.13	8	2.6	2.6	86.4
	3.25	13	4.3	4.3	90.7
	3.38	14	4.6	4.6	95.4
	3.50	8	2.6	2.6	98.0
	3.63	4	1.3	1.3	99.3
	3.75	1	.3	.3	99.7
	3.88	1	.3	.3	100.0
	Total	302	100.0	100.0	

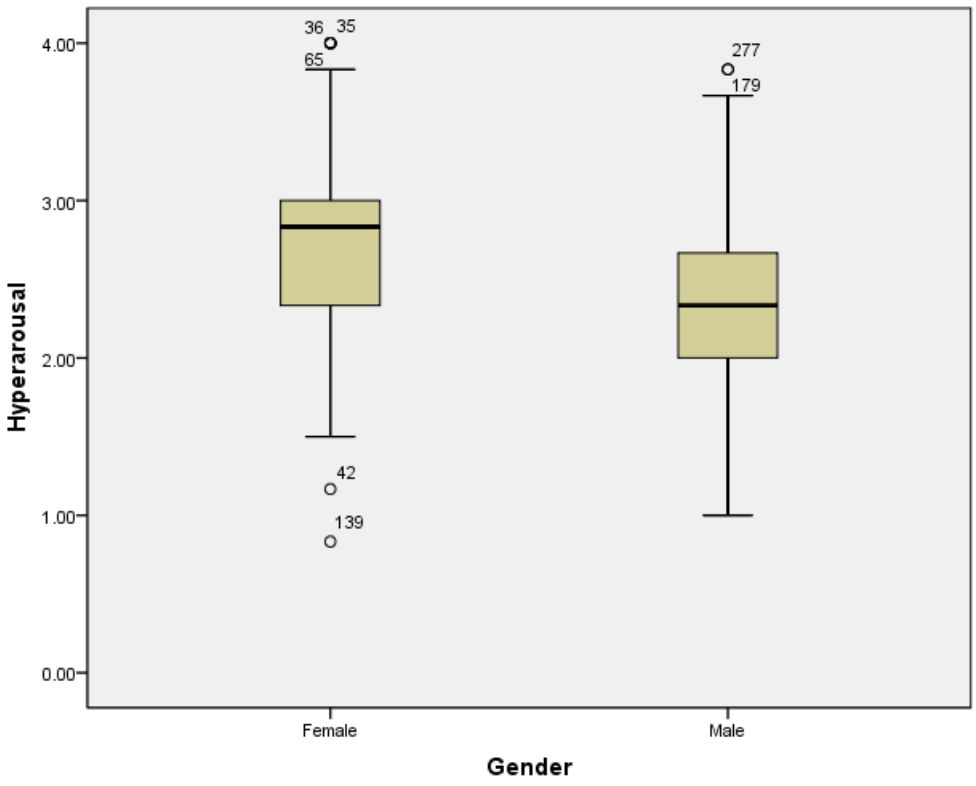
Appendix H: Gender comparison on the Avoidance symptom



Appendix I: Gender comparison on the Intrusion symptom



Appendix J: Gender comparison on the Hyperarousal symptom



Appendix K: Impact of Events Scale questions Mean Scores

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean
Any reminder brought back feeling about it	302	0	4	823	2.73
I had trouble staying asleep	302	0	4	694	2.30
Other things kept me thinking about it	302	1	4	869	2.88
I felt irritable and angry	302	0	4	845	2.80
I avoided getting myself get upset when I thought of it	302	0	4	711	2.35
I thought about it when I did not mean to	302	0	4	793	2.63
I felt as if it hadn't happened	302	0	4	657	2.18
I stayed away from reminders about it	302	0	4	781	2.59
Pictures about it popped in my mind	302	1	4	940	3.11
I was jumpy and easily startled	302	0	4	671	2.22
I tried not to think about it	302	0	4	744	2.46
I was aware I still had a lot of feelings about it but I didn't	302	0	4	795	2.63
My feelings about it were numb	302	0	4	804	2.66
I found myself acting or feeling like I was back at that time	302	0	4	834	2.76
I had trouble falling a sleep	302	1	4	819	2.71
I had waves of strong feeling about it	302	1	4	918	3.04

I tried to remove it from my memory	302	0	4	856	2.83
I had trouble concentrating	302	0	13	812	2.69
Reminders of it caused me to have physical reactionssuch as sweating, trouble breething, nausea or pounding heart	302	0	4	773	2.56
I had dreams about it	302	1	4	757	2.51
I felt watchful and on guard	302	0	4	703	2.33
I tried not to talk about it	302	1	4	753	2.49
Valid N (listwise)	302				

Appendix L: SPSS Generated Independent Sample t-test

Table 5 Independent Samples t -test

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Avoidance	Female	145	2.6940	.53803	.04468
	Male	157	2.3694	.47837	.03818
Intrusion	Female	145	2.9190	.47336	.03931
	Male	157	2.5812	.50634	.04041
Hyperarousal	Female	145	2.7483	.56728	.04711
	Male	157	2.3694	.56277	.04491

