THE INFLUENCE OF SOCIAL SUPPORT, GENDER AND SELF-CONCEPT O DEVELOPMENT OF POST-TRAUMATIC STRESS DISORDERS IN CHILDREN EXPOSED TO 2007/2008 POST-ELECTION VIOLENCE IN ELDORET, KENYA

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EGERTON UNIVERSITY

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DECLARATION AND RECOMMENDATION

Declaration

I declare that this Thesis is my original work, and has not been previously presented for the award of a degree in this and any other university.

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Recommendation

This Thesis has been submitted for examination with our approval as the University Supervisors.

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DEDICATION

I dedicate this Doctoral Thesis to my very beloved family who inspired me daily with their warmth and to all children who underwent traumatic experiences during the 2007/2008 post-election violence in Kenya and bravely coped with the painful experiences. Their resilience is a force to reckon with as they battled with the trauma and finally can declare victory.

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ABSTRACT

When exposed to traumatic events such as violence, without proper psychological intervention and care thereafter, children like adults can develop post-traumatic stress disorder (PTSD). Kenya experienced severe violence after the 2007 general elections with Eldoret Municipality being one of the hard hit areas. Both children and adults in Eldoret were exposed to a wide range of traumatic stressors. During this period of great difficulty, displaced persons, religious groups, as well as other community groupings came together in support of each other as they dealt with the adversity. This study examined the influence of social support, gender and self-concept on the development of PTSD among children exposed to the post-election violence. The study was a descriptive survey that adopted ex post facto research design. The study drew its population from the 1218class eight children and 201 teachers from 8 purposively selected public schools in Eldoret Municipality. Stratified random sampling method was utilised to give a sample of 192 pupils and according to their gender as well. Further, 32teachers were purposively selected to participate in the study, giving a total sample of 224 participants. The instruments for data collection used in this study were the Impact of Event Scale Revised Version for the screening of PTSD in children, a Self-appraisal and Social Support Questionnaire for children and a Child Behaviour Checklist for teachers. Data was analysed with the aid of the Statistical Package for Social Sciences (SPSS) for Windows Version 17. Descriptive statistics (frequencies, percentages, mode and means) and inferential statistics (ANOVA, t-test and Pearson's correlation coefficient) were used for statistical analysis. All hypotheses tests were conducted at 0.05 level of significance. The findings of the study showed that children exposed to post-election violence in Eldoret were still exhibiting PTSD symptoms at a prevalence of 45.50%. The study further found that social support was inadequate and it influenced development of PTSD, with those with adequate social support exhibiting lower scores of PTSD than those without adequate social support. Gender and self-concept were found not to influence development of PTSD. Consequently, the study recommended that life skills programmes and child-centred supportive therapy be enhanced in schools as well as formation of social support groups not only in schools but also in the community, in order to reduce the prevalence of PTSD on exposure to traumatic events.

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LIST OF ABBREVIATIONS AND ACRONYMS

ASD:	Acute Stress Disorder
APA:	American Psychiatric Association
DSM IV – TR	Diagnostic and Statistical Manual for Mental Disorders (Revised Text)
IES-R:	Impact of Event Scale-Revised
IDP:	Internally Displaced Person
MDD:	Major Depressive Disorder
PEV:	Post-Election Violence
PTSD:	Post-Traumatic Stress Disorder
PTE:	Potentially Traumatic Exposure

CHAPTER ONE
INTRODUCTION

1.1 Background Information

Upon exposure to violence, everybody is potentially vulnerable. Violence is the expression of physical or verbal force against self or others, compelling action against ones will or pain of being hurt (Wainryb & Pasupathi, 2007). It is the intentional use of physical force or power, threatened or actual, against a person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation (Ahmad, 2004).

According to Muchai (2014), violence is one of the leading causes of children and adolescent morbidity and mortality around the world. Young people are disproportionately represented among both the perpetrators and victims of violence. Several studies have demonstrated the damaging psychosocial effects on children and adolescents of exposure to war, terrorism, and ethnic-political violence (La Greca, Silverman, Vernberg, & Roberts, 2002; Leavitt & Fox, 1996) among children from a number of different regions of the world including Iraq (Dyregov, Gjestad, & Raundalen, 2002), Palestine (Thabet, Abed, & Vostanis, 2004), Israel (Punamäki, 1996), Bosnia (Geltman, Augustyn, Barnett, Klass, & Groves, 2000), Lebanon (Macksoud & Aber, 1996), and Rwanda (Dyregov, Gupta, Gjestad, & Mukanoheli, 2000). In Rwanda, the tribal conflict between the Hutu and Tutsi led to the genocide of over 800,000 people, including children, within a hundred days (Bernett, 2003).Exposure to violence has deleterious impacts on young people (Betancourt *et al.,* 2010; Cummings, Merrilees, Schermerhorn, Goecke-Morey, Shirlow & Cairns, 2010; Kithakye, Morris, Terranova, & Myers 2010; Klasen, Oettingen & Daniels, 2010; Layne, *et al.,*2010; Qouta, Punamaki, & El Sarraj, 2008), most notably on post-traumatic stress (PTS) symptoms (Qouta *et al.,* 2008).The mentioned studies have shown that exposure to the extreme forms of violence exhibited during such events as post-election violence, and the constant threat of losing loved ones or being killed, are associated with a variety of indicators of maladjustment including post-traumatic stress symptoms.

Following the December 2007 general elections and the subsequent announcement of the disputed presidential election results, Kenya was plunged into ethnic conflicts that engulfed the entire nation (Buchere, Nasongo, & Wamocha, 2008). The conflict was characterised by murder, looting, eviction, rape, arson, burning of food stores, destruction of homes, schools, animals and crops, harassment, among other traumatic events. In many areas, most survivors ended up in the camps for internally displaced persons. The United Nations Children's Fund (2008) estimates that at least 100,000 children were forced to flee their homes due to the wave of violence that swept through Kenya following the disputed elections. The agency said that as many as 75,000 children were then residing in over 100 camps for internally displaced persons while many thousands more children were believed to be living temporarily with other family members.

According to The Republic of Kenya (2008a), the effects of the riots were felt heavily in Eldoret as people were killed, maimed, raped and houses set on fire. These traumatic events were difficult to bear even among adults, who have the mental capabilities to process and articulate their experiences, and therefore were worse for children. Part of the effects of 2007/2008 post-election violence which directly touched children included destruction of schools witnessed by these children. The Republic of Kenya (2008b), (2008) indicated that Kiambaa, Gitwe, Fadhili and Joyland Primary Schools in Eldoret were burnt down. School-going children from these schools were forced to stay at home while others, whose homes were destroyed, became internally displaced at the Eldoret show ground. According to the headmaster of Langas Primary School (one of the internally displaced teachers), the situation called for makeshift schools for 510 secondary school students, 2777 primary school children and 777 early childhood education children. The IDP teachers served as teachers in these makeshift schools. For these children, witnessing such horrors perpetrated against them, caregivers, loved ones and their familiar environment, they could end up with psychological trauma. Psychological trauma is the result of extraordinarily stressful events that shatter one's sense of security, making him/her feel helpless and vulnerable in a dangerous world (Akombo, 2009).

When directly or indirectly exposed to war and conflict, children experience a variety of stressors, and develop both short-term and long-term post-traumatic stress reactions (Barenbaum, Ruchin, Schwab-Stone, 2004). Common symptoms and reactions in the aftermath of a traumatic event include sadness, anger, fear, numbness, anxiety, moodiness, irritability, changes in appetite, difficulty in sleeping, nightmares, avoidance of situations that are reminders of the trauma, impairment of concentration, and guilt because of survival or lack of harm during the event (American Psychiatric Association, 2000).

Studies indicate that children can develop post-traumatic stress disorders (PTSD), after exposure to a range of traumatic stressors, including violent crime, sexual abuse, natural disasters, and war (Cook, Blaustein, Spinazzola & VanderKolk, 2003). Post-traumatic stress disorder (PTSD) is a debilitating disorder characterised by symptoms of re-experiencing, avoidance, emotional numbing and hyper-arousal resulting from an emotionally traumatic event with actual or perceived threat (American Psychiatric Association (APA), 2000). The impetus for the development of this diagnostic category arose primarily from the need to account for the characteristic array of symptoms exhibited by Vietnam veterans in the United States, and as such PTSD was conceptualised around traumatised adults. However, since that time there has been increasing recognition that children, too, can develop severe and debilitating reactions to traumatisation (Giaconia, Reinherz, Silverman, & Pakiz, 1995).

Where relatively standardized assessment methods have been used, the incidence of PTSD among child survivors of specific disasters ranges from 30 to 60% (Yule, 2001). As yet there are no epidemiological studies of the prevalence of PTSD among children in the general population; however, community studies in the United States have consistently indicated that around 40% of high school students have experienced some form of domestic or community violence, and between 3% and 6% have PTSD (Cuffe, Addy & Garrison, 1998; Giaconia, 1995).

The 2007/2008 post-election violence may have not only resulted into psychological trauma but also brought destruction of physical infrastructure and property as well as

broken social relationships (Akombo, 2009). In terms of social relatedness, the post-election violence seriously disrupted social ties and one's ability to access not only his or her extended community, but family members as well. Because many people were relocated, supporting relationships at the family, neighbourhood, church, and school levels of organisation must have been interrupted. Moreover, families were often separated and dispersed to different geographical locations. PEV must have threatened the amount or the stability of contact with social ties in all persons affected. In particular, in those communities where the neighbourhood was perceived as coming together to overcome the adversity, individuals should have perceived a greater sense of social support and less discrimination. For instance, Ozbay *et al.,* (2007) found that rich social networks may reduce the rate at which individuals engage in risky behaviours, prevent negative appraisals and increase likelihood of recovery. During post-election violence, displaced persons, religious groups, as well as other community groupings came together in support of each other as they dealt with the encounter. The direct or indirect influence that this social support had on children in the area of the study was examined in this research.

Social support has been defined by The National Cancer Institute's Dictionary of Cancer as a network of family, friends, neighbours, and community members that is available in times of need to give psychological, physical and financial help (www.cancer.gov). Social support is exceptionally important for maintaining good physical and mental health. Overall, it appears that positive social support of high quality can enhance resilience to stress, help protect against developing trauma-related psychopathology, decrease the functional consequences of trauma-induced disorders such as PTSD and reduce medical morbidity and mortality (Southwick, Vythilingam & Charney 2005). Barbarin, Richter and deWet (2001) completed a study of South African children exposed to violence that explored the extent to which coping resources protected the children from negative psychological adjustment. They found that the children's experiences of violence depended on their families' ability to act as barriers to the violence and the quality of family relationships and other social support resources available. Warmth and intimacy in "sibling-ship" were found to be associated with emotional understanding and

self-disclosure in middle childhood (Howe, Aquan-Assee, Bukowski, Lehoux, & Rinaldi, 2001) and this can serve as a source of emotional support in early adolescence. On the contrary, negative sibling relations are found to be associated with adjustment problems (Deater-Deckard, Dunn, & Lussier, 2002), anxiety (Fox, Barrett & Shortt, 2002) and depression (Kim & Cicchetti, 2003) both in childhood and adolescence.

Good peer relations have also been found to protect psychological adjustment among bereaved children and those exposed to community violence (Ringler & Hayden, 2000)). Similarly, support from friends also contributes to good psychosocial adjustment during parental divorce (Greeff & van der Merwe, 2004) and in conflicting family environments by guaranteeing urgently needed self-esteem, consolation and feeling of competence. Another form of social support is that offered by teachers. Teachers and other school personnel spend more hours with students than they do with their families. Social support from school personnel can also play a protective role for children and youth (Ozer & Weinsten, 2004). Schools serve as an important context for child and youth development and often function as a place of relative safety within violent communities. The influence of social support on development of PTSD was investigated in this study.

Other than social support, other factors increase individual's resilience in dealing with an adversity like the post-election violence. For example a belief in one's own inner strength to deal with life's challenges, (Brough, Gorman, Ramirez & Westoby, 2003) a positive attitude, and having hope for a good future helped refugee women to cope (Khawaja, White, Schweitzer & Greenslade, 2008). The determination to cope is looked at as a component of taking control, rather than being a victim (Gorman, Brough & Ramirez, 2003).

Gender differences have been observed in children experiences of traumatic events, as well as the influence of gender in development of PTSD. Studies across gender as a risk factor in development of PTSD have found mixed results. Some studies have found that being female leads to increased resiliency (Kumpfer, Glantz, & Johnson, 1999) while Khamis (2005) in a study in Palestine found that boys displayed more PTSD symptoms than girls. Another demographic variable that has been understudied is the age. However,

there are a few studies that have found the demographic variable of age a predictor of psychological symptomatology after natural disaster (Osofsky, H., Osofsky, D., Kronenberg, Brennan & Hansel, 2009). It is against this background that this study sets to examine the influence of social support, gender and self-concept on development of PTSD in children exposed to 2007/2008 post-election violence in Eldoret, Kenya.

1.2 Statement of the Problem

Studies globally have shown negative effects of war and violence on the psychological wellbeing of children. They have further established the influence of social support, gender and self-concept on development of PTSD in clinical and community samples. During the Kenya's 2007/2008 post-election violence, many children especially in Eldoret Municipality, experienced enormous traumatic events which included burning of houses, schools and property, being displaced to unfamiliar environments, separation from loved ones, going hungry for days, sexual abuse just to mention a few. A discussion with teachers in the area of study on behaviours of children in the schools revealed possibilities of PTSD. Noted very carefully was aggression and hyper-vigilance on triggers of 2007/2008 PEV. While the symptoms being presented by the children resembled those of PTSD, a conclusion could not be arrived at without proper PTSD assessment. Not identified and subsequently treated PTSD can progress to a serious psychiatric disorder. By the time of the study no documented evidence existed indicating screening the children for PTSD. Additionally, on exposure to traumatic events, some people develop PTSD while others do not. In view of this, an assessment of PTSD symptoms and a consequent investigation of the characteristics that might have increased the resilience of the children were worthwhile.

1.3 Purpose of the Study

The purpose of this study was to examine the influence of social support, gender and self-concept on development of post-traumatic stress disorders among children exposed to2007/2008 post-election violence in Eldoret Municipality public primary schools.

1.4 Objectives of the Study

The objectives of this study were

(i) To determine age differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

(ii) To establish the influence of social support on development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

(iii) To establish gender differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

(iv) To determine the influence of self-concept on development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

1.5 Hypotheses of the Study

This study aimed at testing the following hypotheses:

H_{01} There are no statistically significant age differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

H_{02} There is no statistically significant relationship between social support and development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

H_{03} There are no statistically significant gender differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

H_{04} There is no statistically significant relationship between self-concept and development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

1.6 Significance of the Study

The findings of this study are expected to benefit the children through advising key stake-holders in the children sector for possible intervention. At the end of the study, teachers who participated in the study were offered trauma sensitisation workshops in order to gain an understanding of how to cope with traumatised children. The children participants who scored high in PTSD were offered trauma debriefing sessions and consequently referred for further support to mental health practitioners in the region. Additionally, the findings of the study are expected to inform stakeholders (caregivers, teachers and school counsellors, school managers, policy makers and aid agencies) on the formation of social support groups in schools, churches and community as a strong psycho-therapeutic foundation for traumatised children in Kenya. Finally, the findings of this study are expected to add value to the existing body of knowledge and to serve as a stepping stone for new research on PTSD in children.

1.7 Scope of the Study

This study was confined to selected public primary schools within Eldoret Municipality, Uasin Gishu County of Kenya. The area was selected due to the intensity of violence after the 2007 general election which led to post-election violence. Further, Eldoret is a multi-ethnic region that has people from different parts of Kenya living there, hence having a good representation of diverse Kenyans. The study targeted class eight pupils in Eldoret Municipality public primary schools who were between the ages of seven to nine years during post-election violence and therefore could conceptualise the experiences approximately five years after.

1.8 Limitations of the Study

This study had the following limitations;

(i). The study concentrated on Eldoret Municipality, Uasin Gishu County, and hence generalisation of results to other parts of Kenya should be done with caution.

(ii). During and after post-election violence, many families shifted from areas that were hard hit while others relocated permanently. Loss of important information sources which could have enriched this study may have been experienced.

(iii). This study was not longitudinal. A longitudinal study would have allowed the researcher to measure effects over time.

1.9 Assumptions of the Study

This study was based on the following assumptions:

(i) Children in the selected schools were exposed to 2007/2008 post-election violence in Eldoret Municipality directly or indirectly.

(ii) Following 2007/2008 post-election violence, there was high likelihood of children exposed to this violence developing PTSD

1.10 Definition of Terms

The following terms assumed the following operational meanings in this study

Coping	Coping refers to efforts to manage specific external and/or internal demands that an individual may perceive as difficult and exceeding the individual resources.
Post-election violence	This refers to violence that broke up after the 2007 general elections in Kenya
Resilience	Resilience refers to an ability to overcome high loads of stressful events and the ability to "bounce back".
Self-concept	This refers to self-esteem and self-efficacy
Social Support	Social support refers to a network of family, peers, neighbours, and community members that is available in times of need to give emotional, physical and material help.
Traumatic event	Traumatising event refers to experiences of PEV that individuals experienced, witnessed, or were confronted with and which involved actual or threatened death or serious injury.
Violence	Violence refers to the use of force to cause injury, damage or death

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is a summary of the various scholarly works which were reviewed for the purpose of this study. The chapter is divided into four main sections - the concept of trauma and PTSD, assessment of PTSD, incidence and prevalence of PTSD, treatment of PTSD as well as resilience. The theoretical and conceptual frameworks are also discussed.

2.2 Concept of Trauma and Post-Traumatic Stress Disorder

The DSM IV-TR (American Psychiatric Association, 2000)) defines trauma as an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; witnessing an event that involves death, injury, or a threat to the physical integrity of another person' or learning about unexpected of violent death, serious harm, or threaten of death or injury experienced by a family member or other close associate. Becker, Daley, Gadpaille, Green, Flahery and Harper (2003) define trauma as both the experience of being harmed by an external agent as well as the response to that experience. A traumatic event is an event which threatens injury, death, or the physical body of a child or adolescent while also causing shock, terror or helplessness (American Psychological Association, 2008).

Early researchers noted that exposure to trauma may lead to feelings of anxiety, helplessness, dissociation (detachment of the mind from emotion), and behaviours, including hyper-vigilance (watchfulness or awareness of one's surroundings over and above what is normal), extreme behaviours and efforts to avoid re-experiencing the traumatic event, impulsivity, and even self-inflicted injury (Yates, 2004; Thomas, 2003). However, early research was limited in that it focused almost exclusively on individuals in the military who experienced traumatic events outside of their home community and ignored the experiences of traumatic events in everyday life, including those that impact on children (Karam & Ghosn, 2003). Additionally, early definitions of trauma emphasise

the individual directly experiencing the violent act, such as military personnel in war or rape victims (Copeland, Keeler, Angold & Costello, 2007) and discount the distress experienced by those who did not directly experience the trauma, e.g., witnessing domestic violence (Evans, Davies & Dilillo, 2008). Subsequent broadening of the definition of trauma was due to the recognition that indirect experiences were traumatic, that children also experienced trauma, and that youth responded to trauma differently from adults (Carrion, Weems, Ray & Reiss, 2002).

According to the DSM-IV TR (American Psychiatric Association, 2000), a youth is exposed to a traumatic event if they experience the event personally, witness another individual's experience of the event, or learn about a close acquaintance's (friend or family) traumatic experience. Examples of trauma mentioned in the DSM-IV TR include directly experiencing, witnessing, or learning about a loved one's experience with war, violent personal assault, kidnapping, terrorist attack, natural disaster, severe accidents, or diagnosis of a life-threatening illness. Exposure to such traumatic incidents can lead to PTSD. Whereas, a well-documented relationship between trauma exposure and the occurrence of PTSD exists, not all individuals exposed to trauma or potentially traumatic situations will continue to have enduring symptoms of PTSD or other psychological problems (Benotsch, Brailey, Vasterling, Uddo, Contans, & Sutker, 2000). PTSD is a debilitating disorder characterised by symptoms of re-experiencing, avoidance, emotional numbing and hyper-arousal resulting from an emotionally traumatic event with actual or perceived threat, (American Psychiatric Association, 2000). PSTD is unique among other psychiatric diagnoses because of the great importance placed upon the etiological agent of the traumatic stressor.