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Avoidance	Equal variances assumed	1.924	.166	5.548	300	.000	.32454	.05850	.20942	.43966
	Equal variances not assumed			5.522	288.883	.000	.32454	.05877	.20887	.44021
Intrusion	Equal variances assumed	.315	.575	5.975	300	.000	.33776	.05653	.22651	.44900
	Equal variances not assumed			5.991	299.954	.000	.33776	.05638	.22681	.44870
Hyperarousal	Equal variances assumed	.014	.906	5.822	300	.000	.37885	.06507	.25080	.50690
	Equal variances not assumed			5.820	297.707	.000	.37885	.06509	.25076	.50694

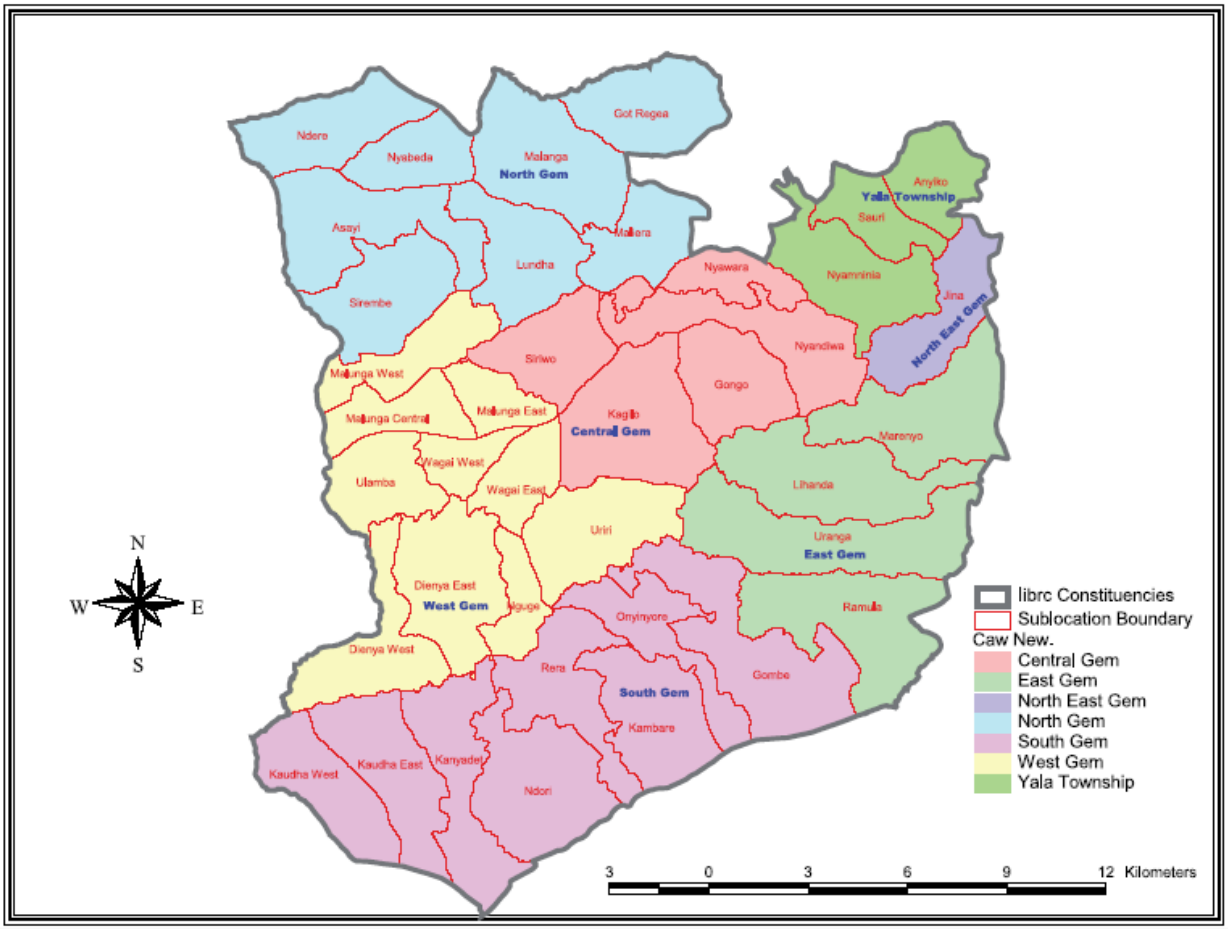
Appendix M: SPSS Generated Correlations Table