In the DSM-IV TR ((American Psychiatric Association, 2000), Post-Traumatic Stress Disorder (PTSD), is defined by four variables:

(i) Exposure by personal experience or by witnessing an event which threatened or caused death and severe injury to self or others and was accompanied by a response from the victim of fear and helplessness;

(ii) A consistent re-experiencing of the traumatic event through flashbacks, nightmares or episodes of intense distress to events of any similarity to the original trauma;

(iii) Persistent avoidance of all stimuli related to the original event to include an avoidance of thoughts, feelings, conversations, or other situations that have similarity to the trauma, a detachment from others, and a numbing of affect; and

(iv) On-going symptoms of increased arousal as a result of the trauma to include sleep difficulties, irritability, concentration difficulties, hyper vigilance, and an exaggerated startle response. In addition, the duration of these symptoms is at least for one month and PTSD must cause significant clinical impairment in social, occupational, or other important areas of functioning.

Despite the fact that they are outside the range of usual human experience, traumatic events are fairly common, even among children. In their study of children and adolescents (9-16 years old) in Western North Carolina, Costello, Erkanli, Fairbank and Angold (2002) found that 25% had experienced at least one potentially traumatic event.

Trauma impacts children differently at each developmental stage. In order to understand the assemblage and severity of PTSD symptoms, it is important to recognise the age at which a person experiences a traumatic event (Maercker, Michael, Fehm, Becker & Margraf, 2004). Studies that have tackled the intersection of developmental age and traumatic events have primarily been based on victims of single episode traumas such as natural disasters and war. It is, however, equally important to scrutinise this phenomenon in children who have been exposed to trauma on a chronic, on-going basis (e.g. child abuse).In the case of this study, majority of the study participants were in the age gap of 13 – 16 and age factor was not investigated as a variable.

Davis and Seigel (2000) categorise the effects of trauma as having proximal and distal developmental effects. Proximal effects result in a disruption of recently acquired developmental skills such as dealing with pressures of life, whereas distal effects may impact future developmental areas such as personality, perceptions of danger, representations of self and others and regulation of cognition and affect. Pfefferbaum

1997) further notes that a child's age and developmental level influences their response o risk, perception and understanding of the traumatic event, the development of ognition and attention, social skills, personality style, self-concept, self-esteem and mpulse control. Furthermore, repeated victimisation results in a much more complex mpact on development in which the child integrates their traumatic experiences into their aily life (Kaysen, Resick &Wisw, 2003). Further examination of how trauma is nterpreted and understood by children is vital for suitable diagnosis and treatment.

Children exposed to peril that are unpredictable and uncontrollable such as child abuse nust dole out resources that would normally be dedicated to their growth and levelopment to survival. This reallocation of developmental resources coupled with a ack of nurturance and support from the child's primary caregiver places the child at risk for poorer development and an inability to regulate their emotional and physical states (Cook, Blaustein, Spinazzola & Van der Kolk, 2003). This may manifest itself in multiple ways depending upon the child. One may become angry and violent, while another becomes depressed and withdrawn. The said difference in symptom presentation may at least in part be attributable to the developmental stage of the child at the time of the trauma. This may explain why children exposed to traumatic experiences at early ages are at risk for a variety of psychiatric problems (Cook *et al.*, 2003). Children may be diagnosed with specific psychiatric illnesses (e.g. attention deficit hyperactivity disorder, separation anxiety, truancy, defiance etc.), but the true fundamental issue may be PTSD. The difference in presentation certainly contributes to the misdiagnosis and subsequent ineffective treatment of children with PTSD.

During adolescence, cognitive development involves processof acquisition of complex and abstract ideas. Cognitive development is vital for children's learning and functioning in academic and social contexts, particularly for the successful transition from adolescence to adulthood. Literature that addresses the cognitive effects of trauma on children reports the following: uncertainty, academic difficulties, lowered IQ, learning disabilities, poor language and communication skills as well as developmental delays (Armsworth & Holaday, 1993). Owing to the fact that self-awareness begins to develop during adolescence, this young person's involvement with others and his/her ability to

from past experiences can be affected by trauma at this stage. With late
opment of self-awareness an adolescent will have trouble processing and
rstanding experiences, which leads to ineffective way of thinking and decision
ng. As these adolescents reach adulthood they will continue to make use o
ective cognitive processing and reasoning skills when interacting with the large
d. Due to their lack of fully developed judgment, children will process information
experiences differently from adults. This helps explain why PTSD manifests itsel
rently at various developmental levels. A child's lack of ability to figure out and
ond to the traumatic events appropriately may be attributed to their less develope
itive and emotional capacities (Levendosky, Huth-Bocks, Semel & Shapiro, 2002)
understanding is crucial in explaining why on exposure to violence and othe
matic experiences, some adolescents proceed to get PTSD while others do no
stigating cognitive development of children and development of PTSD was howeve
within the scope of this study.

1 Symptoms of PTSD

described in the DSM IV (APA, 2000), PTSD is a condition in which, following a
tified traumatic event(s), a person demonstrates symptoms, lasting more than on
th, of hyper arousal, re-experiencing (i.e., involuntarily "reliving" the traumat
erience), and avoidance (i.e., avoiding traumatic reminders and/or emotion
ciated with the initial traumatic event; Children who meet the criteria for PTSD wi
nonstrate symptoms within all three criteria clusters: hyper-arousal, re-experiencin
avoidance as explained below;

per-arousal

per-arousal is the first cluster of PTSD symptoms. Hyper-arousal is the body's har
ed physiological and emotional response to intense danger, readying the body for fig
light (Cole, O'Brien, Gadd *et al.,* 2005). Under normal circumstances, this response
gered only by threatening circumstances. A child who has PTSD, however,
onically accustomed to any sign of threat and tends to interpret objectively harmle
uations as dangerous. Because of the child's inability to evaluate effectively the lev
danger, the fight-flight-freeze response is activated by any hint of danger. Chron

yper-arousal is a distressing, physically uncomfortable state and interferes with other unctioning (Cole, O'Brien, Gadd *et al.*, 2005).

According to Glenny (2009), a hyper aroused child is constantly on edge, easily startled, ever-vigilant, cannot relax, overreacts to minor provocations, and may not sleep well. Hyper-vigilance diminishes the ability to appraise a situation accurately and to regulate he intensity and appropriateness of emotions. Groves (2002), a trauma specialist explains how hyper-vigilance interferes with children's abilities to accomplish learning tasks in school. Such children are easily distracted and unfocused. They have difficulty completing assignments. They may be highly active and restless. Cole, O'Brien, Gadd *et al.*, (2005) further indicate that hyper aroused children become aware of every visitor who comes into the room; they get distracted by noise or by a change in routine. Some children report being preoccupied with thoughts or memories of the traumatic event. The study examined the presence of hyper-arousal symptoms of PTSD in children exposed to 2007/2008 post-election violence.

Avoidance

Avoidance of stimuli associated with the trauma and numbing of general responsiveness forms the third cluster of symptoms associated with post-traumatic stress disorder. Avoidance, which can be deliberate or unconscious, is the child's attempt to protect the self from re-collections of the trauma and "the disturbing re-experiencing symptoms that are triggered by such reminders. According to Van der Kolk (2000), children may avoid people, places, smells, and sounds that serve as reminder of the initial trauma. To avoid potential interactions with traumatic triggers, children may portray diminished interest in activities (e.g., constricted play activities in the case of young children and, for older children, decreased involvement in academic or extracurricular activities), be socially withdrawn or experience a sense of detachment from others. Van der Kolk (2000) continues to note that this cluster of symptoms also includes the numbing or restricting of feelings, both in variety and in intensity. In school, avoidance can manifest as inattentiveness, emotional detachment from teachers, or even aggressiveness (an active pushing away of traumatic reminders). Seedat, Nood, Vythilingum, Stein and Kaminer

0) in their study in Cape Town of traumatised children found that avoidanc
toms of PTSD were the most commonly reported.

xperiencing

xperiencing and avoidance often occur almost simultaneously. Cole, O'Brien, Gad
, (2005) maintain that a child can be engulfed and overwhelmed by viscerall
rienced images of the trauma and in the blink of an eye be working actively an
nsciously to move away from anything connected to the trauma. Oscillation betwee
wo states is prevalent in traumatised children, and it can happen rapidly, sometime
n a matter of moments (Van der Kolk, 2000). Rapid fluctuation gives rise to
using multitude of symptoms associated with both states. This is very difficult in
room, which by its very nature relies on predictable responses from students an
hers. However, teachers can feel more in control of the classroom environment
comprehend that shifting behaviour is predictable for a child with PTSD. Throug
oring the symptom criteria of PTSD in children, this study forms an information bas
achers.

se criteria of re-experiencing, avoidance and hyper-arousal, manifest differently
dren and may lead to failure to fully capture PTSD symptoms displayed in a young
ulation (Carrion, Weems, & Reiss, 2002; Levendosky, Huth-bocks & Semel, 2002
D symptomatology may vary greatly among children and adolescents dependi
n the traumatic event itself, its severity, duration, and the child's developmental age
time of the trauma. Children who exhibit the "typical" symptoms noted in the DS
do so differently than their adult counterpart. The manner in which a child r
eriences and manifests their feelings of distress related to a traumatic event is likely
nge as they age and mature (Perrin, Smith & Yule, 2000). Therefore, it is essenti
mental health practitioners more carefully examine symptoms displayed by childr
youth that have been exposed to chronic trauma.

ummarising the concept of symptomatology in children, Perrin *et al.*, (2000), indica
younger children often display their symptoms through play, drawings and/or stori
may exhibit fears not directly related to the event (e.g. fears of monsters) a

paration anxiety. Rigterink (2013) asserts that children's trauma related nightmares or ght terrors may shift to dreams filled with more generally frightening content making a ild's life difficult. Additionally, Children and adolescents often exhibit disruptive ehaviours such as impulsivity and inattentiveness, which frequently negatively affect eir academic achievement. Also noted in children and adolescents is isolation and ithdrawal from their peers and regressive behaviours such as enuresis, encopresis and umb-sucking (Armsworth & Holaday, 1993).

Many studies have documented associations between exposure to violence and post-raumatic stress disorder symptoms including re-experiencing the trauma (e.g. nightmares nd flashbacks), avoidance of stimuli associated with the trauma, and increased arousal Berman, Silverman & Kurtines, 2000; Turner, Finkelhor & Ormrod, 2006; Zahradnik *et l.*, 2010;Hunt, Martens and Belcher, 2011;Fowler *et al.*, 2009). Part of the rationale of his study was to assess PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

Other signs that been reported by teachers and care givers on children exposed to traumatic experiences include somatic complaints. Bailey *et al.*, (2005) notes that somatic symptoms are a common reaction to trauma in children and adolescents and can lead to malfunctions in children's emotional and academic performance. The most commonly reported somatic complaints include headaches, low energy, sore muscles, nausea or upset stomach, back pain, stomach pain, blurred vision, weakness, and food intolerance. A study of PTSD symptoms among children in New Orleans following Katrina found headaches, nausea and upset stomach to be the most commonly reported somatic symptoms (Hansley & Varela, 2008)

In an earlier study, gastrointestinal and autonomic complaints (headaches, sweatiness, & dizziness) were the most common somatic complaints reported (Bernstein *et al.*, 1997). Taylor, Szatmari, Boyle, Offord, (1996) found that over 45 % of adolescents surveyed endorsed frequent headaches and stomach-aches. In his study of traumatised children, Bailey *et al.*, (2005) indicates that children presented with unexplained pains such as stomach-aches and headaches (Bailey *et al.*, 2005). To acquire data on somatic

laints in children, a Child Behaviour Checklist was administered to the teachers in
tudy.

PTSD and Related Diagnoses

broad range of traumatic symptoms displayed by children who have experienced
ple, chronic, or prolonged traumatic circumstances often reach the threshold for one
ore psychiatric diagnoses. While sometimes children's behavioural, cognitive, and
ional reactions to trauma meet the threshold criteria for post-traumatic stress
der (PTSD), there are many traumatised children who are highly symptomatic but
do not meet this threshold (Van der Kolk, 2005). One possible reason for this is that
xisting criteria for PTSD are not developmentally sensitive for children. To address
ange of problems observed, children are instead often given a variety of comorbid
noses. These include depression, attention-deficit hyperactivity disorder, oppositional
nt disorder, conduct disorder, anxiety disorder, phobic disorder, and borderline
onality. Because the clinical manifestations of trauma are exceedingly broad and not
ured well by traditional diagnoses, Van der Kolk (2005) has proposed a new
nosis for children with histories of complex trauma called "developmental trauma
rder" that attempts to account for the emotional, behavioural, neurobiological, and
elopmental consequences of trauma. This proposed new diagnosis would incorporate
complex array of developmental effects of trauma in children, which the current
D diagnosis does not adequately capture.

ny studies have shown that trauma exposure is a risk factor for Major Depressive
order (MDD) as well (Chapman, Whitfield, Felitti, Dube, Edwards, & Anda, 2004;
Quaid *et al.*, 2001). Despite the link between trauma and depression, few studies have
mined comorbid PTSD in depressed samples. A study that had a short screen for
SD in depressed elderly patients indicated that 42% had comorbid PTSD; and in a
-site study of depression treatments, DeRubeis, *et al.*, (2005) found that 17% of the
ressed patient sample had comorbid PTSD according to the Structured Clinical
erview for DSM-IV. The relationship between PTSD and major depression is
ginning to be clarified, especially how exposure to trauma is related to the disorder
tly and separately.

studies have shown that MDD is a risk factor for the later development of PTSD
nen, Harley, Lyons, Wolfe, Simpson, & Goldberg, 2002), or that PTSD is a risk
for later depression (Breslau, David, Peterson, & Schultz, 1997). Severa
tigators looking more closely at this association have found that PTSD and MDD
likely represent a joint vulnerability with regard to trauma exposure, and are no
fore independent in trauma survivors (Breslau, Davis, Peterson, & Schwartz, 2000
onnell, Creamer, & Pattison, 2004). In other words, those individuals who develop
r depression in response to trauma are essentially confined to the subset that also
lops PTSD. Trauma exposure without PTSD is not associated with higher depressio
although found some evidence for a "depression only" response in the acute phas
nonths) after trauma exposure (O'Donnell *et al.,* 2004). This set of association
ests that those with depression alone, and those with depression plus PTSD, ma
sent two different populations. This possibility raises issues about how treatment i
oached in these two groups.

udy of specifically girls surviving sexual assault shows a high co-morbid prevalenc
eep disorders, depression, and suicidality (Krakow *et al.,* 2002). The assessment an
ment of PTSD is not complete without assessment and recognition of other co
bid mental disorders. Studying co-morbid mental disorders was not within the scop
is study.

3 Incidence and Prevalence of PTSD

umber of studies have found a high prevalence of post-traumatic stress disorde
SD) among children exposed to war trauma, state-sponsored terrorism,
rpersonal violence. For example, an epidemiological study in countries exposed
espread political trauma estimated that the prevalence of lifetime PTSD is 37%
eria, 28% in Cambodia, 16% in Ethiopia, and 18% in Gaza (De Jong *et al.,* 200
latter area in the Middle East has been subject to several studies on children
llection of trauma experiences and their impact on their mental health. For examp
most common traumatic events reported by Palestinian children were, seeing victim
ures on television, and witnessing bombardment and shelling, with between one-thi
half of the children in different samples fulfilling criteria for PTSD (Thabet *et a*

004). They were also likely to present with high rates of anxiety or depressive disorder
Thabet, Abed & Vostanis, 2002).

tudies previously describe the overall prevalence of PTSD in the paediatric populatio
o be 13 to 45% after traumatic stressors. Other studies have found similar rates of PTSI
n children where 34% had witnessed community violence, 34 - 58% were victims o
hysical and sexual abuse, and 15 - 50% were war survivors. A study by (Silvia, Alper
Munoz, Dummit, 2000) reported that the prevalence of PTSD in children who witnes
omestic violence as 93%.

A study on Rwandan genocide reported overall rate of 'probable PTSD' in children a
2% and 54% in Samples 1 and 2, respectively, and exhibited a dose–respons
elationship with exposure. Among the most heavily exposed individuals the rate wa
00%. Rates of 'probable PTSD' were higher among females than among male
Symptom levels and rates of 'probable PTSD' were exceptionally elevated, suggestin
hat at the limits of catastrophic man-made violence, psychological resilience amon
outh was all but extinguished by the time of the study (Neugebauer, Prudence, Blak
Saori, Sarsfield & Stehling-Ariza, 2009). The prevalence of PTSD in the region of th
study was determined.

2.3 Childhood Trauma and the School Behaviour

In the school setting, traumatised children may adopt behavioural coping mechanism
that can frustrate educators and evoke exasperated reprisals, reactions that bo
strengthen expectations of confrontation and danger and reinforce a negative self-imag
Traumatised children's behaviour can be confusing. Prompted by internal states not ful
understood by the children themselves and unobservable by teachers, traumatis
children can be ambivalent, unpredictable, and demanding. But it is critical to undersco
that traumatised children's most challenging behaviour often originates in immen
feelings of vulnerability (Cole, O'Brien, Gadd *et al.*, 2005).

Researchers explain that when we believe an individual has complete control over his
her behaviour, we are more likely to be angry when that behaviour is inappropriate. But

ecognise the factors that shape a child's behaviour and compromise self-control, w
nore likely to attempt to ease the child's plight (Van der Kolk, 2005).Becaus
natised children may be used to chaotic, unpredictable caregivers, they often try har
pear in control even though they may be feeling out of control. As a result, they ar
likely to be disapproved of and condemned by busy, overburdened educators, eve
gh they are among the students most in need of nurturance.

(1997) describes how an adult's view of a child's problematic behaviour migh
ge if the reasons for that behaviour were known. Not realizing that children expose
escapable, over-whelming stress may act out their pain, that they may misbehave, n
n to adults, or seek attention in all the wrong ways, can lead to punishment of thes
ren for their misbehaviour. Cole, O'Brien, Gadd *et al.,* (2005) put it well that
lusion about the child's behaviour may be reached; "The behaviour is so wilful, s
tional. She controlled herself yesterday, she can control herself today". Suc
lusions are made in the absence of understanding what happened to the child la
t, or this morning before she got to school. Understanding where the child is comin
n would make the same adult who is making conclusions to shield the same chi
he is reprimanding.

it, Rovine, Defrancisci, and Eth (2003), indicate that to avoid reminders of trauma
emotions associated with it, children may consciously or unconsciously ado
egies such as social withdrawal, aggressiveness, or substance abuse. Aggressive
rolling behaviour can be a way of coping with internal turmoil and a sense
erlessness and vulnerability; it may also arise from hypersensitivity to danger or fro
tification with the aggressor at home. Other traumatised children may try to co
n their fears by checking door locks, constantly expressing concerns about young
ings, and so on. All these behaviours may be responses to feelings they cann
ntify or describe.

ny of the effects of trauma on classroom behaviour originate from the same proble
create academic difficulties: the inability to process social cues and to conv
ings in an appropriate manner. For this reason, traumatised children's behaviour

e classroom can be highly confusing, and children suffering from the behavioural ymptoms of trauma are frequently profoundly misunderstood. Whether a traumatised ild externalises (acts out) or internalizes (withdraws, is numb, frozen, or depressed), the ffects of trauma can lead to strained relationships with teachers and peers (Cole, 'Brien, Gadd *et al.,* 2005). The following behaviours have been noted in traumatised ildren:-

.3.1 Reactivity and Impulsivity

hronic trauma can impair the development of children's ability to regulate their motions and to control impulsive behaviours (De Bellis, 2005). Reactions can be iggered in hyper-vigilant children if they feel they are being provoked or if something eminds them of the trauma. An incident or remark that might seem minor to a non-aumatised child may be perceived as threatening by a traumatised child, who then esponds in a seemingly disproportionate way. It is helpful for teachers to know what iggers might cause a traumatised child to become hyper-aroused or to re-experience a aumatic event in the classroom. Behaviourists may be able, through careful observation, o identify some of the child's triggers (Cole, O'Brien, Gadd *et al.,* 2005). Often, owever, the help of a mental health expert is needed to be sure of what may be iggering a particular child. Children in the area of this study have been reported to have een presenting with high alertness over anything that appears similar to what they vitnessed during the post-election violence. This is a possible symptom of PTSD which his study will examine.

2.3.2 Aggression

According to Shonk and Cicchetti (2001) hyper-vigilant children who are prone to eactivity and impulsiveness may become verbally and/or physically aggressive toward eachers and peers. The aggression may spring from misinterpretation of comments and ctions due to the child's inability to adopt another's perspective, underdeveloped inguistic skills, and/or inexperience with verbal problem solving. Studies have shown hat traumatised children often have distorted perceptions of the intentions, feelings, and behaviours of others as well as hostile/aggressive social behaviour. One study also found hat traumatised children were less attentive to relevant social cues, made more

tributions of others' negative or hostile intent, and were less likely to generat
etent solutions to interpersonal problems (Van der Kolk, 2005).

a gender point of view, studies have found gender differences in aggressive style
ially in peer relationships where trauma symptoms appear to be related to th
ity of aggressive behaviours (Cullerton-Sen *et al.,* 2008).Some research suggest
here is a difference in the type of aggression each gender uses: Boys have bee
n to be more likely to use physical tactics in their aggressive behaviours such a
ng, and hitting, and girls are more likely to use relational tactics, such as lying abou
s or verbal bullying (Cullerton-Sen *et al.,* 2008). Some research suggests that thes
essive behaviours may also be observed in interactions with their parents (Kuppen
ens, Onghena, Michiels, 2009).

ds and Cicchetti (1998) point out that angry reactivity would be a likely respons
ng individuals who fear victimisation and exploitation. Owing to the fact th
reated children tend to perceive threat in even neutral or friendly situations, they ma
ence a self-defensive reactivity that is consistent with their experiences an
ctations but inappropriate to the context at hand. Thus Shields and Cicchetti (199
ain that hyper-vigilant attention processes combine with maladaptive soci
rmation processing to foster emotional negativity and reactivity among maltreate
lren; this emotion dys-regulation, in turn, seems to provoke reactive aggressio
e these behaviours can be based on fear, reactivity, misinterpretation of soci
rmation, and hyper-vigilance, most traumatised children do best in a cal
ronment that accepts no bullying or teasing and in which firm limits are set
tive behaviour.

3 Defiance

e, O'Brien, Gadd *et al.,* (2005), emphasize that children who enter the classroom in
e of low-level fear may refuse to respond to teachers either by trying to take control
r situation through actively defiant behaviour or, more passively and perhaps le
sciously, by "freezing." Either way, the child is not receptive or responsive to t
her or the demands of the classroom. Children who actively try to take control m

be more overt and deliberate in their unwillingness to cooperate. This can be particularly frustrating to teachers, since these children can appear to be in control of their behaviour. Teachers often attempt to gain the compliance of "frozen" children by means of directives, but this approach tends to escalate the anxiety and solidify the inability to comply. Perry, Pollard, and Blackely (1995), describe these traumatised children as having a tendency to feel somewhat out of control and will cognitively (and often, physically) freeze. When adults around them ask them to comply with some directive, they may act as if they haven't heard or they "refuse." This forces the adult, a teacher, a parent, and/or counsellor to give the child another set of directives. Typically, these directives involve more threat. The adult would give a child a condition for example; "if you do not do this, this will happen to you". The nonverbal and verbal character of this threat makes the child feel more anxious, threatened, and out of control. Cole, O'Brien, Gadd *et al.,* (2005), maintain that the more anxious the child feels, the quicker the child will move from anxious to threatened, and from threatened to terrorised. Considering that PTSD has an element of anxiety, anxious behaviours noted among children exposed to PEV in Eldoret Municipality public primary schools could be a possible indication of PTSD symptoms which this study attempted to establish.

2.3.4 Withdrawal

Children often withdraw and show reduced interest in previously enjoyable activities (Thabet *et al.,* 2004). Children who withdraw in the classroom cannot participate effectively. Unsurprisingly, these children rarely attract their teachers' attention. Many demands are placed on teachers, not the least of which is managing children who disruptively act out their suffering.

Feelings of vulnerability may foster reluctance to engage in the classroom. As Pynoos, Steinberg and Goenjian (1996) state, preschool tasks of cooperation and sharing in relationship to other children may be interfered with by withdrawal, emotional constriction, and disrupted impulse control. Some traumatised children disconnect themselves from the present by dissociating, or "going away" in their minds; they may not be aware that they have "left" the classroom and missed large amounts of information. Dissociation may be hard for a teacher to recognise unless it is extreme.

Cases of what seemingly looks like withdrawal have been portraying among children that were exposed to post-election violence.

In conclusion, class room behaviours of children can help in informing the likelihood of PTSD symptoms. The study attempted to establish the presence of impulsivity, defiance and withdrawal symptoms of PTSD as observed by teachers.

2.4 Assessment and Diagnoses of PTSD

Post-traumatic stress disorder (PTSD) is a clinical syndrome that may develop following extreme traumatic stress (American Psychiatric Association, 2000). Like all other DSM IV diagnoses, it is likely that heterogeneous patho-physiologies underlie the cluster of diagnostic signs and symptoms labelled PTSD.

According to Foa and Tolin (2000), PTSD symptoms may be masked or difficult to identify because they frequently occur in conjunction with related disorders such as depression, substance abuse, and problems with memory and cognition. Individuals diagnosed with PTSD meet criteria for one or more additional diagnosis - most often major affective disorders, dysthymia, alcohol or substances abuse, anxiety, or personalities disorders.

According to National Institute of Mental Health (2001), psychological and emotional issues, headaches, gastrointestinal complaints, immune systems problems, dizziness, chest pains and discomfort in other areas of the body are also common in PTSD patients. It is not unusual for these complaints to be treated without any awareness that they are related to PTSD. Due to this factor, the National Institute of Mental Health encourages primary care providers to ask patients about experiences with violence, recent losses and traumatic events.

With this in mind, the APA (2013) has outlined the diagnostic criteria for posttraumatic stress disorder as follows:-

A. Exposure to actual or threatened death, serious injury, or sexual violence
B. Presence of intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred.

C. Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred.
D. Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred.
E. Negative alternations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred.
F. Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred.
G. Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month.
H. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
I. The disturbance is not attributable to physiological effects of a substance (e.g., medication, alcohol) or another medical condition.

A child is considered to have acute stress disorders when these criteria are met during the month following a traumatic event. PSTD is further characterised as acute when present for less than 3 months, chronic for more than 3 months or delayed onset when symptoms develop initially six months or more after the trauma.

DSM IV TR diagnostic criteria yield multiple labels in maltreated children but these diagnoses rarely provide useful information about etiology, course treatment response or prognosis. At present, despite an evolving clinical phenomenology, it is clear that PTSD is not the only, nor an inevitable outcome of traumatic events during childhood. Post traumatic hyper arousal or dissociative like symptoms often co-exist with those other axis 1 disorders. Furthermore, severe early trauma appears to be an expresser of underlying constitutional or genetic vulnerability and may be a primary etiologic factor in the development of a broad range of disorders later in life (Foa, Keane, & Friedman, 2000).

Dube, Anda, Felitti, Chapman, Williamson and Giles (2001), have investigated the clinical symptomatology as an outcome of exposure to trauma in early years of life and they have concluded that prolonged traumatic experiences or traumatic stress in childhood is associated with domains of impairment manifested in an internalizing domain and an externalised domain. The initialised domain comprises disorders in self-

regulation, attachment, anxiety and affect; sexual disorders in adolescence and adulthood, and re-victimisation. The externalised domain comprises addiction, aggression, social helplessness and eating disorders. Furthermore, there is a somatisation domain comprising dissociation, somatoforms and cardiovascular, metabolic and immunological disorders.

A possible explanation for the association found between early trauma, anxiety and the inability to inhibit aggression is that individuals who experienced childhood trauma become limited in their capacity to understand and interpret other people's behaviour, and that developmental psychopathology characterised by violence/aggression or avoidance are associated with this limitation (Daud *et al.,* 2008). From this perspective, anxiety symptoms with dysfunctional self-regulation and reinforced cumulative trauma effect may also explain, at least in part, the association between trauma exposure, anxiety and aggression.

As far as PTSD is concerned, the DSM-IV-TR (2000) describes three symptom clusters persistent re-experiencing of the trauma (e.g., intrusive memories and flashbac experiences, often triggered by exposure to traumatic reminders, and recurring traum related nightmares); avoidance of traumatic reminders (including places, people, an conversations) and a general numbing of emotional responsiveness; and chroni physiological hyper-arousal, including sleep disturbances, poor concentration, and hype vigilance to threat. The DSM notes that, in children, re-experiencing may occur throug repetitive play involving trauma-related themes, rather than through memories, an nightmares may have generalised, rather than trauma-specific, content.

Following a traumatic experience, it is normal and expectable for children and adults exhibit some intrusive, avoidance and hyper-arousal symptoms, which rem spontaneously within a few days or weeks (Kaminer, Seedat, & Stein, 2005). In order meet the PTSD diagnosis, at least one re-experiencing symptom, thr avoidance/numbing symptoms and two hyper-arousal symptoms should be present for least one month, and must cause significant distress or functional impairment. Kaminer *al.,* (2005), further indicate that when symptom duration is less than one month,

osis of acute stress disorder (ASD) is made. In the current study, the researche
pted to PTSD as opposed to ASD, since it was far beyond a month since the
natic event.

hood PTSD leads to both over and under diagnosis, especially when assessment
ot thoroughly or expertly conducted. There are a number of assessment instrument
able to aid the diagnosis of PTSD in children. These are among others, the Clinician
inistered PTSD Scale - Child and Adolescent Version, the Child PTSD Checklist
Child PTSD Symptom Scale and the Impact of Event Scale (IES) (Shaffer, Fisher
s, Dulcan, and Schwab-Stone, 2000).This study used the Impact of Event scale fo
ssessment of PTSD, and a researcher constructed Child Behaviour Checklist fo
er confirmation of the presence of PTSD among children exposed to PEV in Eldore
icipality Public Primary Schools.

Resilience Factors and Development of PTSD

liency connotes strength, flexibility, a capacity for mastery, and resumption o
nal functioning after excessive stress that challenges individual coping skills (Lazaru
olkman, 1984; Richardson, 2002). In some definitions, resilience refers to an abilit
vercome high loads of stressful events (e.g., trauma, death, economic loss, disaste
tical upheaval and cultural changes) and maintain psychological vitality and ment
th (Bonnano, 2007; Wilson & Drozdek, 2004). The concept of resilience emerged a
sult of research by child psychologists attempting to understand how some childre
able to overcome trauma and emerge with positive outcomes, and is now increasing
g applied to other life stages, including old age (Wild, Wiles, & Allen, 2013).
esents a shift in focus from examining hardship itself to looking at how people ca
tively adapt to hardship (Seccombe, 2002). The ability to recover is essential
ntifying the personal attributes that have a protective function in the face
atening events. It is important to note that many children experience immense distre
n traumatic events but do not, for one reason or another, qualify for a diagnosis
SD. However, these children should also be screened and, if appropriate, treated by
lified mental health professional. Masten (2001) pointed out how various adapti

ms support the development of resilience. These adaptive systems have several onents in common:

The child's personality uniqueness, e.g. social competence with adequate cognitive abilities which enable the child to acquire problem-solving skills adequate emotions, high self-esteem, and characteristics valued by society and the self,

The family's characteristics and support, e.g. stability and continuity in family relations, close warm relationship between parent and child, a generally supportive family environment

The child's environment characteristics, e.g. a safe neighbourhood with a low level of violence, an effective school system with well-trained and supportive teachers; and

Cultural characteristics, e.g. a sufficient social welfare system and low acceptance of violence.

perspective shifts the focus from an exclusively person-related approach to also mpass a developmental and an environmental approach that highlights the ortance of the quality of family relationships. Masten's view as reported by (Lutha 0) integrates biological, environmental and cultural aspects in the development o ience.

concept of resilience according to O'Dougherty-Wright and Masten (2006) is related everal other constructs, which are important for a deeper understanding of the textual approach. These constructs are risk factors, which refer to a measurable bute within an individual or group that may predict negative outcomes (e.g. mental ess of the parent(s) or parental divorce) and cumulative risk, by which is meant the eased risk that results from the combination of multiple risk factors. When persistent se severe risk factors have a cumulative effect which accentuates the severity of the tiple risk factors (e.g. children whose parents are torture victims, children's exposure lomestic violence, or physical or sexual abuse).

e term vulnerability refers to the degree to which a person, system or unit is likely perience harm due to exposure to perturbations or stresses (Kaspersen, Matthiesen

Gotestam, 2003).When faced with traumatic events some individuals show significant vulnerability and psychological distress and develop chronic clinical psychological problems such as depression or PTSD. Literature suggests that although the experience of a traumatic event certainly contributes to the development of PTSD, personal vulnerabilities also play an important role (Keane & Barlow, 2002). Other important factors may include prior exposure to traumatic events, age at the time of combat exposure, paramilitary family instability, and post military factors, including social support, additional life stressors, and personal hardiness (Foa *et al,* 2000). Thus, psychosocial factors and personal characteristics apparently may significantly influence the impact a traumatic event has on a child's life.

Hamblen (2007) suggests that interpersonal traumas such as rape and assault are more likely to result in PTSD than other types of traumas. Additionally, if an individual has experienced a number of traumatic events in the past, those experiences increase the risk of developing PTSD (Foa *et al,* 2000). It is not clear how a child's age at the time of exposure to a traumatic event impacts the occurrences of severity of PTSD. However, the criteria for PTSD now include age-specific features for some symptoms as follows:

In narrowing down to children and adolescents who are the focus in this study, PTSD reactions most closely resemble adult PTSD. However, children are variably vulnerable to the psychological effects of trauma, owing to a range of developmental factors, such as level of cognitive and emotional maturity (Louw, Louw & Ferns, 2007). Adolescents face a number of new phase-specific developmental demands including the acquisition of coherent identities, establishing relations with peers and developing independence from parents (Nooner, Linares, Batinjane, Kramer, Silva & Cloitre, 2012). For children and adolescence, exposure to traumatic experiences, added to the developmental demand only compacts the challenge hence an increased vulnerability to psychopathology including PTSD.

In children of primary school age, traumatic stress may manifest in sleep disturbances and somatic complaints, feelings of guilt and responsibility for the traumatic event, and repetitive play or re-telling of the traumatic experience (Husain, Allwood & Bell, 2008).

ain *et al.,* (2008), further indicates that traumatised children in this age group are also y to display hyperactivity, distractibility and increased impulsivity, symptoms that be mistakenly attributed to an attention deficit or conduct disorder. These responses interfere significantly with learning and place traumatized children on a trajectory rds school failure and drop out.

s also been noted that adolescents who have been exposed to trauma may become drawn and non-communicative, or defiant, aggressive and display reckless behavior rns that place them at increased risk for the development of substance abuse, inal activity, violence perpetration and further violence exposure (Jewkes, Dunkle, s, , Levin, Nduna, & Jama, 2006) ; Pat-Horenczyk, Peled, Miron, Brom, Villa, & mtob, 2007). South African research has reported that direct exposure to trauma is ciated with an increased risk of conduct problems among Grade 6 (Ward, Martin, on & Distiller, 2007) and Grade 7 (Van der Merwe & Dawes, 2000) learners, but the s of direct traumatisation that carry the highest risk have not yet been disaggregated.

y may incorporate events of the trauma into their daily lives. For example, a teenager has been viciously attacked by a group of other adolescents may become a student of martial arts in anticipation of further trouble with the gang of students. There is a ter likelihood of impulsive and aggressive behaviour in PTSD adolescents, as well. g, Tonge, Mullen, Myerson, Heyne, & Rollings (2000),observes the high rates of h in the juvenile justice system who have been directly exposed to or witnessed matic events in their lives and who have developed PTSD and other mental disorders substance abuse. King theorises that though these adolescents have been diagnosed Oppositional Defiant Disorders and Conduct Disorders, many of these youngsters ld be diagnosed with PTSD. Overlooking this diagnosis could well lead to propriate treatment.

elation to other concepts identified in the traumatic stress literature, resiliency reflects attern of competence and self-efficacy in the presence of extraordinarily difficult nts. A question can be raised as to whether resilient individuals are primarily racterised by having competence in areas of psychological functioning. Competent

rmance indicates positive beliefs about self, task performance, and problem solvin
saeth, 1995). Areas of personal competence extend to the successful mastery an
y to cope with traumatic stressors as trauma invariably taxes coping resource
uda, 1998). On the other hand, chronic, excessive stress imposes demands for copin
an lead to health problems (Schnurr & Green, 2004). In analysing these variable
rch evidence suggests that competence is related to use of psychosocial resource
fo & Belaise, 2003). In the current study, individual variables of self-concept an
er, and their relationship with PTSD were investigated.

Social Support and PTSD

with no doubt that social support systems play a key role in the aftermath of traun
noun & Tedeschi, 2006). Following a stressful event, an individual's ability to cop
termined by both the type and degree of trauma, as well as the availability of soci
ort (Bal, Crombez, Oost, & Debourdeaudhuij, 2003). According to Ozer *et a*
), poor social support following a traumatic event is among the greatest risk facto
osttraumatic stress disorder (PTSD) across types of trauma. Additionally, Brewin
2000), put it well that the inverse association between symptoms of PTSD and soci
ort is one of the most consistent relationships observed in trauma research.

mber of studies have shown that the availability of social support during and after
matic event can reduce levels of depression, anxiety, and other mental and physic
rders amongst those exposed to a range of traumatic events (De Zulueta, 200
omb, Daly, Davidson, Elliott, & Griffiths, 2005; Keane, Marshall, & Taft, 200
sh, 2007).The child literature has also emphasised the importance of social suppo
wing a disaster. Keppel-Benson, Ollendick, & Benson, (2002) found that high
ls of social support led to better outcomes in a study of 50 children who had
rienced motor vehicle accidents. Involvement in these accidents ranged from being
enger, to being hit by a car while on a bike or while walking. For these individua
al support was found to be a significant predictor of decreased levels of PTS
ptoms.

tionally, social support has also been found to contribute to positive experience
disaster outcomes in children. Following a trauma, children may not only experienc
k of psychological distress, but may actually undergo a positive transformation. In
of 46 children following Hurricane Floyd, social support was found to be
ficant contributor to positive outcomes (Cryder, Kilmer, Tedeschi, & Calhoun
). Also, borrowing from the adult literature, it was shown that those who ha
ienced lower levels of resource loss, along with higher levels of social suppor
ited higher levels of resilience following the terrorist attacks on September 11, 200
anno, Bucciarelli & Vlahov, 2007).

ing at specific types of social support, earlier studies have shown that social suppo
e of the greatest resources in coping with stress and trauma (Ozer *et al.*, 2003) an
s an important role in the process of recovery from PTSD. Parent support is linked
eased levels of aggression and violent behaviour (Blum, Ireland, & Blum, 2003) an
buffer the effects of stress on adolescent aggression and violent behaviou
okmeyer, Henrich, & Schwab-Stone, 2005). Wolchik, Tin, Sandler and Aye
8), examined post traumatic reactions in a sample of 50 bereaved adolescents. In th
y, the researchers also measured social support from four different sources: parent
ts other than parents, peers, and siblings. The studies confirmed that the higher th
of social support, the lower the levels of PTSD symptoms.

ngs also play an important role as far as social support is concerned. Warmth an
nacy in "siblingship" were found to be associated with emotional understanding an
disclosure in middle childhood (Howe, Aquan-Assee, Bukowski, Lehoux, & Rinal
1) and this can serve as a source of emotional support in early adolescence duri
emely stressful situations. On the contrary, negative sibling relations are found to
ciated with adjustment problems (Deater-Deckard, Dunn, & Lussier, 2002), anxie
x, Barrett, & Shortt, 2002) and depression (Kim & Cicchetti, 2003) both in childho
adolescence. This study examined social support offered by parents and siblings a
nfluence on development of PTSD in children who were exposed to 2007/2008 po
tion violence.

ording Ozer and Weinsten, (2004), social support from school personnel can also
a protective role for children and youth. Schools serve as an important context for
d development and often function as a place of relative safety within violent
mmunities. Feelings of connectedness to school have been found to positively
uence adolescent adjustment (Resnick, Bearman, Blum & Bauman, 1997) as well as
decrease aggressive behaviour (Haynes, Emmons, & Ben-Avie, 1997). Internally
placed children in Eldoret were taught in makeshift schools at the IDP camps. Social
port in the makeshift schools during this period and after resuming to school was
died in order to shed light on the availability and effect of social support on
elopment of PTSD in these children who were exposed to PEV.

hool support is complemented further by peer support. There is general evidence of the
eficial role of peer acceptance, the ability to make and maintain friendships, and
ticipation in social networks in contributing to children's optimal development and
ll-being (Gifford-Smith & Brownell, 2003). Longitudinal findings confirm that
sitive peer relations promote good social-behavioural adjustment (Brendgen, Vitaro,
kowski, Doyle, & Markiewicz, 2001), sense of emotional safety and high self-esteem
herman, Lansford, & Volling, 2006) especially during adversity.

nother important point to note is that the optimal source of social support may depend
the developmental stage of the person who is receiving the support. For example,
rental support seems to be more valuable in early adolescence than it is in late
olescence (Stice, Ragan & Randall, 2004). In a sample of childhood sexual abuse
rvivors, a combination of self-esteem support (the individual perceives that he or she is
lued by others) and appraisal support (the individual perceives that he or she is capable
getting advice when coping with difficulties) was most useful in preventing the
velopment of PTSD (Hyman, Gold & Cott 2003).

conclusion, social support is one of the most essential external variables affecting
ild's ability to display resilience. In fact, in a recent meta-analysis borrowed from the
ult literature, social support was found to be a moderate predictor of post-traumati
owth (Prati & Piertrantoni, 2009).The authors attributed these findings with the fac

ocial support promoted effective coping strategies, which in turn promotes positiv
mes.

family, peers, teachers and other social support networks decrease th
natisation level in an individual, the study assumed that low perception of soci
ort resulted in development of post-traumatic symptoms, especially if there is a lac
mily support. This study examined the influence of social support of family, peer
ers and other institutions on development of PTSD in children survivors
/2008 post-election violence.

Gender Differences and Development of PTSD

subject matter of gender and how it relates to resilience in development of PTSD h
been studied. However, studies have mixed findings on gender as a risk factor
lopment of PTSD among individuals exposed to traumatic experiences, with som
es indicating females to be more vulnerable to development of PTSD on exposure
natic experiences, while other studies find no difference between males and female
rding to Tolin and Foa (2006), studies have revealed no significant difference
of PTSD between men and women; however, among both adults and children wh
rted child sexual abuse, women and girls remained approximately twice as likely
criteria for PTSD as were men and boys. However, sex comparisons of PTS
ss traumatic events that are more commonly endorsed by men (non-sexual assau
dents, combat, disaster or fire, witnessing death or injury) also show that women wh
rted these traumas were more likely to meet criteria for PTSD than were men wh
rted the same types of traumas (Tolin & Foa, 2006). It should however be noted th
findings that more females than males develop PTSD has been report
pendently of study type, population studied, culture, type of assessment, and oth
nodological variables (Tolin & Foa, 2008). Thus, the increased prevalence of PTS
emales compared to males does not appear to be simply a product of measureme
or methodological bias. Chung and Breslau (2008) conducted a latent class analy
found no evidence of differential symptom reporting in males compared to femal
led them to the conclusion that the increased symptomatology reported by females

to reflect a substantive difference, rather than a sex-related reporting bias. Instead
been suggested that as a result of the different gender roles, which males and
es hold in society, men and women are exposed to different stressors on a day-to
asis (Barnyard& Graham-Bermann, 1993; Ptacek, Smith, & Zanas, 1992).

estingly adult literature based on military and police samples have generally failed t
an increased risk of PTSD in females compared to males (Lilly, Pole, Best, Metzler
armar, 2009). Although male and female military veterans generally differ in th
of events they have been exposed to, it is also possible that the lack of reported se
rence is related to one or more variables on which police and military females diffe
female civilians. Furthermore, the meta-analysis by Tolin and Foa, (2008) foun
a significant sex difference in PTSD rates has not been established following adu
childhood sexual assault and abuse. This failure to discover significant se
rences in PTSD following sexual assault and abuse may be accounted for by th
ively low number of both-sex studies focusing on these two.

Self-concept and Development of PTSD

-concept (self-esteem and self-efficacy) function as personality moderators
matic experiences and serve as protective factors. According to Weiten, Dunn ar
mer, (2012), the term self-concept refers to a collection of beliefs about one's ow
re, unique qualities, and typical behaviour. It is an individual's mental picture of sel

-efficacy which is a component of self-concept refers to personal judgment of one
bilities to exercise some measure of control in the face of stressful events (Bandu
7). Self-efficacy plays a key role in stress reactions and quality of coping. It is
ortant resource for positive psychological adaptation as it determines that people a
e likely to engage in tasks with which they feel comfortable and be less likely
icipate in tasks with which they do not. For example, Luszczynska *et al.,* (2005) a
nova *et al.,* (2006) have highlighted that people with a strong sense of self-effica
eared to invest more effort and to develop active coping with the stress induced
mployment. By contrast, those with lower self-efficacy tended to be more passive a
use emotion-focused rather than problem focused coping strategies. Benight a

ura (2003) when reviewing the role of perceived self-efficacy in recovery from
se types of trauma such as natural disasters, military combat, terrorist attack or
nal assaults found that people who believe they can defeat past trauma demonstrated
ctive coping abilities to regain control over their lives rather than having their lives
ed by adverse circumstances.

ma survivors' self-beliefs of coping capability (coping self-efficacy) are critically
rtant for understanding the unfolding coping response to trauma and integral to the
valuative mechanisms of human adaptation (Benight & Bandura, 2004). Cognitive
vational, affective, and environmental processes may be involved in development
maintenance of post traumatic distress (Benight & Bandura, 2004). The child'
onality uniqueness is vital in the way they deal with traumatic experiences.

esteem on the other hand is the extent that persons believe they are capable
ficant, successful and worthy. Self-esteem is an overall feeling of self-worth
enberg, Schooler, Schoenbach & Rosenberg, 1995). A general sense of personal
h together with a coherent sense of identity appears to be significant for the
escent's mental health. According to Salami (2010), the complex personal, social and
lial adjustments required in asserting one's identity, depends on individual's self
em and help individuals to get over PTSD. Children and adolescents who had been
osed to violence often experience intensified self-doubt and vulnerability in addition
reater depression and anxiety reactions (Garnets, Herek & Levy, 1990). These author
nd that self-esteem was negatively correlated with mental health variables (measure
chiatric symptoms; suicidal ideation and suicide attempts) among victimized youth
ilarly, low self- esteem was reported to be related to high mental health difficulti
adley, Schwartz & Kaslow, 2005). The aspect of self-concept is worth researchi
e how an individual perceives himself or herself determines how best they will de
n adversity. Those with a positive mental picture of themselves are likely co
ctively with traumatic experiences hence reducing their likelihood of developi
SD. This study explored the notion of self-concept on development of PTSD with t
tulation that the children with positive self-concept had high resiliency hence had

educed risk of developing PTSD. Similarly, this study postulated that those with egative self-concept had a higher risk of developing PTSD.

.6 Theoretical Framework

rom the earliest emergence of a consciousness of trauma, intense debates have raged egarding its etiology (Trimble, 1985). From the early theories proposing physiological rigins to the work of Charcot, Janet and Freud in the early 19th century, to more recent ormulations, the issue of etiology has always been a matter of contention. Given that nly a portion of those individuals exposed to a traumatic event actually go on to develop TSD, the question of what causes it has been of particular interest. Various theories ave evolved in the past 30 years to answer this question, each with its own merits. A rief overview of 3 theories of PTSD will be provided in the following section. The sychosocial model proposed by Green, Wilson and Lindy (1985) has been explored in epth as it served as the theoretical framework for the present study.

.6.1 Cognitive Appraisal Model

n her Cognitive Appraisal Model, Janoff-Bulman (1985) argues that individuals hold herished assumptions about the self and the world, and that traumatic exposure shatters hese assumptions. She has identified three basic assumptions and these are:

1) The belief in personal invulnerability.
2) The perception of the world as meaningful and comprehensible.
3) The view of the self in a positive light.

The appraisal model draws from Lazarus and Folkman's (1984) interactional definition of stress, and is based on the premises of Horowitz's (1976) Information-Processing model. It emphasises individual appraisal of an event as traumatic and holds that this appraisal takes place within a context of basic assumptions. These basic assumptions are said to be shattered when an event is appraised as traumatic in nature, and much like Horowitz's (1976) description of the process of revising schemata, the new information is said to necessitate accommodation through a revision of the individual's theory of reality. According to Peterson, Prout, and Schwartz (1991), there is substantial empirical support for Janoff-Bulman's model and state that it is complementary with other views of PTSD

theory expands on more traditional theories focusing specifically on individua
bles, by proposing that the environment and the individual interact to produce a
me. It fails, however, to account for the recovery context, and those variables tha
tate or hinder the revision of the three basic assumptions following traumati
sure. Failure to account for the social context in recovery after traumatic event mad
tudy to consider a second theory in informing the study.

Psychosocial Model

psychosocial model was proposed by Green *et al.,* (1985) and applied to PTSD. Th
nosocial model provides one of the most comprehensive models of trauma b
bining the elements of the cornerstone theories in the area and emphasisin
thing new: namely the recovery environment. Green *et al.,* (1985) propose
nosocial understanding of trauma to account for the multitude of factors that ma
ct on the exposure - post traumatic stress relationship and account for why som
viduals develop PTSD, and why others, perhaps exposed to the same stimuli, do no
n *et al.,* (1985) propose that to answer the question of why one individual develo
D and another does not, theory must take into account not only the nature of th
pitating event, but also the characteristics of the individual and the environment
h the individual attempts to recover. They argue that appraisal of a traumatic eve
s place within both an individual and a social context, and that it is this social conte
has been neglected in theories such as Horowitz's (1976) and Janoff-Bulman
5).

n *et al.,* (1985) propose that social support is the variable that has received the mo
ntion in the literature, and that it has been shown to be associated with bett
hological adjustment. Interestingly they describe social support as being both
vidual characteristic and a social phenomenon. They propose that an individua
ngness to access support is an individual variable, but the provision of that support
e a function of the recovery context (Green *et al.,* 1985). This psychosocial model
ma has been widely employed in the traumatology literature as a framework f
erstanding the variables that impact on the exposure - post traumatic stre

2.6 Conceptual Framework

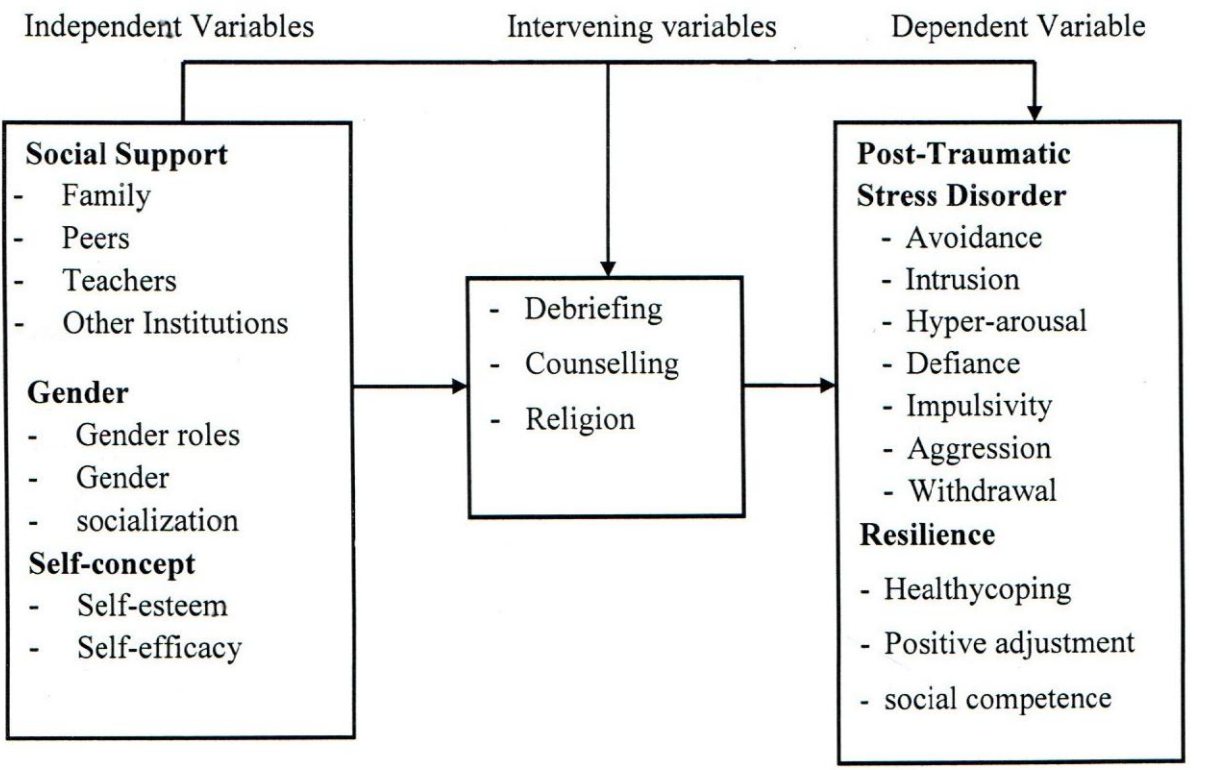


Figure 1: Effect of Social Support, Gender and Self-concept on Development of PTSD among Children Exposed to PEV

Figure 1presents the conceptual framework of the study. In the conceptual framework, social support, gender and self-concept were considered as the independent variables, owing to the fact that they have a tendency of influencing development of PTSD on exposure to trauma. Like proposed in the Cognitive Appraisal and the Psychosocial Models, the interaction between the individual, the event, and the recovery environment are critical in the development of PTSD. The social support aspect is subjective in that different people in children's lives offer different support which may fill unique needs following disaster. Availability of social support may perhaps have had positive effect on children who were exposed to the traumatic happenings of post-election violence, acting as a protective shield or a "bandage'', around the trauma inflicted wound and could have influenced the response to the trauma. This conceptual model examined children's peers (peer acceptance and support), families (stability and warmth), teachers (support) and

other institutions as important sources of support towards coping with the post-electi violence leading to PTSD.

Individual characteristics during exposure to violence could have an effect on t emergence of PTSD. In the current study, children's characteristics of self-concept indicated by self-efficacy and self-esteem as well as gender and were investigated. The characteristics might have also influenced access to social support.

Post-traumatic stress disorder and resilience were the dependent variables in this stu The PTSD indicators that were studied were avoidance, intrusion, hyper-arous defiance, impulsivity, aggression and withdrawal while healthy coping, positi adjustment and social competence were indicators of resilience.

The intervening variables that were considered are debriefing, counselling and the chil religion as defined by the family. These factors might have influenced psychologi outcomes including PTSD.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the procedures that were used to conduct the study. It details and systematises the various steps that were followed in the entire research. The main focu in this chapter is on research design, population, sampling procedure and sample size instrumentation, data collection and data analysis

3.2 Research Design

The study was a survey that adopted the ex post facto design. An ex post facto researc design is a type of field study that combines literature searching, experience surveying and single or multiple case studies, which allow researchers to attempt to identif variables of importance as well as their relationships (Davis, 2005). Field studies ar considered ex post facto designs because there is no manipulation or control exercise and data is often gathered in the most nonintrusive way possible (Davis, 2005). Landma (1988) has described the term ex post facto as an experiment in which the researche rather than creating the treatment, examines the effect of a naturally occurring treatmer after it has occurred. In other words it is a study that attempts to discover the pre-existin causal conditions between groups. In the current study, issues relating to post electio violence and how they influenced the children's psychological well-being leading development of PTSD were explored. This was gathered from the children and the teachers. Inferences were made without manipulation of the independent variables which we social support, gender and self-concept. The dependent variable, PTSD was considered resultant from the independent variables, hence confirmation or rejecting of the hypothes and interpreting the causal relationship.

3.3 Location of the Study

The study was conducted in the North Rift part of Kenya, specifically in Eldor Municipality in Uasin Gishu County which covers an area of 157 square kilometres. the time of the study the municipality had a total of 40 public primary schools based the data given by the Municipal Education office in March 2012. Due to her ri

icultural potential, Eldoret has attracted diverse communities from across the country king it a multi ethnic region. Media and human rights reports indicated that during the 7/2008 post-election violence, Eldoret reported the highest number of casualties and truction of properties, such as the burning of Kiambaa church where an estimated 100 lians had taken refuge as well as destruction of schools and homes (KNCHR, 2008). due to this intensity of violence that Eldoret municipality was considered appropriate his study.

Population of the Study

study population constituted of class eight children in eight selected public primary ols in Eldoret Municipality, Uasin Gishu County, who were exposed to post election nce. The exposure to PEV that was considered as either direct or indirect. Indicators irect exposure to PEV included; the child's house was burnt, sexual abuse and/or ical harm among others. Indirect exposure on the other hand included watching ves and friends being violated, watching PEV news and/or even hearing of violence ng others. All the eight schools were mixed schools, meaning they had both boys girls. The accessible population consisted of 1218 class eight pupils from the eight ted public primary schools drawn from the school's location; (Rural, Urban, Peri and Slum) as provided by the Municipal Education Officer. Class eight pupils were rred by the researcher because of the fact that at the time of post-election violence, rity of these children were between the age of eight and 10 years. At that age, en are able to register the happenings of events and the possible effects of the s on the individual child. Public schools were preferred because of the diversity of en in the schools as opposed to private schools where the children population is d along socio-economic lines. The population of teachers in the eight schools was Table 1 shows the distribution of the accessible population by category of the school , Urban, Peri urban and Slum) and by gender.

Table 1

Distribution of Class Eight Pupils by Category of School and Gender (Class 8)

Location	Number of schools	Boys	Girls	Total
Slum	2	218	232	450
Rural	2	116	139	255
Peri-Urban	2	112	135	247
CBD- Urban	2	131	135	266
Total	8	577	641	1218

3.5 Sampling Procedure and Sample Size

The sample was determined by the use of the formula indicated by Nassiuma (2000).The author asserts that in most surveys or experiments, a coefficient of variation of at most 30% is usually acceptable while the error margin should be less than or equal to 5%. This study used a coefficient variation of 30% and a standard error of 2%. The formula is as follows:

$$n = \frac{N C^2}{C^2 + (N-1)\, e^2}$$

Where;

N- Population size

n- Sample size

C- Coefficient of Variation

e- Error margin

$$n = \frac{1218(0.3)^2}{(0.3)^2 + (1218-1)\, 0.02^2} = 192$$

Hence the sample sizes will be obtained as follows: -

Number of pupils, n = 192

Number of schools, n = 8

After the selection of the schools, 4 teachers were purposively selected from each school in the sample. The sample therefore constituted of 192 class eight pupils and 32 teachers totalling to a sample of 224.

Proportionate stratified sampling was used in allocation of the 192 participants according to gender. This method requires the selection of units at random from each stratum in proportion to the actual size of the group in the total population. Additionally purposive sampling was used in this study in selecting 32 teachers from the eight schools.

Due to the difference in the number of pupils in each school of the ones selected, the researcher employed proportional sampling using Kathuri and Pals' (1993) formula; **(No. of pupils in the school ÷ Total Population × Sample Size).** Table 2 indicates the sampling matrix.

Table 2

Sampling Matrix

Type of School	No. of Pupils	Sample size
1. Slum – A- Langas	323	51
2. Slum – B - Kamukunji	127	20
3. Rural – A - Gitwe	42	7
4. Rural – B - Racecourse	213	33
5. CBD Urban - A- Kimalel	172	27
6. CBD Urban – B– Central	94	15
7. Peri Urban – A- Ainaptich	129	20
8. Peri Urban –B–Kimumu	118	19
Total Population	1218	192

Table 3 presents a summary of the accessible population, the sampling method used as well as the sample size for both the teachers and the children.

In addition to the selected pupils, four teachers from each of the eight schools sampled were purposively selected to constitute the sample.

e 3

mary of Accessible Population, Sampling Method and Sample Size

egory of population	Total population	Sampling Procedure	Sample size
hers	210	Purposive	32
ls	1218	Stratified Random	192
l	1428		224

Instrumentation

study used three data collection tools; The Impact of Event Scale-R for assessment
D, the Self-concept/Social Support Questionnaire, and a Child Behaviour Checkli
w is an analysis of the data collection instruments:-

Impact of Event Scale-Revised

Impact of Event Scale-Revised (Weiss & Marmar, 1997) is a PTSD screening tool.
22 item scale which is rated on a 0 (not at all) to 4 (Often) scale with respect to ho
essing each item has been during the past week. Scale scores are formed for the thr
cales, which reflect intrusion (8 items), avoidance (8 items), and hyper-arousal
s), and show a high degree of inter-correlation r_s = .52 to .87 (Creamer, Bell & Fail
).

s original nature, the impact of event scale is a 15-item scale developed by Horow
., (1979) to measure the severity of PTSD symptoms. The IES includes measures
two most characteristic aspects of post-traumatic psychopathology, namely, t
gth of intrusive thoughts and the energy spent in trying to block them out
ciousness. A review of 40 studies concluded that the IES has good validity a
bility, and is a good indicator of the need for psychiatric intervention (Sundin
owitz, 2002).

levels of internal consistency have been previously reported (Intrusion: Cronbach
a = .87 – .94, Avoidance: Cronbach's alpha = .84 – .87, Hyper-arousal: Cronbach
a = .79 – .91, Creamer *et al.,* 2003; Weiss & Marmar, 1997). Additionally, test-rete

ability, collected across a 6-month interval, ranged from .89 to .94 (Weiss & Marmar, 7). Similar internal consistency and test-retest values have been reported with a anese translation of the IES-R (Asukai, *et al.,* 2002).

2 Self-concept and Social Support Questionnaire

s instrument was developed by the researcher and has three main sections. Section A his questionnaire covers items on individual child's characteristics of age and gender. tion B comprises of items on the child's self-appraisal. The data gathered with this ion was to inform the research on how the individual child appreciates him/herself as may determine the child's resilience as far as development of PTSD is concerned as l as the initiative in looking for support. Section C has three sub sections; family port, teacher support, peer support and other institution's support data, all as eived by the child.

overall aim of this instrument together with the other instruments was to gather data examining the influence of social support, gender and self-concept on development of D in children exposed to 2007/2008 post-election violence in Eldoret Municipality.

3 Child Behaviour Checklist – Teachers Version

researcher developed instrument was administered to the class teachers of the pled children. The instrument had two sections; Section A gathered social ographic data of the child about the age, gender, and area of residency. Section B of checklist questionnaire consists of a number of statements about the child's behaviour bserved by the teacher over a period of one week, for example, "Acts too young for ner age". Responses are recorded on a yes or no scale. Problems were identified by a her who knows the child well in order to establish PTSD Symptoms.

Validity of Instruments

omo (2006) describes validity as the quality that a procedure or an instrument used in research is accurate, correct, true, meaningful and right. Validity therefore, implies we want to obtain what we are supposed to measure. To ensure validity of the arch instruments, the tools were pre-tested. A pilot study was conducted before the n study. For this purpose two schools from Burnt Forest were involved in this

ise. Burnt Forest locality also experienced similar violence during and after the general election just like in the area of the current study. That being the case, the Forest public primary schools were appropriate for the pilot study. As indicated by kel and Wallen (2000), the purpose of a pilot is to detect any problems that can be died before the actual study is carried out. This was done in order ensure the validity e data collection instruments, as well as enable the researcher understand the ical issues of the study.

Reliability of Instruments

bility is a measure of the degree to which a research instrument gives consistent s or data after repeated trials (Mugenda & Mugenda, 2003). Reliability refers to consistent a research procedure or tool is. Hence reliability implies stability or dability of an instrument or procedure in order to obtain information (Kasomo, . To test reliability of the instruments, this study used Cronbach's alpha. Sekaran) states that in almost all cases, Cronbach's Alpha can be considered a perfectly ate index of the inter item consistency reliability. Using inter-item correlation x as a guide, items that will not strongly contribute to alpha, those that will be too r, and those whose content will not be critical, will be eliminated. Bryman (2011) st that where Cronbach Alpha is used for reliability test, as a rule of thumb, bach Alpha values for items included in a study should not be lower than 0.8. ally (1978) on the other hand suggested that where Cronbach Alpha is used for lity test, as a rule of thumb, Cronbach Alpha values for items included in a study l not be lower than 0.7.

ach's Alpha test was used to test inter-item reliability and validity of PTSD rement tool (IES – R). The three items namely Avoidance subscale, Intrusion le and Hyper-arousal subscale scores were used to test reliability of Impact Event (IES) scores as used to measure PTSD which had an alpha of 0.722. Further y shows that with respect to the signage, none of the items of IES scales were ed. Therefore, given that the alpha score of 0.722 is greater than the threshold of was concluded that the sub-items used provided reliable PTSD measurement tool.

The tool for measuring self-concept had an alpha of 0.823. Further scrutiny shows that all items fitted well as the alphas for all the seven items ranged from 0.775 to 0.832 which is well above the threshold of 0.7 adopted in the study. It was therefore concluded that the tools were reliable for the study.

Child Behaviour Checklist and Social Support scales were not subjected to Cronbach's Alpha test. According to (Sekaran, 2005), Cronbach's Alpha analysis is not suitable for nominal data because it is based on testing the suitability of a ratio, interval and ordinal measurement scales and not nominal value judgment. That is the reason why the said tool was not subjected to Cronbach's Alpha test.

3.9 Data Collection Procedures

The researcher obtained authority to conduct the study from Egerton University which in turn helped in acquiring a research permit from the National Commission of Science, Technology and Innovation. The researcher further obtained permission from the Uasin Gichu County Education Officer, followed by consent from the administration of the schools involved on behalf of the parents. The next step involved recruiting research assistants who were trained counsellors due to the clinical nature of the study. This was followed by identification of research participants. In order to draw a sample, consent of the participants was also obtained. From that point, data collection was done.

3.10 Data Analysis

The data obtained was processed using the Statistical Package for Social Science (SPSS) Version 17.0. Descriptive statistics (percentages, mode means, and frequencies) and inferential statistics (ANOVA, t-test, and Pearson Correlation Coefficient) were used for statistical analysis. All hypotheses were tested at a significant level of 5%, ($\alpha = 0.05$).

ble 4 presents a summary of data analysis methods used to test the study hypotheses.

le 4

mary of Data Analysis

Hypothesis	IV	DV	Method
There is no statistically significant age differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.	Age	PTSD	Means Percentages ANOVA
There is no statistically significant relationship between social support and development of PTSD among children exposed to 2007/2008 post-election violence trauma in Eldoret Municipality public primary schools.	Social support	PTSD	Means Percentages t-test
There is no statistically significant gender differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.	Gender	PTSD	Means Percentages t-test
There is no statistically significant relationship between self-concept and development of PTSD among children exposed to 2007/2008 post-election violence trauma in Eldoret Municipality public primary schools.	Self-concept		Means Percentages Pearson's Correlation

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and findings of the study. The study analysed the effect of social support, gender and self-concept on post-traumatic stress disorders among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools. The analysis was carried out using both inferential and descriptive statistics and is presented according to the research objectives. The study sought to find out the answers to research objectives and test the research hypotheses at 5% level of confidence. The null hypotheses were tested at $\alpha \leq 0.05$ for one-tailed tests and $^{\alpha}/_{2} \leq 0.025$ for two-tailed test. The chapter is organised in three sections; first, the demographic characteristics of the participants are discussed to show the degree to which data represents the population of interest. The second section provides findings with respect to each objective and the third section presents hypotheses test results. The chapter further discusses findings and compares them with other similar studies done. The results are presented and discussed in the order of the stated objectives, followed by the testing of hypotheses.

4.2 Demographic Characteristics of the Participants

This section presents the demographic profile of participants. Demographic characteristics comprised of personal and domicile characteristics. This information was important in order to obtain the characteristics of the participants. The personal characteristics included age and gender while domicile characteristics included residency. Details of the participants' characteristics and domicile characteristics are presented in the following subsections:

4.2.1 Distribution of Participants by Age

The participants in the study were 192 all drawn from eight schools selected from Eldoret Municipality public primary schools. Table 5 presents the distribution of participants by age.

Table 5
Distribution of Participants by Age

Age	n	%
12.00	12	6.3
13.00	40	20.8
14.00	77	40.1
15.00	48	25.0
16.00	10	5.2
17.00	5	2.6
Total	192	100.0

Results in Table 5 indicate that a large proportion of the participants were between 13 and 15 years. Those in age 13 were 40 (20.8%), 14 years were 77 (40.1) while 15 years were 48 (25.0%). Six point three percent were in the age of 12 years while less than 10% of the participants were 16 years or older. The results further show that majority of the participants were between age 13 and 15years (85.9%). This is because that is the ideal age for pupils in class eight.

4.2.2 Distribution of Participants by Gender

To ensure equal representation it was necessary to do a frequency distribution by gender. Table 6 presents the distribution by gender.

Table 6
Distribution of Participants by Gender

	Frequency	Percent
Male	102	53.1
Female	90	46.9
Total	192	100.0

As indicated in Table 6, the children sample comprised of 102 (53.1%) males and 90 (46.9%) females. This is a clear indication that the distribution across gender was somewhat balanced. This helped to avoid gender bias and also to give information from

both participants concerning the influence of social support, gender and self-concept o development of PTSD.

4.2.3 Distribution of Participants by Residence

It was also necessary to ensure that the demographic characteristic of residence of th participants was taken into account in order to have a somewhat balanced representatio Table 7 presents the distribution of participants by where they lived.

Table 7

Distribution of Participants by Residence

Residency	Frequency	Percen
Rural	32	16.
Urban	64	33.
Peri-Urban	18	9.
Slum	33	17.
Non-Response	45	23.
Total	**192**	**100.**

Table 7 shows that majority of the participants resided in urban areas at 33.3%. Als 16.7% and 17.2% of the participants resided in rural and slum areas respectively. On 9.4% of the participants resided in peri-urban areas. 23.4% of the participants did n indicate their area of residency. From this presentation, it is evident that the compositi fairly represented the population of pupils in Eldoret Municipality across residence.

4.3 Presence of PTSD among Children Exposed to PEV

Objective one sought to determine age differences in development of PTSD amo children exposed to 2007/2008 PEV in Eldoret Municipality public primary schools. address this objective, it was necessary to establish if the participants developed PTSD the first place. The Impact of Event Scale Revised (IES-R) was used to measure t presence of PTSD symptoms mainly avoidance, intrusion/re-experiencing and hyp arousal for the entire sample. Responses were recorded on a 4-point Likert scale, rangi from 0 (not at all), 1 (rarely), 2 (sometimes), to 3 (often). Table 8 through 10 present t

percentage frequency scores, mean, and standard deviation for each of the 3 IES-R subscales.

4.3.1 Avoidance Subscale of the Impact of Event Scale- Revised

The avoidance subscale of the impact of event scale was used to measure avoidance symptoms of PTSD. Table 8 presents the results of the findings.

Table 8
Frequency Distribution of Avoidance Subscale

No	Item	Not at all	Rarely	Some-times	Often	M	SD
5	Strong feelings about PEV	40 (20.8%)	46 (24%)	60 (31.2%)	43 (22.4%)	2.56	1.06
7	Staying away from reminders of PEV	41 (21.4%)	42 (21.90%)	48 (25.0%)	58 (30.2%)	2.65	1.13
8	Feelings like PEV wasn't real	68 (35.4%)	35 (18.2%)	42 (21.90%)	47 (24.4%)	2.34	1.19
11	Other things reminding of PEV	10 (10.4%)	45 (23.4%)	86 (44.8%)	41 (21.4%)	2.77	0.9
12	PEV feelings not dealt with	67 (34.9%)	50 (26.0%)	46 (24.0%)	29 (15.1%)	2.19	1.08
13	Startle on loud unexpected sounds	43 (22.4%)	42 (21.9%)	59 (30.7%)	48 (25%)	2.58	1.09
17	Trouble with feelings	57 (29.7%)	49 (25.5%)	60 (31.2%)	26 (13.5%)	2.29	1.03
22.	Numbness	76 (39.6%)	37 (19.3%)	53 (27.6%)	26 (13.5%)	2.15	1.09
	Avoidance Subscale	**52 26.83%**	**43 22.53%**	**57 29.55%**	**40 20.69%**	**2.44**	**0.42**

Table 8 shows that the mean and standard deviation of avoidance subscale were 2.44 and 0.42 respectively. The mean and standard deviation were drawn from the scores of the participants who indicated that they sometimes or often experienced what is stated in the item. Further analysis shows that on average approximately 21% of the participants often avoided situations that remind them of PEV while 30 % of the participants reported that they sometimes avoided situations aforementioned. This adds up to 51% of the

cipants presenting with avoidance symptoms of PTSD. For that reason, these resul that a half of the participants often or sometimes tended to avoid situations th nded them of PEV. These results denoted that majority of the participants sti nted with the avoidance symptom of PTSD.

findings in this study are consistent with those reported in a retrospective cha w in Cape Town that found PTSD to be one of the most common disorders at th l and Adolescent Psychiatry Unit at Tygerberg Hospital (Traut *et al.,* 2002). nunity study in Khayelitsha, Ensink, Robertson, Zissis & Leger (1997) found th nost commonly reported PTSD symptoms were avoidance of thoughts and activiti ciated with the trauma, difficulties in sleeping, and hyper-vigilance.

hool survey of 307 Grade 10 pupils in the Western Cape found that adolescen rted an average of 3.5 childhood traumatic experiences, and 12.1% met DSM-I ria for PTSD on self-report measures (Seedat *et al.,* 2000). The most common rted symptoms were: avoiding thoughts about the event (34.4%), irritability (28.2% culty showing emotion (26.5%), emotional upset at being reminded of the traun %), and intrusive recollections of the event (19.4%).

Intrusion/re-experiencing Subscale of the Impact of Event Scale - Revised

intrusion subscale of the impact of event scale was used to measure intrusi ptoms of PTSD. Table 9 presents the results of the findings.

findings indicate that on average, about 53.16% of the participants presented wi sion symptoms of PTSD. The analysis further shows that the mean and standa ation for intrusion subscale were 2.483 and 0.44 respectively. Frequency results sho on average 34.56% of the participants sometimes suffered from intrusion symptor PTSD while 18.6% often have the same symptoms. Notably, results in t prehensive item-by-item in Table 9 show that 32.8% of the participants often tried ove PEV events from memory while up to 39.1% of the participants said th metimes' they had dreams about PEV (item 3 and 6 respectively). These resu efore point towards a significant number of participants suffering from intrusion/r riencing symptoms of PTSD.

Table 9

Frequency Distribution of Intrusion/re-experiencing Subscale

No	Item	Not at all	Rarely	Some-times	Often	M	SD
1	Intrusive thoughts about PEV	42 (21.90%)	63 (32.80%)	72 (37.50%)	15 (7.80%)	2.31	0.9
2	Upsetting thoughts about PEV	53 (27.60%)	48 (25%)	55 (28.60%)	34 (17.70%)	2.37	1.07
3	Effort to remove PEV events from memory	34 (17.70%)	37 (19.30%)	57 (29.70%)	63 (32.80%)	2.78	1.09
6	Dreams about PEV	52 (27.10%)	42 (21.90%)	75 (39.10%)	22 (11.50%)	2.35	1
9	Avoid talk about PEV	45 (23.40%)	37 (19.30%)	61 (31.80%)	49 (25.50%)	2.59	1.11
16	Bodily reactions on PEV reminders	35 (18.20%)	34 (17.70%)	85 (44.50%)	37 (19.30%)	2.65	0.99
20	Difficulty remembering what happened	61 (31.77%)	42 (21.88%)	59 (30.73%)	30 (15.63%)	2.3	1.0
	Intrusion Subscale	**46 23.95%**	**43 22.55%**	**66 34.56%**	**36 18.60%**	**2.483**	**0.4**

In describing the effect of exposure to traumatic events, the DSM V describes a component of the three symptom clusters in PTSD as persistent re-experiencing/intrusion of the trauma (e.g., intrusive memories and flashback experiences, often triggered by exposure to traumatic reminders, and recurring trauma related nightmares); The DSM V notes that, in children, re-experiencing may occur through repetitive play involving trauma-related themes, rather than through memories, and nightmares and that they may have generalised, rather than trauma-specific, content (American Psychiatric Association 2013).

Intrusive/re-experiencing symptoms include intrusive recollections of the trauma nightmares or night terrors relating to the trauma, flashbacks to the event, feelings o distress, and heightened physiological reactivity in response to traumatic cues. Fo children, signs of these symptoms may be observed in their play behaviour includin repetitive play and acting out of the trauma in their play. Additionally, children's traum

d nightmares or night terrors may shift to dreams filled with more generally tening content (Rigterink, 2013).

Hyper-arousal Subscale of the Impact of Event Scale - Revised

nyper-arousal symptoms of PTSD were measured using the hyper-arousal subscale e Impact of Event Scale-Revised. Table 10 presents the Hyper-arousal subscale ts.

e 10

uency Distribution of Hyper-arousal Subscale

Item	Not at all	Rarely	Some-times	Often	M	SD
Sleeping problems and intrusive thoughts	43 (22.40%)	40 (20.80%)	75 (39.10%)	34 (17.70%)	2.52	1.03
Irritable intrusive pictures	40 (20.80%)	34 (17.70%)	83 (43.20%)	35 (18.20%)	2.59	1.01
Acted or felt like PEV was happening again	63 (32.80%)	51 (26.60%)	46 (24%)	32 (16.70%)	2.24	1.09
Seeing or hearing reminders of PEV	21 (10.90%)	53 (27.60%)	81 (42.20%)	37 (19.30%)	2.7	0.91
Irritability	69 (35.90%)	44 (22.90%)	54 (28.10%)	25 (13.00%)	2.18	1.06
Alertness	23 (12%)	50 (26%)	73 (38%)	46 (24%)	2.73	0.96
Less interest in previously enjoyed activities	90 (46.90%)	29 (15.10%)	48 (25%)	25 (13%)	2.04	1.06
Hyper-arousal Subscale	**50 (25.96%)**	**43 (22.39%)**	**66 (34.23%)**	**33 (17.41%)**	**2.43**	**0.49**

the findings, it can be observed that more than 51% of the participants still exhibit r-arousal symptoms of PTSD as indicated by 'sometimes' or 'often' responses. The and standard deviation for hyper-arousal subscale were 2.43 and 0.49 respectively. er scrutiny of the item-by-item scores in table 10 (item 10) shows that up to 60% of articipants reported that pictures of PEV coming into mind made them irritable

(sometimes or often) and approximately the same percentage sometimes or often hea or saw things that reminded them of what happened during PEV (Table 10, item 4). Th is an indication that majority of the participants still suffered from hyper-arous symptoms of PTSD at the time of the study.

In terms of hyper-arousal, this study found that the participants still exhibited hype arousal symptoms of PTSD, with 66 (34.23%) indicating that they sometimes and (17.41%) indicating that they often had hyper-arousal symptoms. These findings a consistent with other findings across studies. This is particularly those which ha examined chronic trauma, and its relationship to the sympathetic nervous syste activation. Gunnar, *et al.,* (2009) found elevated sympathetic nervous system activati in 10 to 12 year olds who had experienced institutionalisation for their 1st year of life greater as compared to controls. In terms of sympathetic nervous system functioning the context of violence, Saltzman *et al.,* (2005) found that violence exposed children h higher baseline heart rates and higher levels of heart rate reactivity in response to interview about the violence than controls. Conversely, one study, conducted by Davi *et al.,* (2009), found that toddlers exposed to inter-parental aggression displayed hype arousal symptoms of PTSD.

Figure 2 presents a histogram showing the distribution of overall PTSD scor (avoidance, intrusion and hyper-arousal symptoms) among the participants.

The histogram (Figure 2) indicates that the overall IES-R scores of PTSD sympto approach a normal distribution. The scores were evenly distributed around the mean a the frequency gradually reduced towards the extreme values in both directions.

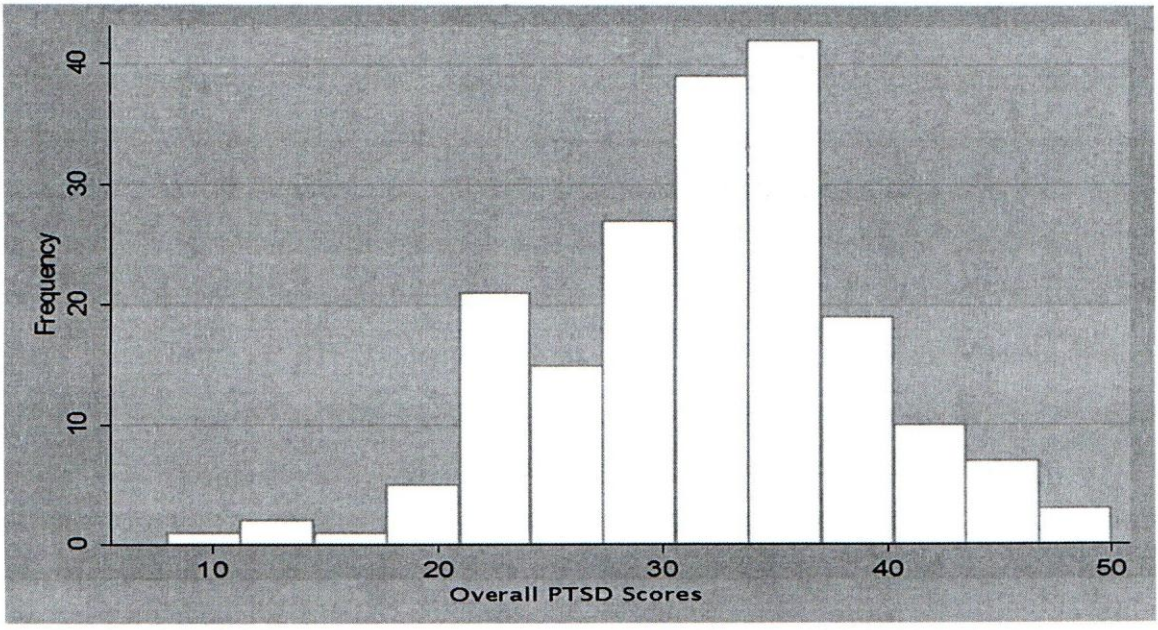


Figure 2: Distribution of PTSD Scores (IES-R)

This study adopted a cut-off of 33or over as a likely presence of PTSD. This is in line with Weiss (2007) who recommends a total IES-R score of 33 or over as a likely presence of PTSD. Therefore, an IES-R score of 33 signified the likely presence of PTSD. Subsequently both the mean score in each group, i.e., intrusion, avoidance and hyper-arousal symptoms along with the standard deviation (SD), as well as the sum of the scores were considered while analysing the data. Further analysis of the results in figure 2 shows that majority of the participants were between an IES R score of 29.4 and 44. This is an average of 36.7 total score.

Based on the total score of 36.7 from the overall IES-R scores of PTSD, it is clear that children who were exposed to PEV in Eldoret were still exhibiting PTSD symptoms. These findings were not a surprise as numerous precedent studies have documented associations between exposure to violence and PTSD symptoms including re-experiencing the trauma (e.g. nightmares and flashbacks), avoidance of stimuli associated with the trauma, and increased arousal (Berman *et al.,* 2000;Turner*et al.,*2006; Zahradnik *et al.,* 2010). Children and adolescents often exhibit higher levels of psychological distress to disasters than adults despite seeming to perform normally on a superficial level (Maeda, Kato & Maruoka, 2009; Norris, Friedman &Watson, 2002). On the same, studies

have revealed that violence exposure was associated with major depressive episode, post-traumatic stress disorder, and/or substance abuse and dependence (Kilpatrick, Acierno, Saunders, Resnick, Best, & Schnurr, 2000; Kilpatrick, Acierno, Saunders, Resnick, Best, & Schnurr, 2003). Fowler *et al.,* (2009) synthesized data from 114 studies in their meta-analysis. They found an association between exposure to violence and PTSD. The proximity of the community violence (victimisation, witnessing, hearing, etc.) did not have an effect on PTSD symptoms. In fact, community violence victimisation, witnessing, and hearing were equal in predicting PTSD symptoms. Additionally, Hunt *et al.,*(2011), conducted a retrospective cohort study using the medical records of 257 African American children, and found that exposure to community violence was associated with higher levels of PTSD. Children who had been exposed to community violence were 2.6 times as likely to display clinically significant PTSD symptoms.

To help establish the presence of PTSD among the participants, information was gathered from the teachers who spend a lot of time with the children in school. Table 11presents the distribution of Child Behaviour Checklist scores as presented by the teacher's tool. The tool was administered to four teachers in the 8 schools for the 192 children who participated in the study. The Child Behaviour Checklist – Teachers version was a significant tool in the assessment of PTSD symptoms by the teachers. Teacher participants needed to have known a child for a period of at least one year.

It should be noted that all items asked whether a child exhibited different symptoms that portray violent tendencies, avoidance tendencies, intrusion tendencies, unexplained pains and other PTSD related behaviours. It was noted that approximately 20% of the teachers' questionnaires had missing values across all items. The missing values could be associated with the fact that some PTSD symptoms are internalizing while others are externalised. While externalised symptoms like aggression, hyper vigilance and unexplained pains are easily noticed by another party other than the individual in question, internalizing symptoms can only be reported by the individual experiencing them and not another party. This could serve as an explanation for the missing values across items.

Based on the teacher's observations, the findings in Table 11 show that the participants exhibited diverse PTSD symptoms. These are avoidance symptoms as indicated in items10 through 11 with an average of 36.93%. 32.5% of the participants presented with hyper arousal symptoms of PTSD (items 7-9) and 44.20% were reported not to respond to punishment (item 22), while 20.83% still exhibited intrusion symptoms of PTSD (items 16, 18, and 19).

Table 11
Frequency Distribution of Child Behaviour Checklist

	Item	YES	NO	Missing
1.	Unexplained pains	18%	62%	20%
2.	Regression	14.20%	65.40%	20.40%
3.	Clinging to adults	29.60%	49.60%	20.80%
4.	Acting defensively	29.60%	49.60%	20.80%
5.	Bullying others	20.40%	59.60%	20%
6.	Verbal and physical aggression	29.60%	50%	20.40%
7.	Hyper-vigilance or overtly alert	27.50%	51.70%	20.80%
8.	Overreacting to minor provocations	37.10%	42.90%	20%
9.	Startle easily	32.90%	47.10%	20%
10.	Avoidance of PEV discussions	32.10%	47.90%	20%
11.	Avoidance of sounds that remind of PEV	37.90%	42.10%	20%
12.	Avoidance of places that remind of PEV	40.80%	39.20%	20%
13.	Decreased interest in extracurricular activities	22.50%	57.50%	20%
14.	Socially withdrawal	20.80%	59.20%	20%
15.	inattentiveness	21.70%	58.30%	20%
16.	Make and play with weapons toys	16.70%	63.30%	20%
17.	Talking about violence quite often	13.30%	65.80%	21%
18.	Drawing pictures related to violence	15.80%	63.80%	20.40%
19.	Writing about PEV or violence in general	30%	50%	20%
20.	Unpredictability	18.30%	61.70%	20%
21.	Defiance	20.40%	59.20%	20.40%
22.	Being unchanged by punishment	44.20%	35.80%	20%
23.	Many fights	15.40%	63.80%	20.80%
24.	Being extra upset	31.70%	48.30%	20%
25.	Crying a lot	18.30%	61.70%	20%

Other symptoms that the participants exhibited as observed by the teachers included unexplained pains 35 (18%), clinging to adults or is increasingly dependent 57 (29.60%)

and crying a lot 35 (18.30%). In-attentiveness (21.70%) and overreacting to min provocations (37.10%) and physical aggression 125 (65.4%) marked by items 6, 21 a 23 were also reported by the teachers. Given the relatively high levels of PTSD relat symptoms observed, results confirmed that the participants were still experiencing so form of Post-traumatic stress disorder.

Having established the presence of PTSD among the all participants, the second part the first objective was to establish age differences in development of PTSD. Figure presents the results of the frequency distribution of PTSD across age.

Table 12

Frequency Distribution for PTSD Scores across Age

	N	Mean	SD
13 and below	51	35.11	6.61
14	72	39.69	8.07
15	48	39.65	6.02
16 and above	13	38.10	5.16

The results indicate that PTSD scores were higher for those between age 14 years (M 39.69; SD = 8.07) and 15 years (M = 39.65; SD = 6.02) while the scores for t participants in age 13 years and below were lower at (M = 35.11; SD = 6.61).

In order to establish whether or not there were statistically significant age differences development of PTSD among children exposed to 2007/2008 post-election violence, hypothesis had been stated as follows:-

Hypothesis one: There are no statistically significant age differences in developme of PTSD among children exposed to 2007/2008 post-election violence in Eldo Municipality public primary schools.

This study used a twenty two item instrument with a four-point Likert scale (from 0 to to measure PTSD symptoms. High scores were associated with presence of PTSD. In t regard, a cut-off score of 33 for overall PTSD total scores was adopted and used to t whether development of PTSD among children exposed to PEV in Eldoret municipal was statistically significant. A one-way between groups analysis of variance w

ucted to explore the impact of age on PTSD scores, as measured by the Impact of t Scale-Revised (IES-R). Table 13 presents the results.

e 13

VA of PTSD Scores Using Age as a Factor

		Sum of Squares	Mean Square	F	Sig.
ES R CORE	Between Groups	520.98	173.66	3.54	0.016
	Within Groups	8831.91	49.07		
	Total	9352.95			

cipants were divided into four groups according to their age (Group 1: 13 years and v; Group 2: 14 years; Group 3: 15 years; Group 4: 16 years and above). There was a tically significant difference at the $p< 0.05$ level for the six age groups: F (3, 180) = $p = 0.016$. Despite reaching statistical significance, the actual difference in mean s between groups was quite small. The effect size, calculated using eta squared, was (medium effect size). Post-hoc comparisons using the Tukey HSD test indicated that ean score for Group 1 ($M = 35.11$, $SD = 6.61$) was significantly different from that oup 2 ($M = 39.69$, $SD = 8.07$) and that of Group 3 ($M = 39.65$, $SD = 6.02$).

children aged 13 years and below had significantly lower PTSD scores than those 14 years and 15 years. The PTSD scores of the children aged 13 years did not differ tically significant from the scores of those children aged 16 and above (i.e. they neither higher nor lower statistically speaking).The data therefore indicates that D scores were directly proportional with age in this sample of children especially g those aged 15 years and below. The older the child, the higher the PTSD scores. null hypothesis that there are no statistically significant age differences in opment of PTSD among children exposed to 2007/2008 post-election violence in et Municipality public primary schools was rejected.

esults in this study were not a surprise since mixed results have been reported i
ent studies. Some have found higher PTSD levels in younger children while othe
found higher PTSD levels in older children. Nonetheless, the demographic variab
e has been found to be a predictor of psychological symptomatology after natur
ter (Osofsky, H., Osofsky, D., Kronenberg, Brennan & Hansel, 2009). In genera
ger children fare worse after disaster than older. For example, in a study b
zczanin (2007) of students between the ages of 11 and 21, younger students we
likely to have symptoms of PTSD than older students. Giannopoulou, Dikaiak
Yule (2006), found that after the 1999 Athens earthquake, among 9 to 17-year-o
ren, younger children were more likely to report symptoms of PTSD then old
ren. Similarly, Shannon, Lonigan, Finch and Taylor (1994) found that aft
icane Hugo, among 5th through 11th grade students, younger children were mo
to report symptoms of PTSD than older children.

ing into other traumatic experiences, studies have also highlighted high rates
natisation and PTSD in children and adolescents. For example, Holford, Ziervog
Smith (2001) reported that 25-100% of children and adolescents exposed to sudd
ticipated violence develop PTSD. Giaconia, Reinherz, Silverman, Pakiz, Frost a
en (1994), in their study on trauma and PTSD in a community population of old
escents, found that approximately 43% of the adolescents experienced trauma such
assault or sudden injury by age 18 years, and 11.7% were exposed to trauma
as age 14 years. The peak age at which PTSD developed was 16 - 17 years, with
n age of 16 years. Additionally, Davidson and Smith (1990) reported that PTSD w
e times more likely to develop when traumatic events were experienced before t
of 11 years. This can help in explaining the case in this study owing to the fact th
dren in this study were approximately 9 – 11 years at the time of exposure
ence. Other results of a more recent National Comorbidity Survey on adolesce
d 13–18, indicated that 5% of adolescents met criteria for PTSD in their lifetim
valence was higher for girls than boys (8.0% vs. 2.3%) and increased with a
rikangas, He, Burstein, & Swanson, 2010).

As far as prevalence of PTSD is concerned, this study found a prevalence of 47.3% five years after exposure to PEV. Different studies on PTSD in children have found varied prevalence. While prevalence rates vary greatly depending on the type of trauma and the population exposed, levels of PTSD often reach or exceed 50% (Attanayake, 2009; Yule 2000). 25% PTSD prevalence among Palestinian children during war conflict was reported (Thabet, Abed, & Vostanis, 2004) and 41% PTSD prevalence rate in children living in Sarajevo during the Bosnian war (Allwood, Bell-Dolan, & Husain, 2002). Further, a survey conducted with Rwandan orphans 10 years after the genocide found that 4% of the youth was still suffering from PTSD (Schaal & Elbert, 2006), thus revealing the chronic nature of the mental health problems in children due to the war.

A study by Fasfous, Peralta-Ramírez, and Pérez-García (2013) to evaluate the symptoms of PTSD among Palestinian school children found a prevalence of 77.4% of moderate-to severe PTSD one of the highest. It is similar with the results of the study by Thabet *et al.* 2004) involving Palestinian refugee children, and the study by Attari *et al.,* (2006 involving Iranian children who had witnessed a public hanging. Other studies, however have found lower percentages (Elbedour *et al.,* 2007; Khamis, 2005; Smith, Perrin, Yule Hacam, & Stuvland, 2002; Thabet & Vostanis, 2000).

4.4 Influence of Social Support on Development of PTSD

Objective two of the study sought to establish the influence of social support on development of PTSD among children exposed to2007/2008 post-election violence in Eldoret Municipality public primary schools.

Social support was examined using a social support section of the questionnaire that encompassed a 16 item scale. It was necessary to establish whether social support was available for the children in the first place. A nominal scale was used to show whether participant received adequate social support, with a "Yes" indicating availability of adequate social support and "No" indicating unavailability or inadequate of the same. Figure 3 presents the distribution of the mode of social support.

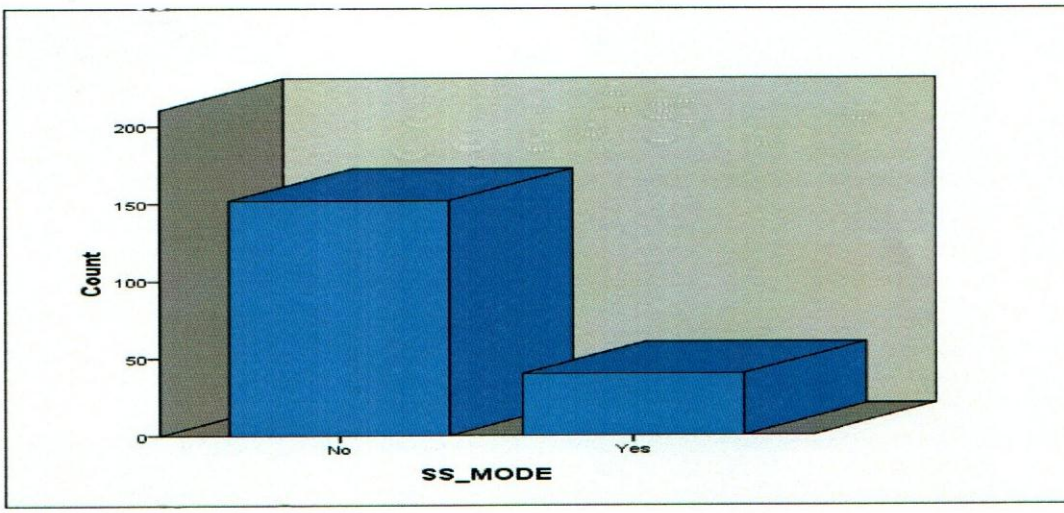


Figure 3: Availability of social support for children affected by PEV

Given the nominal nature of the variable (social support), the mode was the most suitab measure since mean and median are ambiguous in this case. The mode was used measure the frequency of social support scores across 16 items. In this regard a negati response (NO) means that a participant answered 'NO, to at least 8 items out of 16 item the converse is also true.

It can be observed that 79 % (150) of the participants reported not receiving adequa social support while 21% (40) of the participants received adequate social support. The results suggest that provision of social support to children exposed to post-electi violence was inadequate. Traumatic and threatening experiences like post-electi violence often crystallize the need for protective and supportive social relations that c enhance effective coping, emotion venting and construction of new meaning of life.

It was necessary to establish the sources of social support for the children exposed PEV. Figure 4 shows the distribution of different sources of social support (family, pee teachers and other institutions) available for the children exposed to PEV in Eldo Municipality public primary schools.

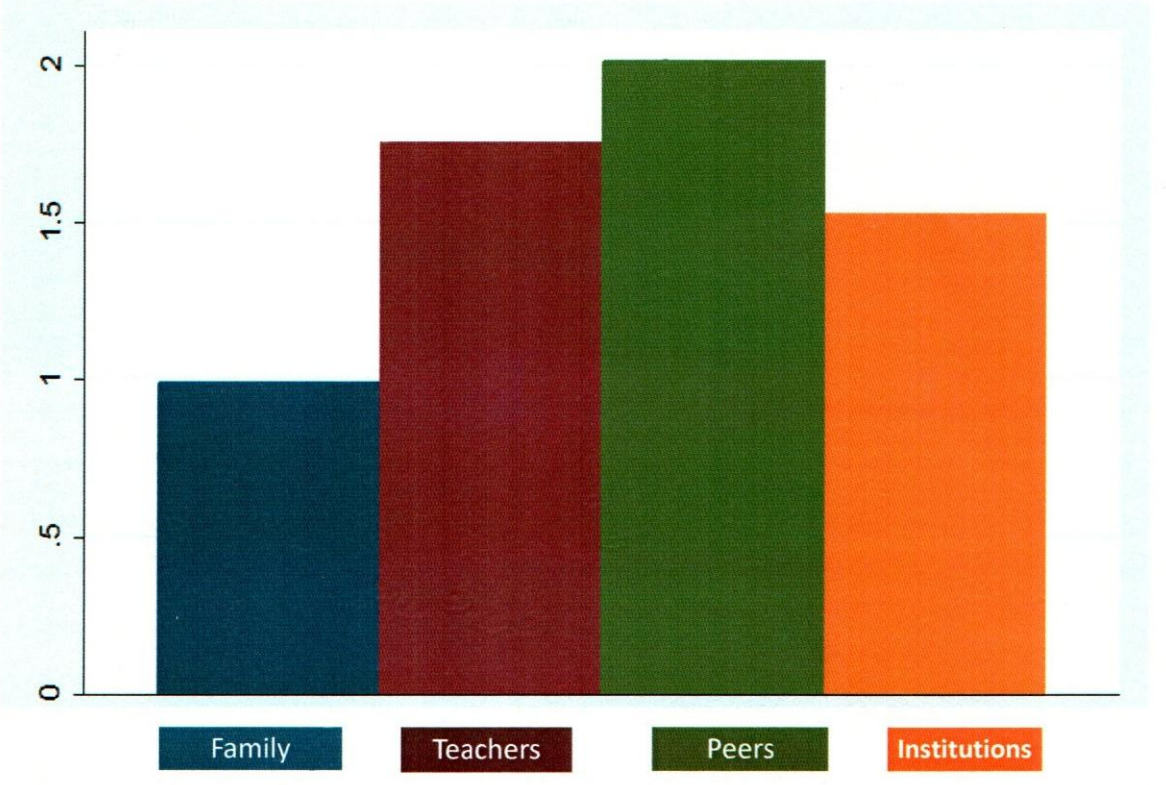


Figure 4: Distribution of sources of social support for children exposed to PEV

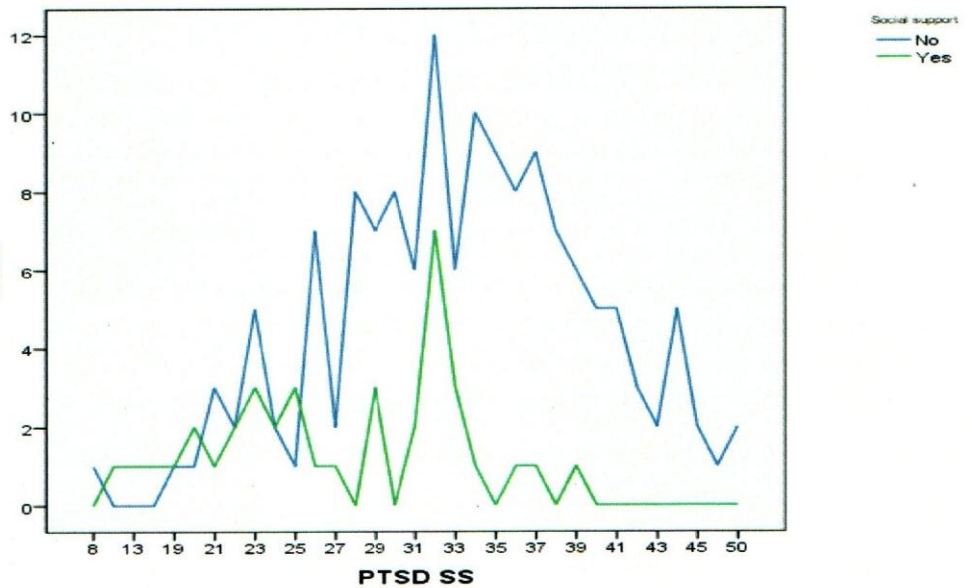
The results in Figure 4 show that the main sources of social support during PEV came from peers, teachers, other institutions and family, in that order. A response of yes showed acknowledgment of support from the particular source. Majority of the participants sought and/or received social support from peers and teachers compared to family and social institutions. Having determined the availability of different sources of social support, the next step was to establish its influence on development of PTSD. Table 14 shows the distribution of PTSD across social support.

bution of PTSD Scores across Social Support

	n	Mean (PTSD Score)	Standard Deviation
ıout Social Support	152 (79.2%)	37.32	1.043
Social Support	40 (21.8%)	31.03	0.90871

ts in Table 14 show that 152 (79.2%) participants who reported not receivi
ıate social support, had a PTSD mean score of 37.32 and a standard deviation
. The score was higher than the PTSD mean score for the 21.8% of the participan
reported receiving adequate social support with a mean of 31.3 and a standa
tion of 0.9087. The conclusion therefore is that social support must have served as
ction for the participants on development of PTSD. These results were supporte
ically by running a t-test in table 15

s also necessary to further compare the PTSD scores for children with adequa
support and those without social support. Figure 5 indicates a comparison
ll IES-R scores of PTSD across social support.



5. Comparison of IES-R scores of PTSD across social support

opment of PTSD among children exposed to 2007/2008 post-election violence i
et Municipality public primary schools. Owing to the fact that only 26% o
cipants received adequate support the conclusion therefore was that lack of adequat
l support influenced development of PTSD among children in the region.

lts in this study correspond with findings in previous studies that show how soci
ort protects against psychopathology. In expounding the concept of social suppor
t, (2012) pointed out that social support is the extent to which individuals feel tha
sions of social relationships are available to them. The author further indicates tha
studied as an aspect of the social environment, social support has been shown t
t the mental health following exposure to war, political violence, and exodus. Th
ts are double-sided in the sense that social support holds great potential for shieldi
nst psychological distress and alleviating trauma-related strain, whereas inadequa
lack of support may contribute to the maintenance or aggravation
hopathological symptoms (Ehntholt &Yule 2006; Charuvastra & Cloitre, 2008).

owing from adult populations, a meta-analysis on PTSD risk factors Ozer *et a*
3) found that individuals, who gave appraisals of either absent or low levels of soci
ort in the aftermath of trauma exposure, displayed higher rates of current PTSD a
eased PTSD symptom severity. On the other hand, in the study of war expos
escents from Sarajevo, perceived social support was found to be a protective fact
nst mental disorders (Durakovic-Belko *et al.,* 2003). In earlier stages of coping wi
ma (e.g., 6–12 months post-trauma), poor social support acts as a risk factor f
ter PTSD symptom severity (Kaniasty & Norris, 2008). During later stages of copi
trauma (18–24 months post-trauma), greater PTSD severity contributes to an erosi
ocial support resources (Kaniasty & Norris, 2008; King, Taft, King, Hammond,
e, 2006). Andrews *et al.,* (2003), in their study found that controlling for baseli
D symptoms, negative reactions from the social network and dissatisfaction wi
ort were predictive of both the onset and severity of PTSD symptoms at six montl
reas positive support had no effect on PTSD onset or course. In cases of hi
osure to violence and victimisation, social support was found to operate as
ective-stabilizing factor (Hammack *et al.,* 2004). Bonanno *et al.,* (2007) found th

with higher levels of social support, exhibited higher levels of resilience followin
errorist attacks on September 11, 2001 regardless of the many losses experienced
e findings suggest that negative and positive reactions are distinct social processes
hat women victims have a higher risk for specifically negative social reactions.

hildren and adolescents, studies have shown that social support was negativel
ed to post traumatic stress disorder symptoms among victimized or maltreate
iduals (Bradley *et al.,* 2005; Brewin *et al.,* 2000; Ozer *et al.,* 2003; Pine & Cohe
; Wu, Chen, Weng & Wu, 2009). Other studies have shown that social suppo
ates or moderates the relation between children and adolescents' exposure t
nce, victimisation or maltreatment and PTSD symptoms (Bradley, *et al.,* 200
y *et al.,* 2007; Wu *et al.,* 2009). For instance, Ozbay *et al.,* (2007) found that ric
l networks may reduce the rate at which individuals engage in risky behaviour
ent negative appraisals and increase treatment adherence and likelihood of recovery

owing down to different forms of social support, Kaniasty and Norris (1992) ar
maki, Komproe, Qouta, El-Masri and de Jong (2005) indicate that the psychologic
e of positive social support often depends on who gives the support and whether th
ort offered matches a specific need. In a study that addressed the notion th
rent kinds of social experiences may have different domains of influence, Borja
(2006) reported that among a non-clinical sample reporting histories of adult sexu
ult, negatively experienced social interactions contributed specifically to the risk
eloping PTSD symptoms. In contrast, positively experienced social interactio
ributed to measures of posttraumatic growth (e.g., having a great appreciation f
a greater sense of personal strength, or spiritual development). Importantly, positi
al support was not correlated with PTSD symptoms, and conversely, negative suppo
not influence post-traumatic growth.

h adequate social support, fewer symptoms of post-traumatic stress disorder
dren exposed to violence have been reported (Salami, 2010). Kuterovac-Jagoc
03) found that poor social support was a main predictor of posttraumatic stre
ptoms for younger children, particularly those symptoms that persisted months a

years after the exposure to trauma. The ability of the caregiver to help the child mak meaning of negative events is critical in the child's process of adjustment. Particularly fo children, the process of interpreting the negative experiences is characterised by dynamic interaction whereby the child looks to the reaction of immediate caregivers as means of interpreting the threat (Ainsworth, Blehar, Waters, & Wall, 1978). T successfully help children in need, it is very important to have an empathetic attitud towards the child, to recognise his emotions and to help children talk about their feelin (Pretis & Dimova, 2008). This is especially so with teachers whose social support wa found to have played an important role in this study. Cove, Eiseman, & Popkin, (2005 put it well that sources of social support and dimensions of the child's environme (parental warmth, presence of non-parental caretakers, informal sources of emotion support, peer relationships, rules in the household, shared values, access to services) a external protective factors that promote resilience. Parents, families, school communities, and nonfamily adults are essential elements for building resilience children and adolescents (Brooks, 2006).

In their study of sixth, eighth, and tenth grade students exposed to community violenc O'Donnell *et al.,* (2002) found that parent support and coping strongly promot resilience but became less influential over time. In contrast, support from school appear to become more influential over time, promoting resilience for children in seve domains. Furthermore, O'Donnell *et al.,* (2002) found that support from peers had positive but weaker impact on children's resilience and in some cases had a negati impact. Ozer and Weinstein (2004) found that specific aspects of social support with the children's family (e.g., perceived parental helpfulness) and school (e.g., teach helpfulness) provided some level of protection against the deleterious influence community violence exposure. Perceived school safety also proved beneficial for so children

Evidence from other studies shows the potential buffering influences of family bondi variables. Maternal closeness, time spent with family, and social support were shown one study to provide protection for children who had witnessed community violer (Hammack *et al.,* 2004). In addition, having a secure attachment to at least one parent

nificant adult figure appears to buffer the effect of violence exposure for som
ren (Engle, Castle, & Menon, 1996; Katz & Gottman, 1997; Werner, 1995). In he
w of the literature, Luthar (2006) highlighted the role of secure attachment in earl
y relationships as an important moderator of community violence exposure.

tionally, other studies indicate that children with a good relationship with paren
eers report less symptoms of post-traumatic stress disorder on exposure to violenc
mi, 2010). Specifically, the family is the best resource available for childre
ever there is a problem. For example, O'Donnell *et al.,* (2002) found that bo
ts and school support were significantly positively associated with resilience
ren who had been exposed to community violence. This is the reason one of th
well studied protective factors for children exposed to stress and trauma is effecti
ting (Howell, Graham-Bermann, Czyz, & Lilly, 2010). Warm family relationshi
positive home environments were associated with both emotional and behaviour
ence (Bowes, Maughan, Caspi, Moffitt, and Arseneault, 2010). Zakeri, Jowka
zmjoee (2010) investigated the relationship between the parenting styles a
ence. The results of their study showed that there was a positive and significa
ciation between warm parenting style and resilience.

ngs on the other hand can have an essential protective role in children's adjustme
time, by pleasing the social needs of children and providing an additional source
ort (Bowes *et al.,* 2010). It can therefore be concluded that the family plays
rtant role in building children's resilience and in the prevention of risky behavio
elska *et al.,* 2008).

ther important source of support can be school. School-related factors (positi
ol environment, positive school attitude, good relationships with teachers and pe
school activities) become relevant for school-aged children (Eriksson, Cat
ershed, & Andershed, 2010). Children in disadvantaged families are more likely
onstrate resilient characteristics if they had good relationships with peer and if th
d schools that have good academic record and caring teachers. In some cases, scho
ronment can compensate a dysfunctional family environment. In the absence

ortive conditions in the home environment, the school is considered the next
rce that should be available for children in need (Mampane & Bouwer, 2011).

e are studies that have noted the importance of school integration as a protective
r for children (Panter-Brick, Goodman, Tol, & Eggerman, 2011). Brackenreed
0) agrees that schools should offer opportunities for children to establish good
onships with adults and should ensure that they do not make the situation worse by
g faulty practices. Other studies have also shown the important role that teachers can
in resilient children's lives (Werner & Smith, 1992; Daniel, Vincent, Farrall, Arney
ewig, 2009). Teachers play an important role by supporting caring relationships
ring that school is a positive experience, and promoting the self-esteem of children
e increasing their resilience.

tive peer relationships on the other hand are significant protective factors fo
dren. A number of studies indicate that positive peer relationships may contribute t
ience (Davis, Martin, Kosky, & O'Hanlon, 2000). In a study of African America
dren exposed to community violence, family support was found to be important onl
educing anxiety, teacher support was linked only to social competence in th
sroom, while peer support had an effect on both anxiety and classroom soci
npetence (Hill & Madhere, 1996). Additionally, Waaktaar, Christie, Borge, an
gersen (2004) reported that young people with stressful background experience
nonstrated resilience when they had positive peer relations, self-efficacy, creativit
coherence.

Gender Differences in the Development of PTSD

e third objective of the study sought to determine whether there were gend
ferences in development of PTSD among children exposed to 2007/2008 PEV
loret Municipality public primary schools. To investigate the gender differences
velopment of PTSD, a frequency distribution of PTSD scores across gender was don
ble 16 presents a frequency distribution for PTSD across gender.

e 16

uency Distribution for PTSD Scores across Gender

	n	Mean (PTSD)	S. D.
e	102	35.79	7.112
ale	90	37.72	7.146

standard deviation and mean PTSD scores for male and female participants we lated. The mean score for male participants was35.79 with a standard deviation , while the mean for female participants was37.37with a standard deviation of 7.14 was translated to mean that both male and female participants had minor variatio presentation of PTSD. The findings lead to a conclusion that gender as a factor h fluence on the development of PTSD. In order to establish whether or not there we er statistical differences in development of PTSD among children, a hypothesis h stated as follows:

othesis three: There are no statistically significant gender differences lopment of PTSD among children exposed to 2007/2008 post-election violence ret Municipality public primary schools

st the third hypothesis, an independent sample t-test was used. Table 17 presents th ngs of the same.

e 17

pendent t-test for Equality of Means for PTSD Scores across Gender

				Independent Sample t-test (Equality of Means)		
	n	Mean	S. D.	t-test	df.	Sig.(2-tailed)
e	102	35.79	7.17			
ale	90	37.72	7.07	-1.59	182	0.114

ndependent t- test was conducted to compare the PTSD scores for male and femal e was no significance difference in scores for males (M= 35.79, SD = 7-17) a

females (M =37.72, SD = 7.07; t (182) = -1.59, p = 0.114, two-tailed). The magnitude of the differences in the means (mean difference = -1.67, 95% CI: -3.74 to 0.40) was very small (eta squared = 0.01).This led to the conclusion that gender was not a significant factor in the development of PTSD among children exposed to 2007/2008 post-election violence trauma, hence the null hypothesis was not rejected.

The results in this study were not a surprise as the mediating effect of gender on development of PTSD is not consistent across studies. La Greca *et al.*, (1996) found no gender differences at any point in PTSD symptoms following Hurricane Andrew. Tonelli (2002) also found that there were no differences by sex for trauma symptoms. Subsequent to a severe tornado in rural Oklahoma, no gender differences were found for levels of PTSD one-year post-tornado (Evans & Oehler-Stinnett, 2006). Additionally, a study by Elbedour, *et al.,* (2007) found similarities of manifestation of PTSD across gender. Fowler *et al.,* (2009) also found no significant difference between males and females in prevalence of PTSD.

These findings contradict other studies that found that girls show more symptoms of the disorder than boys (Durakovic-Belko, Kulenovic, & Dapic, 2003; Macksoud & Aber, 1996). In a community based sample, females were found to have exhibited more behaviour problems and trauma symptoms. They presented with more frequent externalizing and internalizing problems than boys (Spilsbury *et al.*, 2007). A more recent study by Hunt, Martens & Belcher, (2011), also found an association between female gender and increased prevalence and severity of PTSD symptoms. Some studies have found that being female leads to increased resiliency (Kumpfer, Glantz, & Johnson, 1999).

Interestingly, although it has been argued that boys may experience more traumatic events leading to a greater incidence of PTSD, the vast majority of studies find that girls are more likely to develop PTSD or that no gender differences exist. For example, following Hurricane Hugo, it was found that girls were more likely to subsequently develop PTSD (Khamis, 2005, Russoniello, *et al.,* 2002). In one study, being female was the strongest predictor of later development of PTSD, followed by the extent of flooding

e home (Russoniello, Skalko, O'Brien, McGhee, Bringham-Alexander & Beatle
). Girls were also more likely to develop PTSD symptoms following the sinking
ruise ship - Juniper (Udwin, Boyle, Yule, Bolton, & O'Ryan, 2000). In anoth
y, 60.7% of males and 51.2% of females reported at least one potentially traumat
sure (PTE), and significantly more males than females reported exposure to mo
two trauma types (Kessler *et al.,* 1995). Despite the findings that males are mo
to experience a PTE and experience more types of PTE's than females, the femal
ratio in the prevalence of PTSD is approximately 2:1 (Tolin & Foa, 2008). Femal
reported higher levels of re-experiencing, avoidance, and arousal (Ditlevsen
, 2010). Kessler *et al.,* (1995) reported lifetime prevalence of PTSD as 10.4% f
les and 5.0% for males and the conditional risk across trauma types is 20.4% f
les and 8.2% for males.

er differences in the prevalence of PTSD become evident early in life, peak in ear
hood, and become weakened with increased age (Ditlevsen & Elklit, 2010; Norris
2002). Across studies, the increased prevalence of PTSD in females compared
s appears to be particularly evident for lifetime PTSD (Tolin & Foa, 2008
ating that PTSD tends to be of longer duration in females than in males, and in t
oit Area Survey of Trauma the median time from onset of PTSD to remission w
years for females compared to one year for males (Breslau *et al.,* 1998). The femal
ratio, where females exhibit more symptoms of PTSD than males could
ciated with the fact that females are more likely to experience individu
misation during war and violence. An example of such individual victimisation
al abuse which is more common in females during war and violence. Howev
mis (2005) in his study in Palestine found that boys displayed more PTSD symptor
girls. This is a clear indication that the mediating effect of gender on development
D is not consistent across studies.

.6 Influence of Self-concept on Development of PTSD

The fourth objective of the study sought to examine the influence of self-concept on evelopment of PTSD among children exposed to 2007/2008 PEV. Self-concept was ssessed with a self-concept rating that tested the children's self-worth, general erception and attitude towards life and how these influenced the development of PTSD. Table 18 shows the frequency distribution, mean and standard deviation of self-appraisal ating items.

Table 18
Distribution of Self-concept Rating by gender

	Not at all		Rarely		Sometimes		Often	
em	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
elf-appiness	16 (8.33%)	14 (7.3%)	18 (9.38%)	13 (6.77%)	24 (12.5%)	17 (8.85%)	44 (22.9%)	46 (23.9%
elf-cceptance	6 (3.12%)	2 (1.04%)	27 (14.6%)	17 (8.85%)	11 (5.73%)	15 (7.81%)	58 (30.2%)	56 (29.2%
Iappy in ocial life	8 (4.17%)	11 (5.73%)	15 (7.81%)	18 (9.38%)	28 (14.5%)	30 (15.6%)	51 (26.6%)	31 (16.2%
Iappy in chool life	7 (3.65%)	4 (2.08%)	23 (11.9%)	16 (8.33%)	16 (8.33%)	25 (13.0%)	55 (28.7%)	44 (22.9%
roblem olving kills	23 (11.9%)	24 (12.5%)	11 (5.73%)	14 (7.29%)	28 (14.5%)	28 (14.5%)	36 (18.8%)	24 (12.5%
elf-Appraisal Rating	**12 (6.25%)**	**11 (5.73%)**	**19 (9.79%)**	**16 (8.13%)**	**21 (11.5%)**	**23 (11.9%)**	**49 (25.4%)**	**40 (20.9%**
Negative elf-omparison	42 (21.9%)	41 (21.4%)	15 (7.81%)	14 (7.29%)	41 (21.4%)	20 (10.4%)	7 (3.65%)	15 (7.81%
Negative houghts bout self	66 (34.4%)	47 (24.5%)	12 (6.25%)	15 (7.81%)	16 (8.83%)	23 (11.9%)	8 (4.16%)	5 (2.61%
Self-Appraisal Rating	**54 (28.1%)**	**44 (22.9%)**	**14 (7.03%)**	**15 (7.81%)**	**29 (14.8%)**	**22 (11.2%)**	**8 (4.16%)**	**10 (5.2%**

The first five self-concept rating items in the questionnaire were positively phrased questions evaluating how happy and satisfied the respondent was in general. The latter two items were negatively phrased such that the extreme end 'not at all' point to positive self-rating while 'often' measures low self-appraisal rating consequently indicating

ive self-concept. The results in table 18 show that majority of the participants had a
ve self-concept but a significant number had negative self-concept. These results
ed that self-concept might have had a noteworthy effect on development of PTSD.
rder to establish whether or not the relationship between self-concept and
lopment of PTSD among children existed, a hypothesis had been stated as follows.

**othesis four: There is no statistically significant relationship between self-
ept and development of PTSD among children exposed to 2007/2008 post-
ion violence trauma in Eldoret Municipality public primary schools.**

est the relationship between self-concept and development of PTSD, a correlation
ysis was run. The first five items of the self-appraisal scale and IES-R scores
SD) were correlated and the results are presented in table 19.

e 19

relation Analysis between Self-Appraisal and PTSD scores

		Average Self-Appraisal	IES R-SCOR
erage Self-praisal	Pearson Correlation	1	-0.5
	Sig. (2-tailed)		
	n	192	19
R-SCORE	Pearson Correlation	-0.59	
	Sig. (2-tailed)		
	n	192	19

test yielded a coefficient of r = -0.59. These results indicate that there was a fair
ng negative linear correlation between self-concept and development of PTSD. Th
an indication that the higher the scores of the self-concept, the lower the scores
SD symptoms. This means that individuals with higher self-concept had le
elihood of developing PTSD. The stated null hypothesis that there is no statistica
nificant relationship between self-concept and development of PTSD was rejected
% level of significance. The conclusion therefore was that self-concept fairly influenc

opment of PTSD among children exposed to 2007/2008 PEV in Eldoret cipality public primary schools.

esults in this study correspond with previous literature which indicates a positive onship between self-concept and resilience in dealing with adversity. For example, czynska *et al.* (2005) and Salanova *et al.* (2006) found that people with a strong of self-efficacy appeared to invest more effort and to develop active coping with tress induced by unemployment. By contrast, those with lower self-efficacy tended more passive and to use emotion-focused rather than problem focused coping gies. Boscarino and Adams, (2009); Wadsworth, Santiago and Einhorn, (2009) tain that certain factors protect children after traumatic exposure. Personal acteristics include optimism, high self-esteem, good temperament, strong self-acy and positive coping. Masten and Powell, (2003) refers this ability to thrive in the ence of adversity as resilience. Healthy outcomes in children depend on a bination of available resources within both the individual and the community haret *al.*, 2000; Zahradnik *et al.*, 2010). It is expected that communities should be to negotiate for the resources required by its members (e.g. education, economic rity, cultural traditions and housing) while individuals should be able to navigate way to the resources (Ungar, 2008). Thus, some researchers now explain resilience dual process of navigation and negotiation (Luthar, 2003; Ungar, 2005; Zahradnik *et* 2010) rather than as a fixed attribute of individuals alone. This fact might be a good anation as to why some participants had a positive self-concept but still developed D.

heir study of refugee women, a belief in one's own inner strength to deal with life's lenges (often referred to as self-efficacy), a positive attitude, and having hope for a d future helped the participants to cope (Brough *et al.*, 2003; Khawaja *et al.*, 2008). determination to cope was seen as a component of taking control, rather than being a im (Brough *et al.*, 2003). Another study on refugee resilience concluded that looking ad to the future strengthens refugee people's resilience (Shakespeare-Finch and kham's, 2009). One participant in the study stated: "I am going to lay a good ndation for me, for my children, for my family" (Shakespeare-Finch and Wickham,

). The statement translates to a belief in self. Similarly, Luster *et al.* (2009) in with the 'Lost Boys of Sudan' identified that an acceptance of the situation an using on the present and the future helped some of the boys to cope. Additionally renti and Mason's (2011) study revealed the building of resilience with refuge en was associated to the idea of 'moving on' from adversity rather than the concep ouncing back' from it. In other words, a positive belief in oneself helps an individu Similarly Bonanno (2004); Bondy *et al.* (2007); Haskett *et al.* (2006); Willian 7) investigated the concepts of hardiness, autonomy and self-efficacy and found th dividual has the skills and abilities to create a life that they want concluding th is an element of being self-sufficient and able to self-direct one's life and the ce.

ther observation from the findings is that male participants appeared to ra selves more positively than female participants. Specifically, males indicated % rating in item 3 (Do you like the way you are leading your social life?) again 2%) for females. Also in item 5(Are you happy with your problem solving skills), mal d themselves at 18.8% while females indicated a 12.5% rating. Studying t ionship between gender differences and self-concept rating was not within the sco his research. Instead, this research sought to investigate the relationship betwe der and development of PTSD.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

ntroduction

chapter gives a summary of the study, how it was conducted, the findings, and th tives that were attained. It gives a brief of the findings of the study, the implication he study is likely to have on management of trauma following a disaster and on th pline of counselling psychology, and the recommendations towards improvement o ıa therapy. Finally, the various gaps identified in the study that may require furthe stigation are presented.

study investigated the effects of social support on post-traumatic stress disorders i ren exposed to post election violence in Eldoret, Kenya. The research adopted an *e facto* research design. Primary data from Eldoret municipality was used in the study population of interest was children from public primary schools in Eldor icipality. This region was chosen because of the severity of post-election violence i egion. Stratified random sampling was adopted where 2 schools each from urba urban, slum and rural areas were selected to ensure that the data was representati he population of pupils exposed to post election violence. Descriptive statistic ysis including means, mode, frequency tables, correlation, one sample t-tes pendent sample test and ANOVA test were used in the analysis.

Summary

s study made an investigation of the influence of social support, gender and se cept on development of PTSD among children exposed to 2007/2008 post-electi ence in Eldoret Municipality public primary schools. The objectives of this stu e: -

To determine age differences in development of PTSD among children exposed 2007/2008 PEV in Eldoret Municipality public primary schools.

(ii) To establish the influence of social support on development of PTSD amo children exposed to 2007/2008 post-election violence in Eldoret Municipali public primary schools.

(iii) To establish gender differences in development of PTSD among children expos to 2007/2008 post-election violence in Eldoret Municipality Public Prima Schools.

(iv) To determine the influence of self-concept on development of PTSD amor children who were exposed to 2007/2008 post-election violence in Eldor Municipality public primary schools.

Based on the analysis and subsequent interpretation of the results, as well as testing of th hypotheses, below is a summary of the findings in relation to the stated objectives:

(i) There were age differences in development of PTSD among children expose to 2007/2008 post-election violence in Eldoret Municipality public primar schools. The prevalence of PTSD was 47.3.5%.

(ii) Social support (family, peers, teachers and other institutions) was inadequat for children exposed to 2007/2008 post-election violence in Eldore Municipality public primary schools and it influenced development of PTSD The participants with adequate social support had less PTSD scores than thos with inadequate social support. Consequently, peers and teachers as a form o social support were rated higher in the part they played while family suppor was rated low.

(iii) There were no gender differences in development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

(iv) Self-concept influenced development of PTSD among children exposed to 2007/2008 post-election violence in Eldoret Municipality public primary schools.

5.3 Conclusions

Based on the objectives and subsequent hypothesis adopted and tested, the following conclusions were made:

(i) Children from Eldoret Municipality public primary schools exhibited presence o PTSD. Younger children had higher PTSD levels than older children.

(ii) Provision of social support played a significant role by increasing the resilience thus reducing development of PTSD among children exposed to the 2007/200 PEV in Eldoret Municipality public primary schools.

(iii) Gender was not a significant factor in development of PTSD among childre exposed to 2007/2008 post-election violence in Eldoret Municipality publi primary schools.

(iv) Self-concept (self-esteem and self-efficacy) was significant in coping wit trauma. The higher an individual rated themselves the lesser the risk c developing PTSD among children exposed to 2007/2008 post-election violence i Eldoret Municipality public primary schools.

5.4 Recommendations

Results from this study have implications for mental health practice especiall interventions for the increasing number of children and adolescents who were exposed violence and are at risk for PTSD.

(i) Owing to the fact that exposure to violence led to development of PTSD, th study recommends that the Ministry of Education (MOE) teams up with Ment Health Practitioners to do assessment of lifetime PTSD and subsequent treatme of children exposed to 2007/2008 PEV in Eldoret and other regions in Kenya. T assessment should cut across all children of all ages.

(ii) Considering that social support was related to development of PTSD, this stu recommends that the MOE and other stakeholders introduce and enforce soci support programs and networks in schools for children as protective shields cases of traumatic experiences. Additionally, bearing in mind that PEV affect both children and adults, the Government should undertake to offer therapy

parents and teachers in order to deal with their individual traumas. That wou help them to offer the social support required by the children in building th resilience which in turn would enhance children's positive outlook to life and u of active coping styles in facing life difficulties like PEV.

Given that there was little variation in PTSD symptom presentation, the MC should introduce and enforce child-cantered supportive therapy in schools for children regardless of their gender. The same should demonstrate an empathe approach to healing for children suffering from trauma resulting from exposure community violence.

The MOE should encourage life skills programs in schools where children's se concept is enhanced in order to increase their coping self-efficacy in the face of adversity like PEV. Consequently, all children should be educated on vario coping strategies and the benefits of active coping.

Suggestions for Further Research

d on observations during the study, the researcher recommends further research in ollowing areas:-

Implication of severity and duration of trauma on development of PTSD in children.

Future studies should seek to determine if exposure to different types of violenc has different outcomes.

Co-morbid mental disorders and PTSD in children exposed to post-election violence should be investigated.

Different types of traumas, proximity to trauma and trauma load, as correlate factors to development of PTSD in children exposed to community violence.

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APPENDIX A: IMPACT OF EVENT SCALE

Respondent,

ıame is Margaret Wanjiku Njoroge and I am a Ph.D. student at Egerton University, ntly undertaking a research on examining the influence of social support, gender and concept on development of post-traumatic stress disorders among children exposed 07/2008 post-election violence in Eldoret Municipality Public Primary Schools. Due ur position as a class 8 pupil, I have chosen you to participate in this study. I assure hat the information you shall give will be treated with confidentially, and it shall not sed for any other purpose other than the academic use for which it is intended. Please honest information as required. Thank you very much for your co-operation.

erely Yours

rgaret W. Njoroge

TRUCTIONS: Below is a list of difficulties people sometimes have after stressful life nts like the post-election violence. Please read each item carefully, and then indicate distressing each difficulty has been for you DURING THE PAST SEVEN DAYS n respect to post-election violence, which occurred in 2007-2008.

pondent's Number..... Date: .....

		Not at all 0	Rarely 1	Some-times 2	Often 3
1.	Did you think about PEV when you did not want to?	[ ]	[ ]	[ ]	[ ]
2.	Did you avoid letting yourself get upset when you thought about PEV or were reminded of it?	[ ]	[ ]	[ ]	[ ]
3.	Did you try to remove PEV events from memory?	[ ]	[ ]	[ ]	[ ]
4.	Did you have trouble falling asleep or staying asleep because of pictures or thoughts about it that came into your mind	[ ]	[ ]	[ ]	[ ]

		Not at all 0	Rarely 1	Some-times 2	Often 3
5.	Did you have effects of strong feelings about PEV?	[ ]	[ ]	[ ]	[ ]
6.	Did you have dreams about PEV?	[ ]	[ ]	[ ]	[ ]
7.	Did you stay away from reminders of PEV?	[ ]	[ ]	[ ]	[ ]
8.	Did you feel as if PEV hadn't happened or wasn't real?	[ ]	[ ]	[ ]	[ ]
9.	Did you try not to talk about PEV?	[ ]	[ ]	[ ]	[ ]
10.	Did pictures about PEV keep coming into your mind?	[ ]	[ ]	[ ]	[ ]
11.	Did other things make you think about PEV?	[ ]	[ ]	[ ]	[ ]
12.	Were you aware that you still had a lot of feelings about PEV, but you didn't deal with them?	[ ]	[ ]	[ ]	[ ]
13.	Do you startle more easily because of loud unexpected sounds or feel more jumpy or nervous than before PEV?	[ ]	[ ]	[ ]	[ ]
14.	Have you suddenly acted or felt like PEV was happening again?	[ ]	[ ]	[ ]	[ ]
15.	Have you heard or seen things that make you think about what happened during the PEV?	[ ]	[ ]	[ ]	[ ]
16.	Do things that remind you about PEV cause or trigger bodily reactions (beating heart, trembling)?	[ ]	[ ]	[ ]	[ ]
17.	Have you had trouble experiencing feelings such as love, happiness or sadness?	[ ]	[ ]	[ ]	[ ]

		Not at all 0	Rarely 1	Some-times 2	Often 3
18.	Do you easily get irritable?	[ ]	[ ]	[ ]	[ ]
19.	Are you alert and watchful even when there is no obvious need to be?	[ ]	[ ]	[ ]	[ ]
20.	Do you have difficulty remembering what happened?	[ ]	[ ]	[ ]	[ ]
21.	Have you been less interested in activities that you used to enjoy (i.e., sports, hobbies, games)?	[ ]	[ ]	[ ]	[ ]
22.	Were your feelings about PEV kind of numb?	[ ]	[ ]	[ ]	[ ]

APPENDIX B: SOCIAL SUPPORT QUESTIONNAIRE

ar Respondent,

name is Margaret Wanjiku Njoroge and I am a Ph.D. student at Egerton University
rently undertaking a research on examining the influence of social support, gender an
f-concept on development of post-traumatic stress disorders among children expose
2007/2008 post-election violence in Eldoret Municipality Public Primary Schools. Du
your position as a class 8 pupil, I have chosen you to participate in this study. I assur
u that the information you shall give will be treated with confidentially, and it shall no
used for any other purpose other than the academic use for which it is intended. Pleas
e honest information as required. Thank you very much for your co-operation.

ncerely Yours
argaret W. Njoroge

on A: Social Demographic Information

. Child's age [ ]
. Gender
   i. Male [ ]
   ii. Female [ ]
. Type of Residency
   i. Rural [ ]
   ii. Urban [ ]
   iii. Peri Urban [ ]
   iv. Slum [ ]
   v. Other [specify] _____

ion B: Self-Appraisal

questions below are meant to describe you according to how you perceive yourself. F
item, you will have to decide which statement describes you so as to indicate besides

xample, "Not all" in question one means that you are never happy with yourself as an idual.

	Not at all	Rarely	Some-times	Often
Are you happy with yourself as an individual?				
Do you accept yourself as you are?				
Do you like the way you are leading your **social** life?				
Do you like the way you are leading your **school** life?				
Are you happy with your problem solving skills?				
Do you ever wish you were a different person?				
Do you think that other children are better than you are?				

ection C – Social Support

section asks about your family, friends, and teachers that are sometimes important t ren your age. For each question, kindly tell me which one is most true for you.

Did you count on your family for help or advice in relation to post-electio violence?

Yes [ ] No [ ]

Do you feel like your family was there when you needed them during the post-electio violence?

Yes [ ] No [ ]

Do you think your family cared about you during the post-election violence?

Yes [ ] No [ ]

Do you feel that you were able to talk with your family about the post-electio violence?

Yes [ ] No [ ]

Do you think your teachers cared about you during and after the post-election violence

Yes [ ] No [ ]

id your teachers make you feel important during and after the post-election violence?

Yes [ ] No [ ]

o you think your teachers were mean to you during

nd after the post-election violence?

Yes [ ] No [ ]

)o you feel that you were able to talk with your teachers about post-election violence?

Yes [ ] No [ ]

)id you get picked on and teased by your friends during the post-election violence?

Yes [ ] No [ ]

)id you feel left out by your friends during the post-election violence?

Yes [ ] No [ ]

)id you feel close to your friends during the post-election violence?

Yes [ ] No [ ]

)o you feel that you were able to talk with your friends about the post-electio violence?

Yes [ ] No [ ]

)o you feel that the church/religious leaders supported you during the post-electio violence?

Yes [ ] No [ ]

Do you feel that you were able to talk with your religious leaders about the pos election violence?

Yes [ ] No [ ]

Did you feel supported by other Organisations (e.g. Red Cross), during the po election violence?

Yes [ ] No [ ]

) Do you feel that you were able to talk with staff from the organisations mentioned in 15 about the post-election violence?

Yes [ ] No [ ]

APPENDIX C: CHILD BEHAVIOR CHECKLIST

ır Respondent,

name is Margaret Wanjiku Njoroge and I am a Ph.D. student at Egerton Universit
rently undertaking a research on examining the influence of social support, gender ar
-concept on development of post-traumatic stress disorders among children expose
2007/2008 post-election violence in Eldoret Municipality Public Primary Schools. Du
your position as a teacher who is familiar to the children, I have chosen you
ticipate in this study. I assure you that the information you shall give will be treate
h confidentially, and it shall not be used for any other purpose other than the academ
for which it is intended. Please give honest information as required. Thank you ve
ch for your co-operation.

ncerely Yours

argaret W. Njoroge

ollowing questions relate to the child's behaviour that you have observed as his/h
teacher since the post-election violence. For each item you will have to decide whi
nse describes the child in question and tick the item.

oes the child experience aches or pains without medical reasons?

es [ ] No [ ]

oes the child act younger than his/her age?

es [ ] No [ ]

oes the child cling to adults or is increasingly dependent?

es [ ] No [ ]

oes the child act defensively?

es [ ] No [ ]

oes the child bully others?

es [ ] No [ ]

as the child been aggressive, verbal, physical or both?

es [ ] No [ ]

as the child been hyper-vigilant or overly alert?

Yes [ ] No [ ]

. Does the child overreact to minor provocations?

Yes [ ] No [ ]

. Does the child startle easily?

Yes [ ] No [ ]

0. Does the child avoid discussions on the traumatic event?

Yes [ ] No [ ]

1. Does the child avoid places that remind him/her of the traumatic event?

Yes [ ] No [ ]

2. Does the child avoid sounds remind him/her of the traumatic event?

Yes [ ] No [ ]

3. Does the child avoid places that remind him/her of the traumatic events?

Yes [ ] No [ ]

4. Has the child been experiencing decreased interest in extracurricular activitie

Yes [ ] No [ ]

5. Has the child been socially withdrawn?

Yes [ ] No [ ]

6. Has the child been inattentive?

Yes [ ] No [ ]

7. Does the child make and play with weapon toys?

Yes [ ] No [ ]

8. Does the child talk about violence quite often?

Yes [ ] No [ ]

9. Does the child draw pictures related to violence?

Yes [ ] No [ ]

20. Does the child write about the traumatic event or violence in general?

Yes [ ] No [ ]

21. Is the child unpredictable?

Yes [ ] No [ ]

22. Has the child been defiant?

Yes [ ] No [ ]

23. Does punishment change the child's behaviou

Yes [ ] No [ ]

24. Does the child get into many fights?

Yes [ ] No [ ]

25. Does the child get too upset?

Yes [ ] No [ ]

26. Does the child cry a lot?

Yes [ ] No [ ]

APPENDIX D RESEARCH PERMITS

CONDITIONS

ust report to the County Commissioner and ounty Education Officer of the area before rking on your research. Failure to do that ead to the cancellation of your permit nment Officers will not be interviewed t prior appointment. estionnaire will be used unless it has been ved. ation, filming and collection of biological ens are subject to further permission from levant Government Ministries. e required to submit at least two(2) hard and one(1) soft copy of your final report. overnment of Kenya reserves the right to the conditions of this permit including cellation without notice

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 700

CONDITIONS: see back page

S TO CERTIFY THAT:
ARGARET WANJIKU NJOROGE
RTON UNIVERSITY, 7246-300
i,has been permitted to conduct
ch in *Uasin-Gishu County*

topic: *THE EFFECTS OF SOCIAL RT ON POST TRAUMATIC STRESS DERS AMONG CHILDREN EXPOSED T ELECTION VIOLENCE IN ET MUNICIPALITY PUBLIC Y SCHOOLS, KENYA*

period ending:
pril,2014

Permit No : NACOSTI/P/13/1052/410
Date Of Issue : 21st November,2013
Fee Recieved : Kshs khs2000.00

Secretary
National Commission for Science Technology & Innovation

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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NAIROBI-KENYA

Ref: No. **NACOSTI/P/13/1052/410**

Date: **21st November, 2013**

Margaret Wanjiku Njoroge
Egerton University
P.O. Box 536-20115
EGERTON.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"The effects of social support on post-traumatic stress disorders among children exposed to post election violence in Eldoret Municipality public primary schools, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Uasin Gishu County** for a period ending **30th April, 2014.**

You are advised to report to **the County Commissioner and County Director of Education, Uasin Gishu County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The County Commissioner
The County Director of Education
Uasin Gishu County.

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF UASIN GISHU
MINISTRY OF EDUCATION, CULTURE, YOUTH AFFAIRS & SOCIAL SERVICES
EDUCATION DEPARTMENT

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/ebsite:www.uasingishucounty.org

When Replying, Please Address
Director of Education
County Government of Uasin Gish
P.O. Box 40 – 30100
Eldoret, Kenya.

REF NO:UGC/ECYSS/ED/GEN/003

22th November, 2013

To Headteachers of the following Public Primary schools:-

1. Kimalel
2. Ainabtich
3. Kamukunji
4. Central
5. Racecourse
6. Kimumu
7. Gitwe
8. Langas

RE: AUTHORITY TO CARRY OUT RESEARCH – MARGARET WANJIKU NJOROGE

I wish to introduce to you the above named person.

Margaret intends to carry out research in your school on "***The effects of Social Support On Post -traumatic stress disorders among children exposed to post election violence i Eldoret Municipality Public Primary Schools, Kenya.***

This is therefore to authorize her to conduct the research. You are advised to provide he with the necessary support.

Thank you.

Amos Kirwa
DIRECTOR OF EDUCATION