Correlations

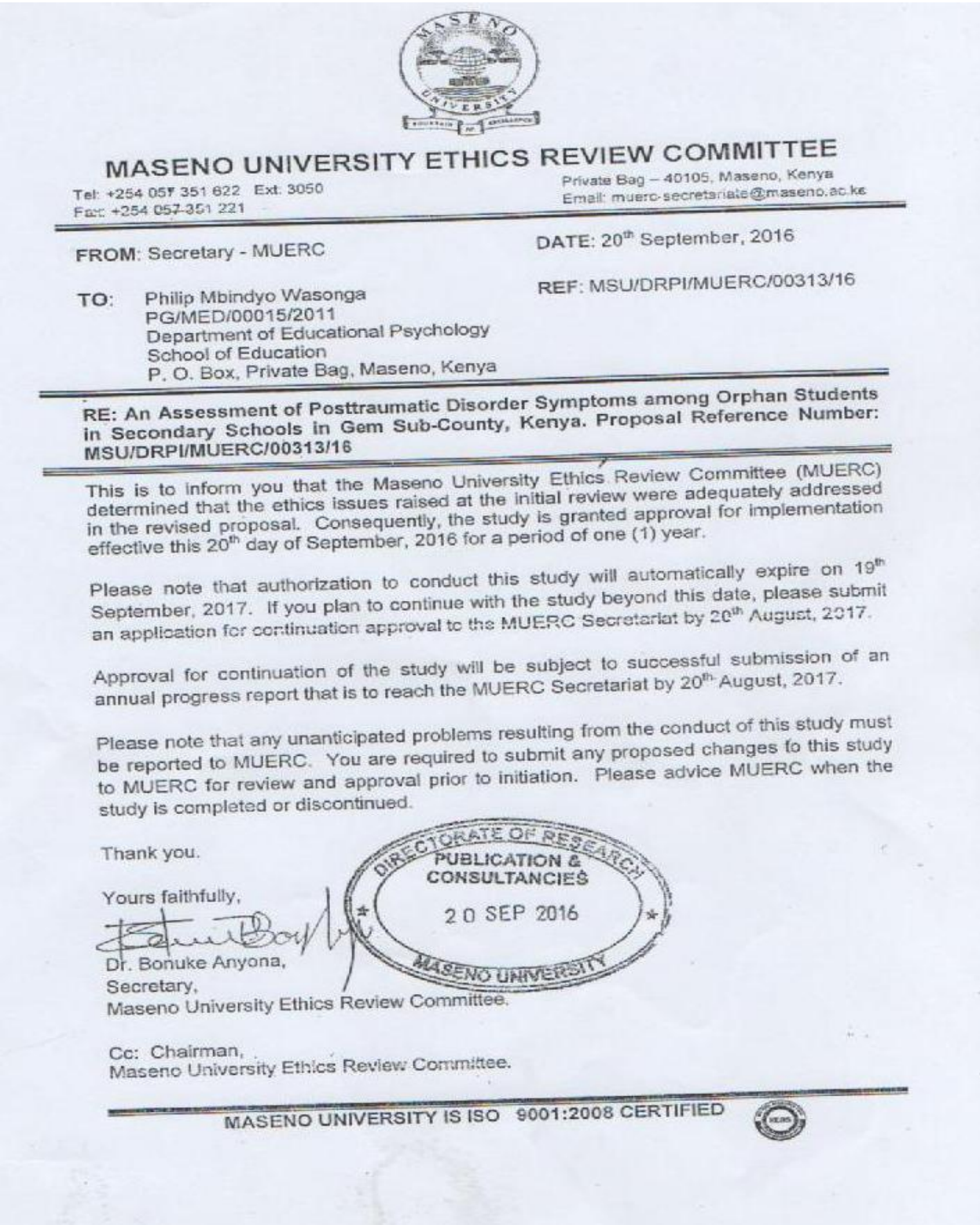
		Avoidance	Hyperarousal	Intrusion	Agreeableness	Extraversion	Conscientiousness	Openness	Neuroticism
Avoidance	Pearson Correlation	1	.251**	.178**	-.258**	-.238**	-.219**	-.218**	.137*
	Sig. (2-tailed)		.000	.002	.000	.000	.000	.000	.017
	N	302	302	302	302	302	302	302	302
Hyperarousal	Pearson Correlation	.251**	1	.541**	-.174**	-.237**	-.152**	-.161**	.094
	Sig. (2-tailed)	.000		.000	.002	.000	.008	.005	.103
	N	302	302	302	302	302	302	302	302
Intrusion	Pearson Correlation	.178**	.541**	1	-.070	-.175**	-.087	-.187**	.089
	Sig. (2-tailed)	.002	.000		.224	.002	.132	.001	.124
	N	302	302	302	302	302	302	302	302

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

Appendix N: Map of Gem Sub-County



Appendix O: MUERC Approval Letter



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057-351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 20th September, 2016

REF: MSU/DRPI/MUERC/00313/16

TO: Philip Mbindyo Wasonga
PG/MED/00015/2011
Department of Educational Psychology
School of Education
P. O. Box, Private Bag, Maseno, Kenya

RE: An Assessment of Posttraumatic Disorder Symptoms among Orphan Students in Secondary Schools in Gem Sub-County, Kenya. Proposal Reference Number: MSU/DRPI/MUERC/00313/16

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 20th day of September, 2016 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 19th September, 2017. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 20th August, 2017.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 20th August, 2017.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

DIRECTORATE OF RESEARCH PUBLICATION & CONSULTANCIES
20 SEP 2016
MASENO UNIVERSITY

Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED