COGNITIVE BEHAVIORAL INTERVENTION FOR TRAUMA IN SCHOOLS (CBITS) IN TREATING POSTTRAUMATIC STRESS DISORDER AMONG ADOLESCENTS IN SELECTED PUBLIC PRIMARY SCHOOLS IN INFORMAL SETTLEMENTS, KAJIADO COUNTY, KENYA

by

Preskilla Akoth Ochieng-Munda

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Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in Treating Posttraumatic Stress Disorder among adolescents in selected Public Primary Schools in Informal Settlements, Kajiado County, Kenya.

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

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COGNITIVE BEHAVIORAL INTERVENTION FOR TRAUMA IN SCHOOLS (CBITS) IN TREATING POSTTRAUMATIC STRESS DISORDER AMONG ADOLESCENTS IN SELECTED PUBLIC PRIMARY SCHOOLS IN INFORMAL SETTLEMENTS, KAJIADO COUNTY, KENYA

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

Signed: _________________________   Date: _______________
Preskilla Akoth Ochieng-Munda
10-1637
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# LIST OF ABBREVIATIONS AND ACRONYMS

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<tr>
<td>ACES</td>
<td>Adverse Childhood Experiences</td>
</tr>
<tr>
<td>APA</td>
<td>American Psychological Association</td>
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<tr>
<td>AGI-K</td>
<td>Adolescent Girls’ Initiative in Rural and Urban Kenya</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>APHRC</td>
<td>African Population and Health Research Center</td>
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<tr>
<td>CBT</td>
<td>Cognitive Behavioral Therapy</td>
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<tr>
<td>CBITS</td>
<td>Cognitive Behavioral Intervention for Trauma in Schools</td>
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<tr>
<td>CDC</td>
<td>Center for Disease Control</td>
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<tr>
<td>DSM-5</td>
<td>Diagnostic and Statistical Manual of Mental Disorders - 5th Edition</td>
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<tr>
<td>GEM</td>
<td>Global Education Monitoring</td>
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<tr>
<td>KES</td>
<td>Kenya Shillings</td>
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<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
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<tr>
<td>LAUSD</td>
<td>Los Angeles Unified School District</td>
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<tr>
<td>LALMIC</td>
<td>Low and Lower-Middle Income Countries</td>
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<tr>
<td>NCPD</td>
<td>National Council for Population Development</td>
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<tr>
<td>NCTSN</td>
<td>National Child Traumatic Stress Network</td>
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<tr>
<td>NIMH</td>
<td>National Institute of Mental Health</td>
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<tr>
<td>NSCDC</td>
<td>National Scientific Council on the Developing Child</td>
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<tr>
<td>PTG</td>
<td>Posttraumatic Growth</td>
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<td>PTGI</td>
<td>Posttraumatic Growth Index</td>
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<td>PTSD</td>
<td>Posttraumatic Stress Disorder</td>
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<tr>
<td>SAMHSA</td>
<td>Substance Abuse and Mental Health Services Administration</td>
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<td>SES</td>
<td>Socioeconomic Status</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>Acronym</td>
<td>Full Name</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children Education Fund</td>
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<td>WHO</td>
<td>World Health Organization</td>
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ABSTRACT

Adolescents living in informal settlements are likely to be exposed to multiple traumatic events, possibly leading to disorders such as posttraumatic stress disorder (PTSD). This study assessed the effectiveness of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in alleviating PTSD symptoms among adolescents living in informal settlements in Kajiado County, Kenya. Functional descriptive model of posttraumatic growth and organismic valuing process theories were applied in the study carried out at Embulbul and Enoomatasiani primary schools. Through simple random sampling, a sample of 212 was achieved, and via quasi-experimental design, the schools were purposely sampled and randomly assigned to the experimental and control groups. The Child PTSD Symptom Scale (CPSS-5-R) was applied to include participants aged 10-14 years in grades 5-7 and with scores of 31 to 60. The experimental group received 10 weekly CBITS sessions. Both groups were assessed at baseline, midline, and end line using SDQ, CPSS-5-R, MSPSS, and PTGI-C-R. The study data was analyzed using descriptive and inferential statistics such as ANOVA, with the aid of SPSS version 20. PTSD was found to have a prevalence rate of 40.8% whereas gender was associated with PTSD: males n=90; mean=42.02; 95% CI [40.18-43.91]; females n=104; 45.56; 95% CI [43.61-47.50], (F1,192)=6.577, p=0.011). There was a difference [F(1,192)=7.796, p=0.006] between the respondents who had experienced physical violence (n=121; mean=45.40; 95% CI [43.65-47.16]) and those who had not (n=71; mean=41.48; 95% CI [39.37-43.59]). A positive correlation [0.331(p<0.001)] was found between absenteeism and PTSD, and CBITS was found to be effective in reducing the symptoms of PTSD [t(94)=6.935, p=0.000]. The findings can be applied by the Kenya Ministry of Health to revamp policies that enhance access to psychological care for adolescents.
DEDICATION

You have been my support in so many ways. You were my encouragement whenever I was on the verge of giving up, and my inspiration to be a better me, a caption of excellence and diligence to emulate. I am a better teacher, psychotherapist, scholar, mother and woman because of you - Abel.

Adhiambo, Achieng, Akinyi, Apiyo, and Akoth: it is my belief that I have done my best to mould you to become women of excellence. My love for you and your love for me inspires me to be a better person, to help make you better people - to serve others. Go make a difference and create a positive impact.
CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter provides an overview of trauma, posttraumatic stress disorder (PTSD), and cognitive behavioral intervention for trauma in schools (CBITS) - as an intervention for PTSD, and to enhance posttraumatic growth (PTG). In the chapter, the variables are introduced, and a discussion on how they are related to and affect each other is provided. This relationship is shown by illustrating how PTSD may affect school attendance and the possible role of CBITS in alleviating the symptoms of PTSD. In addition, the chapter relays the statement of the problem of PTSD in informal settlements, while outlining the purpose of the study. It also displays the study’s objectives, research questions, justification, significance, assumptions, limitations and delimitations, as well as the scope.

Posttraumatic stress disorder cannot be discussed without describing trauma or traumatic events. After the 1998 bomb blast that simultaneously occurred in the United States of America embassies in Kenya and Tanzania, there have been several other traumatic events in Kenya. These include the post-election violence that followed the 2007 Kenya general election; the Westgate Mall, Nairobi terrorist attack on September 21, 2013; and the Garissa University terrorist attack on April 2, 2015. In a study carried out after the post-election violence of 2007/2008, Njenga (2008) defined trauma as any kind of experience individuals go through that puts them through an ordeal, leaving them with overwhelming feelings and inability to cope.

According to Storolow (2007), trauma invades our illusion of comfort and safety that we rely on to function daily. In an attempt to define trauma, Seerburger (2016) noted that the origin of the word ‘trauma’ in Greek means ‘wound’, a term still
used in hospitals for several types of injuries. However, the term has evolved over the years to include circumstances that an individual is exposed to. To display how overwhelming trauma can be, Seerburger went on to explain that trauma exceeds the capacity of an individual to process because it is intricate in a way that is difficult to understand. This results in the traumatized persons feeling like nothing will ever be the same again in their lives. Further, trauma can be perceived as resulting from a set of circumstances that seem harmful or threatening, either physically or emotionally, leading to lasting adverse effects on how a person functions (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019).

When individuals go through traumatic experiences, the stressful situation leads some of them to develop a psychological disorder known as PTSD. According to the diagnostic and statistical manual of mental disorders-5th edition (DSM-5), PTSD would typically occur in an individual who has been in the past four weeks exposed to death - whether threatened or actual (American Psychiatric Association [APA], 2013). Individuals may also have been exposed to sexual violence or a form of serious injury or may have directly witnessed or learnt of a traumatic experience that a close friend or family member has gone through. Additionally, individuals may also have been repeatedly exposed to various aspects of events that were traumatic.

Other symptoms that those going through PTSD would often exhibit include experiencing intrusion symptoms either through memories, dreams, or flashbacks. The individuals are also likely to experience physiological or psychological distress whenever they encounter cues reminding them of aspects of the traumatic event. Moreover, the individuals often avoid any trigger related to the traumatic event and might develop an alteration in how they think and feel about that traumatic event. Those with PTSD may also experience a change in their arousal, sensitivity, and
reactivity to the traumatic event, and this affects their vegetative functions, such as sleep; as well as cognitive functions, such as concentration.

These symptoms of PTSD became of interest in the United States of America (USA) after the Vietnam War when the war veterans presented with psychobiological symptoms that needed to be explained. In 1870, Myers ABR (1838-1921) first described the syndrome with symptoms such as dyspnea, palpitation, tremor, effort fatigue, sweating, among others (Iribarren, Prolo, Neagos, & Chiapelli, 2005).

“During the Civil War, a PTSD-like disorder was referred to as the ‘Da Costa’s Syndrome’ … from the American internist Jacob Mendez Da Costa (1833–1900; Civil War duty: military hospital in Philadelphia)” (Iribarren et al., 2005, p. 504). These symptoms were increasingly noted among soldiers, especially in the time of World War I and the American civil war (Iribarren et al., 2005).

As observed by Kaminer, Seedat, and Stein (2005), PTSD’s first appeared in ‘the third edition of the DSM (DSM-III)’ in the year 1980. Even though the term ‘PTSD’ was coined from the interactions with traumatized adults, it has been demonstrated by studies that adolescents and children can too get traumatized if they get exposed to events that are traumatic. Such events may include sexual and physical abuse, war, and violent crime, among many others (Harder, Mutiso, Khasakhala, Burke, & Ndetei, 2012).

On the other hand, some individuals can go through trauma and achieve positive psychological growth from trying to cope with the trauma, a phenomenon known as posttraumatic growth (PTG). The term PTG was invented by Tedeschi and Calhoun in 2004 to explain a positive psychological change that people sometimes experience after struggling with situations in life that they consider significantly challenging and stressful. In the instances where individuals achieve PTG, Calhoun
and Tedeschi (2006) noted that the growth is often exhibited in five major domains of their lives. These domains are depicted by developing a new way of appreciating life, gaining an improvement in relationships with others, learning to explore new possibilities in their lives, acquiring inner strength, and lastly, experiencing a change in their spiritual domain.

The posttraumatic stress that individuals experience often causes them to feel helpless (van Niekerk & Roets, 2017). This leads them to try and find ways of responding to the stress situation to help themselves change their reactions so that they gain a feeling of control over their responses. Individuals who get PTSD need psychological treatment to help alleviate the condition’s symptoms which are often debilitating. There are numerous studies regarding psychological mediations grounded on evidence. Such mediations are considered efficient in PTSD treatment. The treatments mentioned included different forms of cognitive behavior therapy (CBT), which is the modality that this study applied; pharmacology; eye movement desensitization and reprocessing therapy (EMDR); and prolonged exposure therapy (Fernandez Fillol et al., 2018).

This study applied an intervention based on CBT known as CBITS. The CBITS is a skill-based mediation, suitable for treating many types of trauma among students residing in communities that may lack access to mental health owing to several barriers (National Child Traumatic Stress Network [NCTSN], 2012). It is a school-based intervention designed for administration to groups for relieving symptoms of PTSD and other comorbid disorders (such as anxiety and depression) among adolescents aged 10-15 years exposed to many forms of events that are traumatic (Jaycox, 2004). Besides, the intervention has been employed widely in communities in the US, Japan, and Australia (Jaycox et al., 2009).
Cognitive behavioral intervention for trauma in schools was, hence, purported to be suitable for application in informal settlements. It was against this backdrop that this study sought to determine the effectiveness of CBITS in treating PTSD and enhancing PTG. The study also sought to establish if reduced symptoms of PTSD and achieved PTG could lead to improved school attendance among adolescents in informal settlements.

The study was carried out in Kajiado North subcounty, (formerly Kajiado North District) in Embulbul and Matasia sub-locations. With a focus on Kajiado County, Morara, MacOpiyo, and Kogi-Makau (2014) studied ‘use of land and change of land cover in an urban pastoral interface’. Morara et al. found that “increased fragmentation of pastoral land in the peri-urban area of Kajiado North district is mainly caused by urban sprawl as can be confirmed by the population trends and increase in built-up areas” (p. 200).

Another study carried out by Ngotho and Kangu (2016) assessed how the Kajiado North District's land tenure structure had affected the district’s households’ social-economic advancement. According to the study findings, 43.3% of the respondents cited increased mainstream habitations in the district, 44.4% cited an increase squatter numbers, and 46.4% were of the view that housing in the district was insufficient (Ngotho & Kangu, 2016). The mentioned locations are part of what the Kajiado County’s integrated development plan of 2018-2022 described as ‘slums’ (County Government of Kajiado, 2018), a synonym for the term ‘informal settlements’ used in this study.

Adolescents who reside in the described informal settlements have been found to possess a high risk of dropping out of school due to the effect of the multiple traumatic experiences they go through, in addition to other challenges (Atwoli, Stein,
Koenen, & McLaughlin, 2015). The expected outcome of this study was that its findings would contribute to the empowerment of adolescents who not only reside in settlements described as informal but who are also exposed to manifold traumatic circumstances. This empowerment would thus enable them to get relief from the symptoms of PTSD and possibly achieve PTG. Consequently, the adolescents would be emboldened to successfully complete their education so that they can achieve their full potential.

Even though several programs have been applied to help alleviate the symptoms of PTSD, such programs do not necessarily lead to or focus on PTG as an outcome. A case in point is the Vijana Amani Pamoja that started the ‘Moving Forward’ trauma recovery program in 2008, to “help in the recovery and personal development of children and youth affected by the 2007 post-election skirmishes thus creating self-esteem, confidence and inclusion in all aspects of society” (Vijana Amani Pamoja, n.d., para. 2). The main objective of Vijana Amani Pamoja was to build and restore the confidence, self-esteem, and improve the attitudes of socialization in the communities and schools through various programs and activities such as vocational training, soccer tournaments, and beauty pageants. There is, however, scarce information on the impact of such programs on the communities in which they were implemented in as far as PTG is concerned. Furthermore, these programs were not as structured; neither did they have a theoretical psychological background as the CBITS intervention that this study intended to implement.

On the other hand, PTG has been proven to exist even with posttraumatic stress symptoms (Jin, Xu, & Liu, 2014). This study, however, sought to not only alleviate the symptoms of PTSD but to also go beyond to the restoring of the individuals to their former selves or as close as possible to their former selves. It
sought to push the individuals beyond their previous selves, making them better in the
five domains of PTG previously mentioned. It was hoped that this would enable the
individuals to function better than they did before they developed PTSD (Tedeschi &
Calhoun, 2004). Other than getting empowered to finish their education, the
individuals would also grow in some important aspects of their lives, thus being able
to meet their societal obligations in a better and functional manner (Kezelman &
Stravropoulos, 2012).

Owing to a shortage of evidence-based programs that would empower
adolescents to either cope with or overcome the side effects of PTSD and thus become
individuals who have achieved psychological growth, these adolescents remain
exposed to a myriad of risks. According to the Adverse Childhood Experiences
(ACES) study by Perfect, Turley, Carlson, Yohanna, and Saint Gilles (2016), this
kind of exposure may result in risks such as early pregnancy; engaging in risky
behavior, for instance, abuse of drugs and reckless sexual habits; taking part in
unlawful groups; and possibly eventually a premature death. The cycle of poverty is
perpetuated and therefore continues, and this may further ameliorate the risks for the
coming generations (Austrian et al., 2015).

Additionally, Jaycox (2004) noted that professionals who work with children
who (children) have been deeply affected by trauma have observed that these
adolescents are likely to fail in school, have difficulty in forming meaningful
relationships, and consequently likely to struggle with finding success in life. In a
more recent study, Maynard, Solis, Miller, and Brendel (2017) posited that young
people who have experienced traumatic events have a significant risk of being
impaired across a variety of cognitive functions, such as their memory, verbal ability
IQ, and attention. The youth are also likely to experience poor academic performance,
as well as behavioral and discipline problems that possibly lead to non-attendance and dropping out of school (Maynard et al., 2017).

It is for this reason that this study sought to apply CBITS with the objective of alleviating the symptoms of PTSD, and perhaps enhancing PTG among adolescents who live and attend public primary schools in informal settlements. The end goal of this study was to seek ways through which the affected adolescents may be assisted to mitigate the effects of trauma early in life so that it (trauma) does not get to affect the rest of their lives, or worse still, cause their early death.

1.2 Background to the Study

Presler-Marshall and Jones (2012) stated that the generation of adolescents in 2012 was the largest in this category that the world had ever seen. Globally, the population of adolescents aged 10-19 years in 2009 was estimated to be 1.2 billion. The indication was that nearly nine in ten adolescents at that time lived in developing countries. Additionally, of the world’s adolescent population, more than 50% were found to reside in Asia. Nevertheless, due to relatively high rates of adolescent pregnancy, Presler-Marshall and Jones predicted that by 2050, more than half of this adolescent population would be living in sub-Saharan Africa. Further, approximately 55% of the population in Uganda, Mali, and Niger were found to be under 18 years; with many other sub-Saharan African countries similarly having approximately 50% of their population under the age of 18 years (Presler-Marshall & Jones, 2012).

As per the report by the advisory committee for the international youth year (A/36/215 annex), “the United Nations understands adolescents to include persons aged 10-19 years and youth as those between 15-24 years” (as cited in United Nations Population Fund [UNFPA], 2013, p. 1). According to the 2010 revision of the world population prospects, adolescents aged 10-14 years were approximately 602 million, a
figure that was projected to reach 632 million by 2050 (United Nations Department of Economic and Social Affairs [UN-DESA] as cited in UNFPA, 2013). The same report projected that the population of the youth aged 12-24 in Africa would “rise from 18 per cent in 2012 to 28 per cent by 2040. The region comprising Asia and the Pacific is expected to experience the sharpest decline, from 61 per cent in 2012 to 52 per cent by 2040” (as cited in UNFPA, 2013, p. 1).

It is generally expected that the youth are in their healthiest stage of life because at their age they reach their peak in many areas of development such as strength, fitness, and cognitive abilities (United Nations (UN), 2012). On the other hand, adolescence is often challenging since it is a dynamic and transitional time in the life of the adolescent as it is often marked by many changes. These changes are developmental and are often influenced by biology and socialization from the environment, thus requiring skilful navigation (Bekker, Johnson, Wallace, & Hosek, 2015). Failure to navigate these challenges can result in dire consequences in the lives of the youth, even leading to death. The UN’s expert group meeting on adolescents, youth and development held on July 2011 reported that concerning mortality rates, some differences exist among youth internationally (UN, 2012). In more developed regions such as Western Asia, Northern Africa, and Eastern Asia, only 1% or less of youth aged 15 years fail to live to see their 25th birthday; in contrast to South Asia and sub-Saharan Africa with twice and four times higher mortality rates among the youth respectively (UN, 2012).

In 2009, young persons, under 15 years of age, accounted for 30% of a population of 3,134,799 in Nairobi; and this figure was estimated to by 2030 reduce to 25.9% (National Council for Population Development [NCPD], 2015). Given that young persons are in such high numbers, population-wise, it becomes a matter of
concern that an approximate 50% young persons in the 12 to 17 years age category have been under exposure to or observed violence (physical or sexual assault) and that an approximate 6% of girls meet the PTSD criteria. This is as observed by Cisler et al. (2015) This scenario calls for interventions that would protect the adolescents from exposure to traumatic events, or better yet, from developing PTSD, in order to safeguard a future free from psychological problems.

The inference here would be that not all adolescents who have been exposed to traumatic events would develop PTSD as some (adolescents) may be resilient and have other protective factors that intervene. Another study that systematically reviewed populations estimated the minimum prevalence for physical abuse to be at least 50% for Asia, North America, and Africa; but lower at about 30% for Latin America, amongst individuals aged 2-17 years (Gibbs et al., 2018).

Residency in informal settlements has increased over the years with more than half of Nairobi residents living in over 200 slums within it (Nairobi), whereby some of the said slums have been cited as among the largest the world over (Baiocchi et al., 2019). In the observation of Meinck, Cluver, Boyes, and Mhlongo (2015), residing in informal settlements in the urban areas could contribute to increased trauma in children. Additionally, in Karandagolle’s (2014) observation, there are lots of literature revealing the connection between having grown up lacking basic needs and in settlements that are informal; and having undesirable personal characteristics, deficits in skills, and motivation challenges. Deficits in skills will most often place the young persons in a state of vulnerability to numerous troubles, including mental health issues (such as PSTD) and achievement challenges (Karandagolle, 2014).

Similarly, Presler-Marshall and Jones (2012) had earlier observed that many adolescents, particularly girls, and especially those in the informal settlements, are at
a higher risk of getting married before they reach adulthood. This situation was attributed to feasibly the fact that these adolescent girls are socially and emotionally immature, physically vulnerable - and therefore least able to speak for themselves. The adolescents were found to be consequently at high risk of coerced sex and rape, especially in the informal settlements (Presler-Marshall & Jones, 2012).

Besides, this predicament does not exclude the boys as affirmed by findings from a ‘2010 Kenya national survey on violence against children in Kenya’ which revealed that approximately 4.2% of sexual abuse cases in the population sampled involved boys (United Nations Children’s Fund [UNICEF], 2012). Hence, there is a need for studies that include boys in order to offer an understanding of how the factors that affect girls also impact the boys. It is for this reason that this study included both boys and girls: aged 10 to 14 years, with PTSD, and attending public primary schools in informal settlements.

This study was carried out in two selected primary schools situated in Embulbul and Matasia sub-locations, namely Embulbul and Enoomatasiani primary schools. The children who attend Embulbul Primary School were found to reside in the neighboring informal settlements such as Embulbul, Mathari, Kariobangi, Tosheka, and Geshagi. Similarly, the children attending Enoomatasiani Primary School reside in several villages of informal settlements in nature such as Silanga, Mathare, Memusi, Mericho, Matasia, MVV, and Naramet. Their area of residence was established from their responses to the question “where do you live” in the social demographic questionnaire. Some locations such as Gichagi, have retained informal structures with residents not having security of tenure of the land they reside in since 1953 when the ‘state of emergency’ was declared (Wasikeh, 1996). Further, Kajiado County, in a bid to improve housing developments, came up with a policy strategy for
the upgrading of the slums in the county. In the strategy, Gichagi, Kware, Makaurini, Embulbul and Mathari were listed for upgrading (County Government of Kajiado, 2018).

Informal settlements, such as the ones that this study focused on, have been found to expose their inhabitants to traumatic experiences, including different forms of violence, sexual and physical abuse, aggression and family conflict, broken families, child neglect, illegal drug activities, house fires, and poor unhygienic living conditions. The traumatic experiences may also be caused by adolescents’ exposure to war or war-like violence, disasters, torture, and even motor vehicle accidents (Harder et al., 2012).

Several studies have found that the number of times an individual is exposed to experiences that are traumatic or adversity in informal settlements is often high and that such exposure comes in multiple forms (Harder et al., 2012). The events are also of different intensity with the age of first exposure to adversity varying among different adolescents. This exposure to traumatic experiences may lead to PTSD in some of the informal settlements’ inhabitants. Consequently, PTSD affects the lives of its victims in various ways. In support of this was a study by Kabirua, Mumah, Maina, and Abuya (2017) which demonstrated how girls who experience violence and other forms of victimization might lose hope in life and be exposed to mental health risks.

During a preliminary visit to this study’s two study sites (schools), a conversation with the schools’ head teachers revealed some of the risk factors that predispose adolescents who attend these primary schools to trauma. These include dysfunctional families, exposure to alcohol, drug use and peddling, extreme poverty, different forms of abuse, abortion, death, exposure to sexually explicit material, house
fires, and child employment. In Enoomatasi Primary School, a fire had just killed two pre-primary children, and the students were still recovering from this trauma. This was additional evidence (to literature) that these adolescents live in the informal settlements and are exposed to multiple traumatic events whose effects they continue to grapple with.

The effects of trauma can be experienced physically, mentally, behaviorally, emotionally, or at a communal level (Njenga, 2008). This can occur after an unprecedented, profound experience resulting from a deep, minor, or significant abuse that leaves one desperate, impaired, and terrorized, as well as in pain and/or feeling humiliated. Additionally, trauma often seems to paint a picture of damage of an individual’s psyche, emotions, and physical wellbeing.

Further, Njenga (2008) observed that one great need that adolescents have is to appear competent to those around them, especially to their friends and family. Consequently, they strive to attain independence from the family, a struggle that induces an internal conflict between increasing responsibility and remaining dependent. The effect of trauma on adolescents may, hence, vary depending on how much disruption it causes the family and the community’s functioning. Furthermore, the impact of trauma is believed to stimulate fears among adolescents. Such fears could be related to the loss of the adolescent’s family, school life, peer relationships, and sometimes even concern over how their own bodies are developing.

Other studies have supported these findings by alluding to the fact that adolescents will often feel a setback in their quest, for example, to achieve their own identity. Such a scenario leads to the abandonment of chores, schoolwork, and other responsibilities that the adolescents previously handled (Austrian et al., 2015). Other trauma effects on the adolescents could include withdrawal, seeking attention,
resisting authority, disruptive behavior in the classroom or at home, or experimentation in high-risk behaviors, for instance, alcohol and drug abuse, or irresponsible sexual behavior (Atwoli et al., 2015).

The above circumstances may result in the adolescents’ dropping out of school or reducing their attendance as they grapple with the effects of the traumatic event. This is so, even though these adolescents need to stay in school and observe regular school attendance since evidence points out that school enrolment is a critical determinant of the wellbeing of adolescent girls (Presler-Marshall & Jones, 2012). Besides, globally, studies have shown that girls who are enrolled in schools are less likely to have engaged in sexual intercourse. Further, in the instances that the adolescents were sexually active, they were more likely to take precaution by using contraception compared to their non-enrolled counterparts (Bruce, Haberland, Chong, Grant, & Joyce, 2006). However, according to a research by the Population Council, there is evidence that adolescent girls do not have protective social support and networks (Austrian et al., 2015). In Allahabad India, for example, only 22% girls, as opposed to 93% boys were able to visit their relatives unaccompanied (Sebastian, Grant, & Mensch, 2004).

Other statistics in Kenya showed that initial primary school enrolment rates were about the same for boys and girls (Kenya National Bureau of Statistics [KNBS], 2013). Nonetheless, as girls entered their adolescent years, they dropped out at faster rates than boys. This higher rate of dropping out has been attributed to poverty, even though poverty does not exclude boys. There are nevertheless other reasons directly or indirectly related to reproductive behaviors (Mensch & Lloyd, 1998) which explain why girls may drop out of school. This study, therefore, hoped to pick the differences
and/or similarities in how adolescent boys and girls living in informal settlements experience trauma, that is, differences in terms of gender.

The United Nations Educational Scientific and Cultural Organization’s (UNESCO) ‘2017/8 global education monitoring (GEM) report’ recorded that some interesting changes have occurred over the years demonstrating how boys are at a higher risk than girls globally regarding completion of their education (UNESCO, 2018). Further, in its policy paper no. 35, UNESCO revealed that in 2016, 6% of countries had fewer boys enrolling in primary, 17% in lower secondary, and 45% in upper secondary (UNESCO, 2018).

Girls were found to be at a significant disadvantage from primary to upper secondary in sub-Saharan Africa. In contrast, in Latin America and the Caribbean, boys were falling far behind in all levels of education (UNESCO, 2018). Further, UNESCO reported that in the primary level of education, India, Senegal, Gambia, and Nepal had more boys enrolled in the year 2000, but the scenario had by the year 2016 reversed in the girls’ favor (UNESCO, 2018). Poverty, and therefore the need to work, was found to be a contributory factor in the lack of completion of school among boys (UNESCO, 2018). Boys were more likely to be subjected to corporal punishment than girls, and this may account for the greater dropout levels noted in regard to boys in these regions (UNESCO, 2018).

Additionally, the living conditions of the adolescents in the informal settlements only increase their (adolescents) vulnerability to multiple traumas, which eventually results in their dropping out of school to be married or to engage in risky behaviors or menial jobs (Amuyunzu-Nyamongo & Taffa, 2004). The traumatic experiences the adolescents go through, sometimes repeatedly with no sense of hope, completely change how they perceive their world.
These adolescents would, therefore, benefit from an easy to implement model of intervention that would enlighten them about trauma and manage their distorted perception. One such model is CBITS. The objective of using this intervention in this study was to support and strengthen the natural resilience of young adolescents who are continuously under exposure to numerous traumatic events owing to the nature of their living environment. For traumatized individuals, having adequate information about their psychological condition becomes the first step towards growth, and this improves different aspects of their lives, hence posttraumatic growth (PTG).

Posttraumatic growth as a term was formulated by Tedeschi and Calhoun (2004) to describe the positive psychological change experienced by individuals after they have struggled with highly stressful and challenging life situations. For this study, PTG has been defined as the cumulative growth and gain that clients purport to experience after going through a traumatic event or events that change their existing worldview (Calhoun & Tedeschi, 2014; Tedeschi & Calhoun, 2004). A succinct definition of PTG could be given as follows:

experience of individuals whose development, at least in some areas, has surpassed what was present before the struggle with crises occurred. The individual has not only survived, but experienced changes that are viewed as important, and that go beyond the status quo. (Tedeschi & Calhoun as cited in Klinic Community Health Centre, 2013, p. 108)

Throughout humanity, there have been instances of growth following adversity. Most faiths, including Buddhism, Hinduism, Christianity, and Islam, see anguish as a phenomenon that contributes to some level of growth at the personal dimension and in great wisdom in the individual (Taku & Cann, 2014). Christianity narrates how the execution and suffering of Jesus have the power to transform those
who believe in Him. Some Islamic traditions present suffering as being instrumental in fulfilling the purposes of Allah (Tedeschi & Calhoun, 2004).

The Buddhist traditions encourage practices such as meditation that are designed to lead to a state of enlightenment which encourages behavioral adaptation of the individual to resilience; a phenomenon that could be likened to PTG (Sivilli & Pace, 2014). Hindus, on the other hand, believe in one god (Brahman) who may take any form, with two tenets (Karma and reincarnation) that guide their actions on earth and influence their endurance in suffering (Thrane, 2010). Their belief in the concept of Karma relays the message that one’s suffering is indeed part of life and is likely due to past thoughts and deeds with the intention of inducing learning in the individual (Thrane, 2010), which could be be likened to PTG.

When examining existential philosophy and aspects of humanistic psychology, there is an indication that these areas of study have also shown how adverse and stressful events can lead to potential positive psychological change in humans (Joseph, 2009). Furthermore, existential psychologists refer to events that stir up the awareness of immortality, powerlessness, and randomness as boundary or border situations. Additionally, these situations, such as those experienced by adolescents who live in informal settlements, propel individuals to reflect on ultimate concerns in life (Yalom, 1980).

Even though PTG has been given various names, the common thread that runs across the names is that there is growth that arises from the adversity that possibly culminated in PTSD (Linley & Joseph, 2004). Such names include growth, blessings, benefit finding, mental strength, thriving, stress-related growth, perceived benefit, and even positive adaptation (Linley & Joseph, 2004). To illustrate this, Finkel (1974, 1975) termed PTG as ‘stren conversion’ followed by McCrae (1984) who described it


According to Tedeschi and Calhoun (2004), PTG as a term appeared to represent this phenomenon of growth after adversity better than the other terms. They supported this with the argument that PTG seems to occur only on occasions of severe crisis and not when individuals are exposed to lower levels of stress (Tedeschi & Calhoun, 2004). Secondly, PTG often produces a transformation in the individual’s life that goes beyond illusionary growth. In addition to this, and a factor that was pertinent to this study, one experiences PTG as an outcome, and not just as another coping mechanism to help in dealing with the adversity. Finally, this kind of growth requires the individual to challenge their basic assumptions of life and the world in a manner that is beyond thriving after they have experienced adversity.
Even though growth after going through challenging situations in life existed from earlier times and was known by other names, Taku (2006) - an associate professor of psychology at Oakland University - further affirmed the phenomenon of PTG through his research and personal experience as a survivor of the 1995 Kobe Earthquake in Japan. In a study done by Ochoa, Casellas-Grau, Vives, Font, and Borras (2017), an intervention called positive psychology for cancer (PPC) among cancer patients resulted in positive effects that facilitated PTG. The same study indicated an increase in PTG and a decrease in emotional distress and PTSD (Ochoa et al., 2017).

The term PTG was, therefore, more applicable to this study, not just because of the factors described above but also because it can be quantified using the PTG inventory (PTGI). The PTG inventory is a tool that was developed in 1996 by Tedeschi and Calhoun after a review of literature on responses from participants who had gone through highly stressful events, among them losing a spouse and physical disabilities. On reviewing the literature, a factor analysis revealed five domains that people often reported change in after a trauma. These include personal strength - becoming more self-efficacious and self-reliant; new possibilities - finding new paths in life that never existed before the traumatic event; and positive change in one’s interpersonal relationships - exhibited by emotional closeness with significant others that was not present before (Werdel & Wicks, 2012). The other two domains are attaching higher value on life - compared to the period before the traumatic events; and spiritual change - developing deeper meaning in life and increased faith in one’s religions (Werdel & Wicks, 2012).

Being an area of interest to mental health professionals, PTG has been studied, and empirical evidence has confirmed that it is implementable in those who have
undergone various traumatic events (Sescosse, Blázquez, Arocena, & Campos, 2018). An earlier meta-analysis revealed that many interventions have been developed solely to promote growth after adverse effects-causing stressful events (Ramos, Leal, & Tedeschi, 2016).

As much as the prevalence of PTSD in informal settlements has been documented, there is a paucity of literature regarding how PTSD may affect school attendance. Besides, few studies have documented the value of PTG in improving school attendance. It is within this perspective that this study sought to assess whether CBITS can help alleviate the symptoms of PTSD, consequently enhancing PTG. CBITS is an intervention that bases its techniques on cognitive behavior theory, which informs the various cognitive behavior therapies (Jaycox, 2004).

Cognitive behavioral intervention has been described as a structured symptom-focused therapy with several skill-building techniques (Jaycox, 2004). Further, CBT is mostly based on the proposal that our behaviors and thoughts have the potential to cause emotions that are negative, and patterns of interactions that are not pleasant. An example of an evidence-based CBT model that can be applied to change the maladaptive thoughts and behaviors of adolescents in informal settlements who have undergone trauma is CBITS. Besides being flexible in terms of implementation, there is evidence that CBITS offers practical and positive therapeutic solutions that foster skills needed by the young adolescents to enable them to cope with trauma and its aftermath (Jaycox, 2004). Besides, it’s a program that can be administered by school counselors who have mental health knowledge. CBITS was therefore purported by this researcher to be vital in supporting sustained access to mental health, especially traumatic experiences in the informal settlements.
1.3 Statement of the Problem

As noted by van Niekerk and Roets (2017), research has shown that exposure to trauma impacts brain development of adolescents in various ways in terms of information processing, performance, and even school enrollment. As such, health practitioners have taken an interest in trauma. It has been observed that impacts of trauma contribute to adolescents’ adoption of certain undesirable habits, for instance, abuse of drugs, reckless sexual behavior, and engaging in criminal activities involved groups. Such behaviors place the lives of the adolescents as well as their health in danger. It has been further noted that such hazardous habits, commonly seen in informal settlements, tend to lead to disability, disease, social troubles, and even early deaths - among adolescents. Adolescents living in informal settlements have also been reported to generally perform poorly in school, leading to increased drop-out rates. The implication is that these adolescents do not get to live out their full potential in life, which is a tragedy.

Given the rampant traumatic circumstances in settlements that are informal, adolescents who reside in such settlements are at the risk of developing various mental illnesses such as PTSD as a result of exposure to such events, which affect their psychosocial and cognitive performance. This postulation is supported by studies that have revealed PTSD prevalence rates of 30% among adolescents in the urban settings (Reeves, 2017), and 18% among adolescents in a Kenyan informal settlement (Harder et al., 2012). In light of this, there is a need for interventions that are sustainable and targeted towards alleviating symptoms of PTSD among adolescents in informal settlements. Such interventions can be implemented by school counselors who have mental health experience.
Many studies have reported successful psychological interventions for PTSD geared towards mitigating the negative effects of the condition. Among these, CBT based interventions have been reported as the most effective (McLean & Foa, 2011). One such intervention is CBITS, described as a skill-based CBT intervention was targeted at alleviating PTSD symptoms among students exposed to various traumatic events. Even though CBITS’ effectiveness in alleviating symptoms of PTSD has been confirmed in the USA, Japan, and Australia, there is a paucity of literature on its application in informal settlements in Kenya. Based on this, this researcher considered it necessary to test the intervention’s effectiveness in alleviating the symptoms of PTSD among adolescents living in informal settlements.

This need is supported by the fact that programs implemented in the past to alleviate PTSD symptoms such as those by Adolescent Girls Initiative-Kenya (AGI-Kenya) in rural and urban Kenya - have been mostly non-psychological. Such programs have been found to focus on training the adolescents in the prevention of violence, and also similarly educating them on health and how to create wealth, with the objective of improving their (adolescents) overall wellbeing.

Targeted school-based psychological interventions such as CBITS are thus necessary, as they would enhance the resilience of the adolescents and reduce the adolescents’ risk of developing long-term posttraumatic symptoms. It would, therefore, be critical to intervene with such interventions before the myriad of challenges these adolescents face lead to outcomes that would be costly to correct and difficult to reverse. With this in view, this study sought to determine how effective CBITS can be in alleviating the symptoms of PTSD and possibly enhancing PTG.
1.4 Purpose of the Study

The purpose of this study was to determine whether CBITS would be effective in treating PTSD among adolescents attending selected public primary schools in informal settlements in Kajiado County, Kenya.

1.5 Objectives of the Study

The broad objective of this study was to determine the effectiveness of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in treating PTSD in adolescents studying in the identified public primary schools in informal settlements in Kajiado County, Kenya.

The specific objectives of this study were as follows:
1. Determine the prevalence of PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya.
2. Identify factors associated with PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya.
3. Establish the relationship between PTSD and school attendance among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya.
4. Evaluate the effectiveness of CBITS in treatment of PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya.
5. Evaluate the effectiveness of CBITS in enhancing PTG among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya.
1.6 Research Questions

1. What is the prevalence of PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya?

2. What factors are associated with PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya?

3. What relationship is there between PTSD and school attendance among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya?

4. How effective is CBITS in treatment of PTSD among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya?

5. How effective is CBITS in enhancing PTG among adolescents who attend selected public primary schools in informal settlements in Kajiado County, Kenya?

1.7 Justification for the Study

Posttraumatic stress disorder has negative impacts on the socioeconomic and psychological functioning of adolescents, especially those living in informal settlements. There is evidence from studies indicating that traumatic experiences among adolescents lead to behavioral, psychological, cognitive, and other health challenges (Perfect et al., 2016). These problems can result to adolescents’ dropping out of school and engaging in risky behaviors such as criminal activities, drug abuse, and early marriages. Often, affected adolescents are unable to break this cycle of trauma because of their low socioeconomic status and environment, and this situation may eventually lead to their early death (Atwoli et al., 2015).
In a study carried out in the slums of Nairobi, a major factor that was found to reduce the interest of adolescent girls’ in learning and attaining education was the risk of violence (Chant, Klett-Davis, & Ramalho, 2017). In Kenya, only 48% of pupils who sit for the Kenya Certificate of Primary Education (KCPE) make it to secondary school, with even fewer graduating out of secondary education (Abuya, Ngware, Mutisya, & Nyariro, 2017). It is therefore prudent to deduce that too many young boys and girls drop out of school at adolescence and do not proceed to high school. Moreover, research evidence has suggested that each year adolescents spent in school increases a country’s gross domestic product (GDP) by at least 1% (Abuya et al., 2017).

It would thus follow that dropping out of school would possibly rob the society of the potential to develop, especially when most of the adolescents are not absorbed into tertiary colleges or any gainful employment because they lack the empowerment provided by education. These young people would consequently not be in a position to achieve the priorities of development, such as eradicating poverty and overcoming the inequalities that living in the informal settlements predisposes them to. The risk of inability to achieve maximum potential is increased when adolescents reside in informal settlements where they are exposed to many events of a traumatic nature.

For this reason, this researcher deemed it crucial to determine the levels of PTSD due to the traumatic experiences adolescents in the informal settlements are exposed to. The researcher additionally perceived the need for implementation of interventions that can lead to adolescents in informal settlements getting empowered with coping skills that can enable them to succeed despite their exposure to multiple traumatic experiences.
This study, as a result, applied CBITS in an effort to alleviate the symptoms of PTSD and perhaps enhance PTG among adolescents attending public schools in informal settlements. To the best of the researcher’s knowledge, there is limited literature on CBT programs employed to address PTSD with PTG as one of the expected outcomes, especially in Kajiado County. On the other hand, programs that may exist geared towards alleviating symptoms of posttraumatic stress are hardly aimed at promoting PTG, and are in most cases carried out in an unplanned manner, not structured like CBITS. Besides, there is limited literature, if any, on PTG programs among adolescents in informal settlements in Kenya or even Africa.

This study further sought to establish the relationship between PTSD and school attendance. Since several studies have demonstrated that continuous exposure to traumatic events early in life has long-term effects on individuals along their lifespan, and that this can lead to early death, this study also endeavoured to fill the gap of the urgent need of support to the youth who are exposed to multiple traumatic events. It was anticipated that CBITS would enhance the resilience of the adolescents, and in so doing, reduce their risk of developing long-term posttraumatic symptoms. This study would, therefore, point out a potential intervention that would create awareness to policymakers on how the harmful impact of PTSD may be averted among adolescents living in informal settlements.

1.8 Significance of the Study

In the first place, this study set out to provide a framework for assessing a common psychological disorder in the informal settlements. Secondly, it strove to exhibit the efficacy of CBITS in alleviating the symptoms of PTSD and enhancing PTG leading to improved school attendance.
The education and health ministries in Kenya may include the knowledge on stress reactions or coping, as well as on the possibility of PTG while formulating their policies towards the mental health of adolescents. Further, the researcher anticipated that the findings of this study would be a valuable contribution to the scholarship and literature on the prevalence of traumatic experiences in informal settlements.

The new knowledge on the interaction between PTSD, PTG, and school attendance would also be a valuable addition to scholarship. The outcome of the study can also help adolescents to develop new perspectives in life, experience spiritual growth, and develop better relationships with their peers and significant others. The participants in this study would supposedly be in a better position to support other adolescents who have gone through similar challenges by serving as role models and imparting coping skills based on the knowledge and skills gained.

Moreover, teachers and parents could benefit from working with adolescents who would be expected to have increased motivation, based on the gained knowledge and skills. Finally, the society could benefit in the long run because of a well-adjusted workforce that would operate within its full potential since it is anticipated that after the alleviation of PTSD, the adolescents would be well adjusted mentally.

1.9 Assumptions of the Study

The first assumption of this study was that the adolescents who live and attend primary schools in the informal settlements would present with PTSD. The study also held the assumption that the selected participants would be willing to participate in the study to the end. A further assumption was that the respondents would be honest in their responses.
1.10 Scope of the Study

The researcher confined the study to Kajiado North subcounty in Kajiado County. The study population was adolescents aged 10 to 14 years, in grades five to seven (in the Kenya primary system of education), and specifically those with PTSD from Embulbul and Enoomatasiani primary schools in Kajiado County.

1.11 Limitations and Delimitations of the Study

Since the participants in this study were minors, one foreseen limitation was parental resistance when it came to giving consent to their children to be part of the study. This was mitigated by calling for a parents’ training session to help them understand the benefit of the study. Some parents still refused to sign the consent even after training, and the respective children were not included in the study. After the study began, some participants still dropped out, claiming that their parents complained of their late arrival back home after the sessions. This was mitigated by catering for attrition in the sample size calculation.

Participation in the study was exclusively limited to adolescents aged 10 to 14 years, yet even the older adolescents are exposed to trauma and hence also stand the risk of dropping out of school. This limitation was addressed by equipping the guidance and counseling teachers with further skills to support the older adolescents with PTSD.

The researcher further ran a risk of the control group being contaminated by general psychoeducation or any form of counseling by the guidance and counseling teachers or other external programs. This would have been a threat to the internal validity of the study, which is the extent to which the researcher can attribute the changes noted in the participants solely to the independent variable. In other words, internal validity examines whether the design of the study, how it is conducted, and
how the results are analyzed answers the research questions without any noted bias (Andrade, 2018). To counter this, the researcher requested the school administrators of the school that had the control group participants to hold off any such programs that could have psycho-educated the participants. This request was premised on the promise of carrying out four sessions of psychoeducation with the control group once the study came to completion.

Further, there was limited available literature in Kenya, focusing on the effectiveness of CBITS on PTSD among adolescents in informal settlements. There was also limited literature on PTG among adolescents living in informal settlements. Most PTG studies were done among adults. The population that had been studied that was closest to adolescents with regard to PTG was the Garissa University students. This study was therefore anchored against the Garissa University study that assessed the effectiveness of counseling in predicting PTG among the survivors of the Garissa University terrorist attack that occurred in Kenya in 2015 (Asatsa, Mutisya, & Owuor, 2018).

The study did not take into consideration the comorbidity of PTSD with other psychological disorders such as depression. It is therefore not known whether the effectiveness of the treatment was influenced in any way by comorbid disorders such as depression.

Similarly, the participants were not assessed for complex trauma which is a possibility in informal settlements due to the frequency and chronic exposure to traumatic events. It is hence not known whether they had complex trauma and if it affected the outcome of the intervention.

Finally, this study was also limited regarding its specific focus on adolescents in informal settlements. Consequently, it is unknown whether CBITS would be as
effective in alleviating symptoms of PTSD among adolescents not living in informal settlements who have PTSD.

1.12 Definition of Terms

The following terms were defined and operationalized for the study.

Adolescents: Berk and Meyers (2016) defined adolescence as a period of transition that occurs between childhood and adulthood. It consists of three stages listed as the early adolescence (11-12 years to 14 years), middle adolescence (14 to 16 years), and lastly the late adolescence (16 to 18 years). This study was conducted among adolescents aged 10 to 14 years. The term ‘adolescents’ was, hence, used in this study to refer to those adolescents aged 10 to 14 years.

Informal settlements: The term was used in this study to refer to a living environment “characterised by poverty, tenure insecurity, informal housing, a lack of basic services and overcrowding” (Davis; Nuissl & Heinrichs; UN-Habitat as cited in Simiyu, Cairncross, & Swilling, 2019, p. 224). It was also used interchangeably with the term ‘slums’ which was defined by the UN-Habitat and other organizations as households that lack at least one of several amenities: durable housing or security of tenure, water, sanitation, and sufficient living area (Bird, Montebruno, & Regan, 2017).

Organismic psychology: A movement in psychology based on the theory that an individual is made up of elements that compose a single organized system, where an element in the system cannot be evaluated independently of its position within the system (Organismic, 2003). The same definition was espoused in this study.

Organismic valuing process (OVP): A process that proposes that each individual has an innate ability to identify what brings them fulfillment and what is important to them (Joseph, 2009). This study adopted the same definition.
Posttraumatic growth (PTG): This term was coined to describe the positive change an individual attains after they have struggled to reconcile with a new reality following an event they consider traumatic (Ramos et al., 2016). In this study, PTG was used to describe the cumulative growth and benefit expressed by clients following a traumatic event or events that change their existing worldview (Calhoun & Tedeschi, 2014; Tedeschi & Calhoun, 2004).

Posttraumatic stress disorder (PTSD): A psychological disorder that often leads to individuals experiencing intrusion symptoms either through memories, dreams or flashbacks. The individuals are additionally likely to experience physiological or psychological distress when exposed to cues reminding them of an aspect of the traumatic event, they have gone through in the past four weeks or a longer time (APA, 2013). Further, the individual may also avoid any stimuli that is associated with the traumatic experience and even change how they feel and think about the event. Finally, they may experience a change in their arousal, sensitivity, and reactivity to the traumatic event, which may affect their vegetative functions such as sleep; and their cognitive functions such as concentration. The same definition of PTSD was adopted in this study.

School attendance: The student’s physical appearance in the classroom (Roby, 2004). In this study, this definition was adopted and in addition to the physical appearance, school attendance had to be confirmed by the student being marked present in the class register.

Trauma: An emotional shock resulting from a circumstance, an event, or a series of events that individuals experience and interpret as harmful or threatening physically or emotionally and that have lasting adverse effects on their functioning and wellbeing (SAMHSA, 2019). The study adopted the same definition.
1.13 Summary

An introduction and background to this study has been discussed in the chapter, followed by the problem of the study being stated, and the purpose of the study outlined. Also discussed in this section are the objectives and the research questions that steered the study. Further, the justification and significance of the study, and the assumptions that were made have been outlined. The limitations of the study and how they were delimited have been explained, not forgetting the scope that the study limited itself to. Lastly, some terms used in the study have been defined as well and the definitions operationalized for the study. In the ensuing chapter, the study explores literature on the various components of the study.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical framework upon which this study was based is elaborated. Further, CBITS as a treatment model purposed to help alleviate the symptoms of posttraumatic stress and foster PTG is described. The chapter also gives an overview of PTSD and PTG. Finally, the conceptual framework describing how the various variables addressed in the study interacted is explained.

2.2 Theoretical Framework

This study anchored its argument on two major theories that describe the process of growth following adversity. The two theories are functional descriptive model of PTG (Tedeschi & Calhoun, 1995, 2004); and organismic valuing process theory (OVP) (Joseph, 2009). Both theories propose that traumatic experiences are capable of challenging the assumptive world of an individual, and this may lead to dissonance or incongruence between the worldview before trauma (pre-trauma) and after trauma (post-trauma) (Tedeschi & Calhoun, 2004). According to Joseph (2009), it is this dissonance that would motivate an individual who has undergone a traumatic experience to seek a solution and endeavor to rebuild the assumptive world into a world that has meaning to them.

2.2.1 Organismic valuing process (OVP) theory

The OVP theory proposes that individuals are innately wired to recognize what is important for them and what would make them fulfilled (Joseph & Linley, 2005). It was on this basis that this study expected that the adolescents who have gone through traumatic experiences would recognize that it is important for them to function well despite the traumatic experiences. This aspect of fulfillment has been
found to be similar to Maslow’s (1943) self-actualization process where persons seek until they find what brings them the most fulfillment in their lives (Joseph & Linley, 2005; Maslow, 1943).

In Carl Rogers’ theory of personality, OVP is described as the process by which individuals measure their own experiences as they view them subjectively (Rogers, 1964). Individuals often do this to help themselves determine the effect that their experiences may have on how they improve themselves. Further, the need for self-actualization is the underlying motivation that drives our behavior, since we always strive to be better versions of ourselves. This tendency to be the best version of ourselves motivates us toward self-actualization, though it is the OVP that guides this actualizing tendency.

The OVP theory proposes that each individual has an inborn ability to identify that which is important or of value to them and brings them the most fulfillment (Joseph & Linley, 2005). The central tenet of this theory is anchored on the premise that individuals have an inborn motivation to move at all times towards a direction of improvement that is positive. It also incorporates the person-centered theory that supports positive psychology (Joseph, 2009). Relating this to trauma, this theory proposes that when trauma leads to a breakdown of existing assumptions of self and the world, people have an innate ability to build a new assumptive world to replace the shattered one, when they incorporate the new trauma-related information (Payne, Joseph, & Tudway, 2007).

Interestingly, the OVP theory conceptualizes trauma as a falsehood that can be corrected by individuals’ inborn ability to seek growth and recognize the direction that would bring fulfilment and wellbeing to them (Joseph & Linley, 2005). This theory further posits that after exposure to a traumatic event, the cognitive-emotional
processing that occurs is likely to lead to any of three possible outcomes, namely assimilation, positive accommodation, and negative accommodation (Joseph & Linley, 2005).

The intervention that was applied in this study, known as CBITS, facilitated the cognitive-emotional processing that could have been responsible for the alleviation of the PTSD symptoms observed. The theory further illustrates how the OVP automatically results in the positive changes being actualized in psychological wellbeing. The positive change is achieved when the trauma-related information is positively accommodated, which cannot happen without support from the social environment. The intervention was also meant to act as one of the supportive social environments with the expected outcome of PTG.

According to Joseph (2009), all individuals have an assumptive world in which they operate and conduct their daily functioning. When a traumatic event occurs, the individual is forced to process the trauma that they have experienced because of the discomfort it brings if left unprocessed. This then triggers posttraumatic processing of the traumatic event, leading an individual to develop assumptions about the event. The new information may be processed either to confirm, or disregard existing assumptions.

Zwiercan and Joseph (2018) opined that after the pre-trauma assumptions of an individual are shattered - during the process of ‘working through’, the individual alternates between phases of intrusion and avoidance. In the instance that the existing assumptions such as ‘the world is not a safe place’ are confirmed, no growth is registered by the individual. However, according to Payne et al. (2007), when the assumptions are disregarded, individuals may either assimilate or accommodate the novel trauma-related information to fit within the views they hold of the world. It is
this process of assimilation and accommodation that dictates the psychological outcome of psychological trauma. When assimilation occurs, trauma-related information is perceived to be consistent with what the client believed before the trauma or the pre-existing beliefs about the self and the world (Payne et al., 2007). In case individuals assimilate their experience into what they believed before about the world such as ‘bad things happen’, they have a chance of recovering from trauma where they return to pre-trauma levels of wellbeing. In this case, the individuals do not grow psychologically and therefore remain vulnerable to future stressors (Jayawickreme & Blackie, 2014).

On the other hand, in the case of accommodation, the trauma-related information is not consistent with what the clients believed before about self and the world, leading them to revise their assumptions to include the trauma-related information. Accommodation can either be negative or positive. If individuals accommodate the trauma-related information negatively, with perceptions such as ‘there will always be bad things happening, and we have no control over them neither can we prevent them’, they would develop depression and PTSD due to the hopelessness they experience (Jayawickreme & Blackie, 2014).

Contrastingly, in the instance that the trauma-related information is accommodated positively, there is a likelihood of experiencing psychological growth after going through adversity. The positive accommodation is proposed to lead to adjustment of an individual’s pre-trauma belief about self and the world with perceptions such as ‘life is unpredictable, so it should be lived to the fullest’ (Jayawickreme & Blackie, 2014). As the individuals positively accommodate the new trauma-related experience leading to aligning of self with experience, the symptoms of intrusion and avoidance reduce significantly. Moreover, there occurs a shift in a
person’s assumptive world, which signifies the intrinsic drive to move towards PTG (Joseph & Linley, 2005).

Following these arguments, the implied role of psychotherapy - such as CBITs that was applied in this study in fostering PTG - may lie in an intervention’s ability to promote positive accommodation by improving the autonomy and competency of the client. Furthermore, group-based therapies such as CBITs have been noted to enhance social support (Jaycox, 2004), as they fulfil the need for affiliation and supportive social environments proposed as key factors in fostering PTG (Jayawickreme & Blackie, 2014). This could explain some of the PTG recorded in the study.

In support of the argument for a supportive environment, positive results were reported in a study carried out in the United Kingdom among para-triathletes. The study examined the applicability of the key components of OVP theory of growth through adversity. The focus was on 14 elite para-triathletes with acquired disability (Hammer et al., 2017). The study participants study reported that their PTG was most likely facilitated by the processes of identity development, social competence, and empowerment. Hammer et al. (2017) identified several themes congruent with the major tenets of OVP theory of growth, and suggested that when individuals are encouraged to perceive that they are competent, autonomous, and socially connected, they are likely to experience PTG.

Another study by Zwiercan and Joseph (2018) examined the role of organismic valuing in PTG, and found out that through focusing, individuals with PTSD taken through this intervention displayed decreased levels of PTSD and increased level of PTG. One more study carried out in Kenya by Asatsa et al. (2018) explored the positive outcomes of trauma among the survivors of the Garissa
University terrorist attack, and how counseling could impact PTG. The findings of the study were such that those who attended 5-10 sessions registered the highest PTG scores in all the five domains. However, the PTG scores kept reducing for those who attended more than 10 sessions (Asatsa et al., 2018). The domain that registered the highest growth was spiritual change, followed by the domain that assessed how the relationship with others had changed. Next was the domain assessing the ability to identify new possibilities, then the one assessing increased personal strength, and lastly, the one measuring the improvement in appreciation of life (Asatsa et al., 2018). The study further revealed that the lowest growth was registered by individuals who only attended the critical incidence debriefing, that is, those who did not participate in any other counseling sessions (Asatsa et al., 2018).

The evidence from the studies above confirms that psychological therapy can actually promote PTG among individuals who have gone through adversities in life. As an intervention to alleviate symptoms of PTSD among adolescents, CBITS has several components that this study projected would encourage perceptions of competence, autonomy, and social connection among the participants in the study. These components that include combating negative thoughts, learning new coping strategies, and problem-solving skills were predicted to make the participants feel more competent and autonomous. The other aspect of CBITS that the study hoped would enhance the social connections of the participants is the fact that it (CBITS) is carried out in a group setting. It was expected that the participants would feel connected socially because they would share their experiences and perform activities together, giving them a feeling of not being alone in their struggles and pain.

Figure 2.1 illustrates the OVP theory.

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2.2.2 Functional descriptive model of posttraumatic growth

The functional descriptive model of PTG postulates that sometimes when individuals experience a traumatic event, they go through positive psychological growth in five main domains of their lives. The five domains, as already mentioned,
include the possibility of the individual gaining a new appreciation of life and acquiring personal strength. Additionally, the individuals may experience spiritual growth, develop the ability to see new possibilities, and experience an improvement in the relationships they have (Tedeschi & Calhoun, 2004). This study purported that some of the adolescents who have gone through traumatic events may experience some positive psychological changes in their lives that they did not have before the traumatic event.

Tedeschi and Calhoun (1995; 2004) were of the view that the functional descriptive model of PTG claims that after going through a traumatic event, some individuals may experience positive psychological growth in several domains in their lives. The growth process known as PTG is described as an outcome variable and is believed to begin when individuals experience a traumatic event that shakes and challenges them in several ways. Such an event causes emotional distress and changes the fundamental schemas or worldviews, beliefs, and goals of the individual - in consequence, changing the narrative of the individual’s life. This emotional distress often triggers recurrent rumination that leads the individuals to seek behaviors such as writing, talking, and praying, in an effort to relieve themselves from the distress.

Consequently, the initial automatic rumination, whose function is to enable one to develop coping skills and relieve distress, changes to a different way of thinking. This change is exhibited as more intentional and deliberate thinking about the traumatic experience and how it may affect one’s life (Zoellner & Maercker, 2006). It is this deliberate rumination, often described as a cognitive process of the trauma, that is assumed to trigger personal growth as one seeks to make meaning and find new meaning after the traumatic event. Such growth occurs by engaging more in the deliberate rumination -leading to a change in the schema of the individual and the
development of a new narrative. In this model, the factors that relate positively to PTG are cognitive processing, self-disclosing, emotional coping, and seeking support, which are all components of CBITS. The theory advances that when individuals cognitively process the traumatic event, they develop emotional coping techniques by engaging in self-disclosure. They also stand a better chance of developing PTG if they have a good social support.

This approach to PTG was supported by Ramos et al. (2016), in their observation that some authors indicated that deliberate thinking is associated with PTG. The functional descriptive model of PTG describes PTG as a multidimensional construct, which includes changes in the identity, beliefs, goals, and behaviors of individuals. The model further demonstrated that an individual develops a new life narrative and wisdom (Zoellner & Maercker, 2006). It was therefore presumed from this approach that the internal changes encourage behavior change that consequently serves to maintain the perceived positive changes (Tedeschi, Calhoun, & Cann, 2007).

According to Zoellner and Maercker (2006), the functional descriptive model of PTG proposes the distal factors that predict PTG to be self-disclosure, pre-trauma characteristics, beliefs, goals, and fundamental schemas of an individual. Additionally, the proximal factors that may promote PTG include enduring distress, rumination, narrative development, and more deliberate schema change. However, most of the predictors except for enduring stress would be difficult to operationalize concretely; hence making it difficult to empirically test this model (Zoellner & Maercker, 2006). Accordingly, for this study, the functional descriptive model of PTG was deemed suitable as a frame model that guides the research questions such as predictors and the process of PTG.
In relation to the functional descriptive model of growth, CBITS as an intervention modality is presumed to enhance PTG by helping the participants to deliberately change their schema through deliberate rumination. This kind of rumination occurs through psychoeducation about the trauma, imaginal exposure to the trauma, combating negative thoughts, and exposure to trauma memory. Such constitutes cognitive processing, whereas the sharing in the group encourages self-disclosure.

Cognitive behavioral interventions for trauma in schools (CBITS) also teaches the participants new adaptive coping strategies that are emotional coping. At the same time, the group set-up offers the support that these individuals need for PTG to occur. The growth would be manifested in positive changes seen in the five growth domains of the individuals’ lives, which are an individual’s ability to see new possibilities, appreciating life more, improved relationships with others, increased personal strength, and a change in one’s spiritual life (Werdel & Wicks, 2012).

The functional descriptive model of PTG is represented in Figure 2.2.
To illustrate the model of PTG (shown in Figure 2.2) with an example, let us consider an adolescent living in an informal settlement who gets to witness a scenario...
where his father physically assaults his mother, resulting in her hospitalization. Prior to this event, the adolescent had possibly held the assumption that his world or environment is secure and safe, in a loving family. These assumptions are likely to have been reinforced over time, making the adolescent believe that he understands his world from which he can derive certain meaning. The traumatic experience would make such an adolescent start questioning how adequate his schemas are, as well as how safe and secure his world is. Such a situation would lead to negative assumptions, replacing the positive ones; and recurrent involuntary thinking about the attack. The adolescent would initially feel anxious, and then later on the anxiety would diminish.

In this case, the adolescent would eventually start talking about the incident with other people, and as time passes, he would neither recover his pre-existing assumption, nor accept the possible new assumptions. He would, instead, learn a new way of approaching his emotions and engaging the thoughts of the attack at only appropriate times in a bid to help himself confront the trauma. With support from people in his environment, possibly his peers, his mother, and even the teachers in school, the adolescent would ultimately incorporate the trauma into his daily events, and into new schemas that are more comfortable to manage. He would, after finding meaning in his life, probably start encouraging other adolescents going through the same challenges.

The adolescents who do not take the path of incorporating the trauma into their daily events as well as into new schemas that are manageable would need support in the form of interventions such as the one this study applied. The intervention is intended to gently facilitate the cognitive processing and help the adolescents make meaning of the traumatic event, finally steering them toward PTG.
A significant strength of the two theories discussed here is that they can be universally applied. According to Splevins, Cohen, Bowley, and Joseph (2010), these two theories have been conceptualized and developed based on Western culture. Since culture and self are deemed inseparable according to basic cultural psychology, there is a need to question the universal applicability of the theories of PTG following trauma (Splevins et al., 2010). On reviewing several studies, however, Splevins et al. (2010) affirmed that the two theories retain cultural neutrality even though they both assume that specific core beliefs may result in cultural biases. This neutrality is achieved considering that the general principle of individuals having an assumptive world is incorporated without being specific on the exact nature of assumptions. This gives room for all cultural perspectives, and therefore, worldviews (such as individualistic versus collectivistic), minimizing possible bias of the theories, hence the theories’ strength.

Other than the assumptive world, another construct common between the two theories of PTG is that of universal completion tendency that seems to exist across cultures albeit in different forms. This is rooted in Rogers’ (1951) person-centred theory which submits that all humans are intrinsically motivated toward growth. Studies have found this to be universal in different forms across cultures since it entails autonomy, independence, and socially constructive behavior (Splevins et al., 2010). This would, accordingly, be another strength for the two theories and not pose any challenge to this study since the same values are strived for and would form components of the expected outcome.

The final construct that is deemed necessary for PTG is the fact that the need for cognitive consistency drives humans. Splevins et al. (2010) asserted that during a traumatic event, one experiences cognitive dissonance between the pre and post-
trauma worlds; and the revision of the cognitions through a schematic restructuring that could be one pathway to PTG. Nevertheless, Splevins et al. cautioned that collectivistic cultures, such as where this study will be carried out, may not have a strong need for cognitive consistency as individualistic cultures do. This would be due to the fact that the individualistic cultures are likely to constantly value how they view and define themselves by their private attributes.

Resultantly, this study postulated that individuals who have a collective sense of self might not experience distress from trauma, owing to the cognitive dissonance but from how the trauma affects their ability to maintain their social roles in the community (Jobson & O’Kearney as cited in Splevins et al., 2010). This may present as a weakness in these theories, consequently affecting the CBITS intervention, which heavily relies on cognitive processing of the trauma for the relief of the symptoms. However, the researcher assessed the outcome, and there was no significant discrepancy, and therefore did not need any adjustments. The researcher then discussed the prevalence levels of PTSD by reviewing various studies.

2.3 Prevalence of PTSD

Globally, many studies have identified different types of traumatic events which may result in PTSD. A survey of a large representative community-based sample of 24 countries revealed probable estimates of PTSD for 29 types of traumatic events (Kessler et al., 2014). Some of these traumatic events included sexual relationship violence with a PTSD prevalence of 33%. Additionally, traumatic experiences of an interpersonal network (such as losing a loved one unexpectedly, or having a child with a life-threatening illness) had a PTSD prevalence of 30%. In comparison, interpersonal violence had a prevalence of 12% (Kessler et al., 2014). The individuals exposed to other traumatic events that were life-threatening also had
PTSD prevalence rates of 12%. On the other hand, individuals who participated in organized violence such as combat, witnessing or causing death, were found to have PTSD prevalence rates of 11%. The analysis also found exposure to organized violence such as that experienced by refugees, or by a civilian in a war zone; and being kidnapped to yield a PTSD prevalence of 3% (Kessler et al., 2014).

A world mental health survey by the World Health Organization (WHO) found lower-middle-income and upper-middle-income countries to have a lifetime prevalence of PTSD of 2.1% and 2.3% respectively (Koenen et al., 2017). On analysing 71,083 participants that were drawn from 26 populations, the survey found a cross-national lifetime prevalence of PTSD of 3.9% in the total sample and 5.6% among the population that had been exposed to trauma (Koenen et al. (2017).

The DSM-5, using its criteria, projected a lifetime risk for PTSD among persons aged 75 years in the USA to be 8.7%; and also approximated the 12-month prevalence among the adults at 3.5% (APA, 2013). Similarly, Swain, Pillay, and Kliwer (2017) found the lifetime prevalence of PTSD in North America to be 6-8%. In contrast, other studies - for instance, one by Reeves’s (2017) which indicated that in the USA, 43% of individuals who are 18 years and above had experienced some traumatic event - have revealed higher prevalence rates. In the urban areas, the PTSD prevalence was found to be 30%, with trauma exposure in 19-24-year-olds being estimated at 82.5%. A similar PTSD prevalence of 30% was found among 17-18-year-olds in foster care with their trauma exposure approximated at 80.3%. The same studies noted that 1 out of 10 children aged 0-6 years had seen a shooting or at least a knifing (Reeves, 2017).

Further, in a national comorbidity survey in the USA, diagnostic interview data revealed that of the 5% of adolescents who had PTSD, 1.5% had severe
impairment. Females registered a higher lifetime prevalence of 8.0% compared to males who were at 2.3% (National Institute of Mental Health, 2017). According to Wilson and Joshi (2018), approximately 4% of children and teens in the USA had PTSD, even though only 18% of the paediatricians surveyed felt they had adequate knowledge on PTSD among children. In Central America, a recent study done in Mexico revealed a prevalence of 13% for PTSD and prevalence of potentially traumatic exposure at 77% (Sescosse et al., 2018). This picture shows a disparity in the PTSD prevalence rates and exposure to trauma, with Central America having much higher rates than the USA.

Contrasting these PTSD prevalence levels in Central and North America, the DSM-5 revealed much lower PTSD prevalence rates of 0.5-1.0% in African, Asian, Europe, and Latin American countries (APA, 2013). To explain the disparities that arise in the traumatic events and PTSD prevalence rates, Atwoli et al. (2015) revealed how different surveys across the world by World Mental Health (WMH) have displayed significant differences when describing the prevalence of traumatic events. Mental health surveys in Europe revealed prevalence rates of traumatic events at 54-64% (Atwoli et al., 2015).

Among surveys done in Europe, Northern Ireland had the highest prevalence rate of traumatic events at 60.6%. Spain had the lowest prevalence rate at 54%, while Italy had 56.1% (Atwoli et al., 2015). The same WMH surveys noted similar lifetime prevalence of PTSD - Spain (2.2%), Italy (2.4%), and contrastingly high prevalence in Northern Ireland at 8.8% (Atwoli et al., 2015). According to Swain et al. (2017), the lifetime prevalence of PTSD in Western Europe was estimated to range between 1-2%, a rate relatively lower than the previous studies. Surprisingly, a survey by Baker (2018) in England revealed that 5.1% of women and 3.7% of men had PTSD, while
women between the ages of 16 and 24 years had a prevalence rate of 26%, indicating a significant rise from the surveys done the previous years.

In one study done in Malaysia among 85 school-going adolescents carried out to determine the prevalence of lifetime exposure to traumatic events and its relation to PTSD, 7.1% of the adolescents exhibited symptoms of PTSD (Ghazali, Elklit, Balang, Sultan, & Kana, 2014). In Asia, the WMH survey reported by Atwoli et al. (2015) revealed a prevalence rate of traumatic events of 60% in Japan, almost similar to those in Europe, but a contrastingly lower PTSD prevalence of 1.3%.

Additionally, in Africa, a cross-sectional study undertaken to describe traumatic events and to determine the PTSD levels among high school students in Kenya found a 50% prevalence rate (Ndetei et al., 2007). Another study by Harder et al. (2012), focusing on an informal settlement in Kenya determined the prevalence of PTSD. The study was conducted among school attending youth aged between 6 and 18 years, after a contested presidential election that led to war-like violence. The findings of the study done six months after the violence ended, revealed a much lower prevalence for PTSD of 18% in a study population of 552 (Harder et al., 2012). Further, 3% of the population was found to be having partial PTSD due to high overall scores. During the same study, the UCLA PTSD Reaction Index tool was used and found to have a positive predictive value of 72% in the sample leading to a confirmed PTSD prevalence rate of 12% (Harder et al., 2012).

Furthermore, it was noted that the stated PTSD prevalence estimates of 3-52% were from developed countries (Harder et al., 2012). As well, it was observed that there scarce information on PTSD prevalence rates in developing countries, especially in sub-Saharan Africa where it was established that most youth were exposed to multiple traumatic events (Harder et al., 2012). In yet another study carried out in
Uganda in the same year among Congolese refugees, an overall prevalence of PTSD of 49.4% was established, with 75% of the female refugees meeting the criteria for PTSD (Ssenyonga, Owens, & Olema, 2012). Such high prevalence could be ascribed to the post-conflict situation that these refugees were exposed to, given that they had fled from the war-torn countries where they most probably had been exposed to multiple traumatic experiences.

According to Atwoli et al. (2015), exposure to trauma was found to be higher in countries with low-income in comparison to those with higher income. At the same time, the prevalence rates for PTSD were found to be generally the same across countries. The study, however, revealed higher PTSD prevalence rates in post-conflict settings of different natures (Atwoli et al., 2015). Also, Atwoli et al. noted with concern about how different WMH surveys have reported significant differences when documenting the prevalence of traumatic events from different parts of the world. These surveys have reported higher rates of PTSD among groups of people who work in areas that put them at increased risk of trauma exposure such as persons in the police force, firefighters, and medical personnel who handle emergencies (Atwoli et al., 2015).

Further findings revealed the highest rates of PTSD ranging from 33% to more than 50% among military personnel and among those who had been affected by genocides (such as the 1994 Rwanda Genocide), and survivors of rape (Atwoli et al., 2015). Moreover, according to the APA (2013), African Americans, US Latinos, and American Indians had higher prevalence rates when compared to US non-Latino whites, whereas the Asian-Americans had much lower rates. Atwoli et al. (2015) reported that the South African stress and health survey revealed a lifetime traumatic event prevalence of 78.3%, with a similar lifetime prevalence of PTSD in South
Africa (2.3%). This high prevalence rate was supposedly attributed to increased trauma load and being a female (Atwoli et al., 2015).

Other studies, for example, that by Swain et al. (2017), agreed with Atwoli et al. (2015) as they also found the lifetime prevalence of PTSD to be 2.3% in South Africa (in the general population). Swain et al. also reported an estimated PTSD prevalence rate of 10% for countries where there is long-term exposure to violence. In a South African study based in the rural areas, 8.4% of the participants had PTSD, while 21.7% of children in urban schools and children’s homes were also diagnosed with PTSD (Swain et al., 2017). In yet another study carried out in Cape Town (South Africa), and Nairobi Schools (Kenya) involving 2041 girls and boys, 22.2% of the participants were found to have PTSD, with no differences in prevalence between the genders (Swain et al., 2017).

To document the types and forms of traumatic events experienced during the 2007/2008 post-election violence in Kenya, a study was carried out at Maai Mahiu among 139 purposively sampled respondents who had been displaced through the said violence (Musau, Munene, & Khasakhala, 2017). The study found PTSD prevalence to be relatively high at 62.1%. Still, another study carried out in Kenya among 232 adolescents who had a history of abuse and lived in charitable children’s institutions, revealed a PTSD prevalence of 21.6% (Nyagwencha, Munene, James, Mewes, & Barke, 2018). The prevalence of PTSD among adolescents in urban settlements has therefore been confirmed by several studies to be approximately 21%.

However, this variation noted in the lifetime PTSD prevalence and the prevalence of traumatic events is postulated to be related to the cultural, political, and historical factors associated with those regions. A good example is the high prevalence rates in South Africa that could be credited to prolonged discrimination,
political violence, and rising rates of crime (Atwoli et al., 2015). This is a narrative that can be regarded as a common thread in most African countries.

The notable difference between the lifetime prevalence rates given by the WMH surveys and previous surveys could be linked to the methodology applied. ‘Worst event’ surveys have yielded higher prevalence rates compared to WMH surveys that apply randomly selected traumatic events (Atwoli et al., 2015). From the literature reviewed, it is evident that most studies carried out in Africa have been done within at-risk populations, that is, those populations with relatively high exposure to events that are traumatic. Such populations include persons living in urban informal settlements, and most likely post-conflict populations. This could give an explanation for the high PTSD prevalence rates displayed by the studies undertaken in Africa, as has been reviewed here.

2.4 Factors Associated with PTSD

It is approximated that about 75% of individuals who survive traumatic and victimizing experiences do not develop PTSD (Zoellner & Feeny, 2014); while 25% go on to develop PTSD and other comorbid disorders (Friedman, Resick, & Keane, 2014). This raises the question of what makes an individual predisposed to developing PTSD.

Violent situations and living conditions are potentially traumatic, as indicated in the DSM-5 (APA, 2013). This is likely due to the fact that such conditions often put to risk the lives or integrity of individuals, their family members, friends, or schoolmates, resulting in PTSD. Informal settlements, such as where this study was carried out, are filled with such violent situations and living conditions, that could lead to PTSD.
The DSM-5 outlines symptoms of PTSD which include intrusion, distress on exposure to cues, avoiding stimuli associated with the traumatic event, an alteration in thoughts about the event, a change in arousal, sensitivity, and reactivity to the traumatic event. This was supported by Tedeschi and Calhoun (2004), who asserted that an individual exposed to trauma is likely to exhibit symptoms that are emotional and psychological. The symptoms may include anxiety, depression, guilt, and anger. The individual may also experience behavioral changes such as withdrawal and aggression, not to mention a myriad of physical symptoms, for instance, hyperarousal, muscle tension, fatigue, and gastrointestinal difficulties (Tedeschi & Calhoun, 2004).

While there is abundant literature suggesting that young adolescent girls are more vulnerable to psychological disorders such as anxiety and depression, there seems to be limited urban-focused evidence for the same according to Chant et al. (2017). Several important variables in the mental health of the urban adolescent girl, for example, place of origin, birth order, and quality of life, were suggested to be associated with psychological disorders by a single study from Thailand (Chant et al., 2017). Further, the Thailand study showed that pervasive fear of violence was equally a significant drive of stress among adolescent girls in urban areas and that the deprived urban environment was likely to expose girls and women to greater risks (Chant et al., 2017). The study found such risks to be gender-based, as well as other forms of violence often traumatic and likely to lead to PTSD (Chant et al., 2017).

Correspondingly, APA (2013) indicated that PTSD was more prevalent among the female gender in comparison to the male gender across the lifespan, with the female gender experiencing PTSD longer than their male counterparts. However, since the adolescent population (both male and female) in informal settlements are
exposed to relatively similar stressors, the gender difference while considering the factors related to PTSD, is likely to be statistically insignificant.

In the informal settlements, the frequency by which individuals are exposed to many kinds of traumatic experiences or adversity is often high and of multiple forms (Harder et al., 2012). The events are also of different intensity, and different adolescent girls experience their first adversity at varied ages. A systematic review of experiences indicating multiple forms of victimization (polyvictimization) in children who live in low-and lower-middle-income-countries (LALMIC) and its relation to mental health among other effects was done between 2005 and 2015 (Le, Holton, Romero, & Fisher, 2018). The findings disclosed that the children who had gone through polyvictimization were likely to have increased mental health problems in addition to increased involvement behaviors that were a risk to their health (Le et al., 2018).

An analysis of factors associated with PTSD following a natural disaster among the elderly in Indonesia established that having a chronic illness, public health center utilization, and occupational status before the disaster, were associated with PTSD (Aurizki, Efendi, & Indarwati, 2019). Additionally, a cross-sectional study among Koshe Island survivors in Ethiopia found the female gender, divorce, sustained physical injury, history of mental illness, family history of mental illness, poor social support, and high rates of perceived stress to be associated with PTSD (Asnakew, Shumet, Ginbare, Legas, & Haile, 2019).

Several theories, such as cognitive behavior theories can be applied in explaining the process of PTSD by highlighting how information processing and learning are involved (Kaminer et al., 2005). Following a traumatic event, individuals form a fear network which stores any information about possible sources of threat,
and this fear network often waits for external and internal cues to activate it (Foa et al., as cited in Kaminer et al., 2005). Further, Kaminer et al., (2005) submitted that through classical conditioning, fear responses develop through association with cues that are present during the actual trauma and other cues that are similar to the already present ones.

When assessing the factors associated with PTSD, it is apparent from literature that adolescents living in informal settlements can be identified with a myriad of such factors. The factors were found to include the adolescents’ younger age, lower education, and lower levels of socioeconomic status (SES). Other related factors may include the severity, proximity, and duration of the traumatic life event; and how much the adolescents perceived the event to be of threat to their lives. These factors are true for adolescents in informal settlements because of the nature of the environment they live in. The adolescents in the informal settlements are therefore more likely to be exposed to severe trauma, for prolonged periods of time, and this makes them feel as though their lives are threatened since the events are also often very close to them.

2.5 The Relationship between PTSD and Absenteeism

Researchers have found that children who are exposed to some maltreatment are more likely than their peers to repeat a class and have an irregular attendance (Shonk & Cicchetti, 2001). For example, physical abuse is a form of maltreatment that may lead to PTSD. Additionally, students who have been exposed to trauma were found to have a higher risk of developing social, emotional, and academic problems (Kataoka, Langley, Wong, Baweja, & Stein, 2012).

Additionally, in 2006-7, a study was carried out nationwide in Sri Lanka among randomly selected 1505 school-going children aged 12-17 attending...
government schools to investigate the association between absenteeism from school and exposure to the tsunami or conflict situations. According to the study, previous exposure to a tsunami (OR 2.29 95% CI 1.36 -3.84) was significantly associated with absenteeism (Siriwardhana, et al., 2013).

In support of this literature, some of the behavioral consequences of traumatic stress that were identified by Layne et al. (2014) included attachment difficulties and skipping school. Furthermore, a systematic review that set to examine the school-related outcome of traumatic exposure revealed that youth who had been exposed to trauma were at a significant risk of developing school-related behaviors such as indiscipline, dropout, and failure to attend school (Perfect et al., 2016). It is, therefore evident that adolescents suffering from PTSD are likely to be affected in regard to their school attendance. This is further corroborated by earlier findings by Stein et al. (2003) that indicated an improvement in school attendance, and consequently, academic performance by the end of that school year among the adolescents with PTSD who had been taken through the CBITS intervention.

Studies have additionally confirmed that any traumatic exposure is likely to generate stress reactions in most individuals. Those who go on to develop PTSD often experience clinically significant disturbances in their daily functioning, such as academic and interpersonal interactions (Reeves, 2017). This infers that reaction to traumatic stressors can either be psychopathological (uncommon), or non-psychopathological (common).

Blaustein (2013) observed that trauma in childhood is among some of the most significant and relevant psychosocial factors affecting children’s education in society today. This view is supported by Rossen and Cowan (2013) who asserted that students who are traumatized operate on a survival mode that affects their ability to socialize,
learn, and develop other skill sets necessary for the negotiation of normal life challenges. In addition to this, Reeves (2017) maintained that ACES often result in lower academic achievement, higher rates of suspension, expulsion, and dropouts.

As adults, these individuals are likely to have increased risks of general and mental health challenges, for example, diabetes; heart disease; obesity; liver disease; irresponsible substance use and abuse; depression; and eventually suicide. Additionally, exposure to trauma has been proven to cause prolonged changes in the structure of the brain, including a reduction in the overall size and underdevelopment of the cortex. It also affects the brain function, leading to changes in behavior making - resulting in the individual becoming irritable, excitable, and impulsive (Reeves, 2017).

In terms of education, in addition to the evidence from the above studies, trauma was found to result to a decline in most areas of academic performance (Gahan, 2005; Kruczek & Salsman, 2006), decreased IQ (Kira, Somers, Lewandowski, & Chiodo, 2012), and increased dropout rates (Porsche, Fortuna, Lin, & Alegria, 2011). Other behavioral consequences of traumatic stress, as noted by Layne et al. (2014), include difficulties with attachment, truancy, running away from home, involvement with the juvenile justice and the child welfare systems, substance abuse, self-injury, suicidality, and becoming victims of sexual exploitation.

The impact of trauma can also be viewed from cognitive, behavioral, social, or personal, and mental perspectives. In a study that was done in Chicago by McCoy, Raver, and Sharkey (2015), an assessment of students’ cognitive performance scores showed a statistically significant decline when measured the week following a homicide that occurred in their block even when the event had no connection to the respondent (McCoy et al., 2015). This could be supported by the fact that from a
cognitive perspective, individuals’ exposure to trauma will often result in their (the individuals) academic work getting affected because their memory, organization, concentration, and comprehension are affected. Also affected is their ability to produce work, take part in learning, and focus on classroom tasks and instruction. The language and grasping of cause-and-effect relationships are also impacted negatively.

Behaviorally, these individuals struggle with self-regulation, attention, and emotions - and this leads to their acting out or withdrawing, as well as feeling depressed, and anxious. Socially and personally, an individual who has PTSD has lost trust and may have a challenge regarding developing language and communication skills (Njenga, 2008). Such an individual may also experience difficulty when processing social skills and may not be able to establish a coherent sense of self (Perfect et al., 2016).

Additionally, the mental health consequences of trauma include disorders of infancy and adolescence, anxiety, mood, adjustment, substance use, sleep, and dissociative disorders (Brock & Jimerson, 2004). All these effects of traumatic stress originate from what trauma does to the brain. There is plenty of literature that confirms that the brain’s function and structure of the children and adolescents is adversely affected by the traumatic stress.

Biologically, the National Scientific Council on the Developing Child (NSCDC, 2005) stated that traumatic stress affects the neural circuits, especially of young children and adolescents whose brains are still developing. They hypothesized that sustained activation of the neurobiological mechanisms (the hypothalamus-pituitary-adrenocortical axis, HPA axis), responsible for the stress response can damage the hippocampus (NSCDC, 2005, 2014). The stress response involves sustained levels of cortisol or corticotropin-releasing hormone (CRH), whereas the
hippocampus is the part of brain structure responsible for memory and learning. During a stress reaction, the body responds by activating hormones and neurochemical systems that include adrenaline and cortisol (NSCDC, 2005, 2014).

Adrenaline is the hormone responsible for mobilizing energy stores and altering blood flow to make the body ready to fight, flee, or freeze during a stress reaction (Sapolsky, Romero, & Munck, 2000). Cortisol, on the other hand, aids in mobilizing energy stores too, besides enhancing certain types of memories and activating the immune responses. These hormones need to be regulated to go back to normal levels once the stressor is removed. For this reason, continued elevated levels lead to damage to the brain structure and functions, and this affects the behavior and functions of individuals continuously exposed to traumatic events.

In children, there are three areas of the brain that are adversely affected by early adversity (NSCDC, 2005, 2014). These are the prefrontal cortex (PFC), the thinking centre and is underactivated; the anterior cingulate cortex (ACC), the eotin regulation centre and also underactivated; and the amygdala, the fear centre and is overactivated in these children and adolescents. Considering the adverse effects that trauma imparts on those affected, and with the severity of the effects evidenced more on children and adolescents, it is crucial and urgent to find an effective treatment to mitigate these effects.

2.6 Effectiveness of CBITS in the Treatment of PTSD

Regarding the treatment of trauma, support groups, CBT, prolonged exposure, and eye movement desensitization reprocessing therapy (EMDR) have been empirically proven to reduce trauma symptoms (Bryant et al., 2008; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Foa et al., 2005; Kubany et al., 2004). Prolonged exposure therapy consists of survivors recounting and re-experiencing memories and
emotions related to traumatic events. It has consistently resulted in significant reductions of PTSD and depression, compared to control conditions. However, 20-50% of individuals with PTSD who go through exposure-based cognitive therapies have been found to continue to meet the criteria for PTSD (Dutton, Bermudez, Mata, Majid, & Myers, 2013).

There is growing evidence supporting the use of behavior therapies that are contextual such as behavioral activation (BA), acceptance and commitment therapy (ACT), functional analytical psychotherapy (FAP), and dialectical behavior therapy (DBT). A study done with 18 female participants diagnosed with borderline personality disorder (BPD) and PTSD showed that after one whole year of DBT treatment, the duration of outpatient stays decreased by 65%. Also, inpatient stays decreased by 45%, with a 70% increase in how the participants attended their work and school (Mulick, Landes, & Kanter, 2011).

With regard to biological treatments, “A 2008 (Institute of Medicine) report on PTSD treatments concluded that neither (selective serotonin inhibitors) nor any other drugs could be considered effective for the treatment of PTSD” (Morenatti, 2008, para. 12). Further, more recent studies have found that interventions for trauma such as EMDR, CBT, narrative exposure therapy for children (KIDNET), had similar impacts as the classroom-based interventions (Brown et al., 2017).

Considering the effects of PTSD outlined above, it is crucial to find and apply interventions that will be effective in alleviating symptoms of PTSD. Therefore, with evidence arising to support the application of behavior therapies to alleviate symptoms of PTSD, this study applied CBITS among adolescents with PTSD living in informal settlements. The study also sought to determine if the implementation of CBITS would lead to PTG.
CBITS was originally developed and piloted in a Los Angeles clinic in 1998 from a partnership with community members for recent immigrant students from Latino, Russian, Armenian, and Korean backgrounds by RAND Corporation in collaboration with Los Angeles Unified School District (LAUSD), and the University of California in Los Angeles (UCLA). The intervention was designed to be administered by psychologists, social workers, and psychiatrists among 10-15-year-old school-going children in the above communities. This intervention could also be used by school counselors who have mental health experience.

The CBITS manual has since been updated based on the feedback from the social workers, parents, and students who were involved in the pilot study (Jaycox, 2004). CBITS has been modified in the past to be used specifically with immigrants under the name Mental Health for Immigrants Program (MHIP) (Kataoka et al., 2012). It was also modified by the original researchers into Support for Students Exposed to Stress (SSET) (Jaycox et al., 2009). The intervention has been found to be flexible in terms of implementation since it addresses several barriers, such as stigma, language, and even transportation, that may exist within communities (NCTSN, 2012). This is because it is offered in schools where children are exposed to uniform treatment in several areas, and they do not have to worry about transportation to the location of therapy, or the fact that others will see them seeking help for mental health problems.

Further, CBITS was designed to teach six behavioral techniques. That is, psychoeducation - how people are likely to react to trauma and skills to help one relax during exposure or memories of trauma or simply relaxation skills training; cognitive therapy - negative thoughts and beliefs are challenged and restructured; real-life exposure - the participant is encouraged to practice the coping skills learned; trauma

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exposure - the participant is taken through imagination; and social problem-solving skills (Jaycox, 2004). Psychoeducation has been perceived to help individuals understand what the normal and the abnormal reactions to stressful situations are so that they can be empowered to manage the trauma better (van Niekerk & Roets, 2017).

Consequently, the psychoeducation component of CBITS would offer empowering training of groups to promote individuals’ awareness and proactivity in managing their environment. Moreover, psychoeducation is meant to equip the adolescents with tools for not only managing, but also for coping, and living with a chronic traumatic condition, if they are to continue living within the same environment facing the same exposure (Yadav & Kumar, 2014). Psychoeducation will also help in destigmatizing the symptoms that accompany traumatic stress such as anger, grief, and anxiety (Jaycox, 2004).

According to Jaycox (2004), CBITS is hence appropriate in the reduction of PTSD symptoms for adolescents presenting with the symptoms at moderate to severe levels - represented as scores of 21-40 and 41-60 respectively in the scale of CPSS-SR-5 (Jaycox, 2004). The CBITS protocol provides for the participants with PTSD scores of 41-60 - indicating severe PTSD. These individuals who are diagnosed with severe PTSD will still benefit from the group sessions of CBITS but may need one to three sessions of individual therapy running concurrently with the group sessions. This is an integral feature of this treatment protocol since it caters for severe cases, and only advocates for referral of PTSD scores that are above 60 (Jaycox, 2004).

However, in this study, the adolescents with scores of 41-60 were not exposed to individual therapy so as to avoid a situation where they would have skewed outcome in comparison to other participants. This was undertaken so that all the
participants were exposed to the same treatment during the study. At the end of the study, those whose scores were still higher than 41 on the CPSS-SR-5 were taken through individual sessions as per the CBITS manual.

Depressive and general anxiety symptoms are the symptoms usually targeted by CBITS, for it is these two conditions (depression and general anxiety) that are often underneath the PTSD symptoms. The specific PTSD symptoms targeted by this intervention are the re-experiencing in the form of nightmares and recurrent thoughts, avoiding the cues, feelings thoughts, and even situations that may remind the individual of the traumatic event. Another symptom of PTSD addressed by CBITS is arousal - which presents in the form of irritability, difficulty in sleeping, hypervigilance, and poor concentration. Jaycox (2004) added that these symptoms may result in problems with everyday functioning; and that PTSD is also often comorbid with depression, substance abuse, and behavioral problems.

Jaycox et al. (2009) advanced that the theoretical rationale of CBITS was that exposure to traumatic events in itself had several negative effects. Such effects include depression, poor performance in school, decreased IQ, reduced grade point average and reading ability, behavioral, and problems in development - even in cases where the adolescents have not developed PTSD. This intervention, therefore, seeks to reduce symptoms of PTSD through cognitive restructuring, acquisition of skills, and social learning. This was postulated to result in improved psychosocial functioning and school attendance. It was also expected that the adolescents would achieve PTG, exhibited through the five domains in their lives.

Cognitive behavioral intervention for trauma in schools is structured in three parts, with 10 group sessions for the adolescents: 1-3 individual sessions for those with severe PTSD, 2 optional sessions of parent education programs, and 1 session of
teacher education program as outlined in Table 2.1. Each session is required to last for 45 to 60 minutes. In this study, however, the individual sessions were not offered in an effort to guard against bias that could have arisen due to some participants getting more individualized attention. The participants who still had severe PTSD at the end of the study were therefore taken through 1 to 3 sessions as per the CBITS manual.

Further, CBITS has been noted to have some advantages over other interventions such as the fact that it is well structured and therefore allows the therapist to set agenda for the session (Jaycox, 2004). The structure includes activities, new skills, opportunity to practice the old skills, and activities assignment. Some of the skills that are learned from CBITS include relaxation skills, cognitive restructuring by combating negative thoughts, addressing fears, developing a trauma narrative, social problem solving, and reducing avoidant coping strategies. Secondly, the therapist is required to collaborate with the client and to act as a ‘coach’ in order to assist the client in developing new skills through didactic representation, so that the client can learn to practice the skills effectively (Jaycox, 2004). In this study, the adolescents were also given age-appropriate examples and introduced to games that were aimed at helping to solidify the concepts learned.

Table 2.1 shows Jaycox’s (2004) child group program.
Table 2.1: Child Group Program

<table>
<thead>
<tr>
<th>SESSION</th>
<th>ACTIVITIES</th>
</tr>
</thead>
</table>
| Group session 1: | Introduction of group members, confidentiality, and group procedures  
  - Explanation of treatment using stories  
  - Discussion of reasons for participation (kinds of stress and trauma) |
| Group Session 2: | Education about common reactions to stress or trauma  
  - Relaxation training to combat anxiety |
| Group Session 3: | Thoughts and feelings (Introduction to cognitive therapy) Fear Thermometer  
  - Linkage between thoughts and feelings  
  - Combating negative thoughts |
| Group Session 4 | Combating negative thoughts |
| Group Session 5: | Avoidance and coping (Introduction to real life exposure)  
  - Construction of fear hierarchy  
  - Alternative coping strategies |
| Group Session 6: | Exposure to stress or trauma memory through imagination/drawing/writing |
| Group Session 7: | Exposure to stress or trauma memory through imagination/drawing/writing |
| Group Session 8: | Introduction to social problem-solving |
| Group Session 9: | Practice with social problem-solving and Hot seat. |
| Group Session 10: | Relapse prevention and graduation ceremony |
| Parent Education Program  
Session 1 | Education about reactions to trauma, how we explain fear, relaxation |
| Session 2: | How we teach children to change their thoughts and actions |
| Teacher Education Program | Education about reactions to trauma, elements of the CBITS program, tips for teaching youth |

Source: Jaycox (2004)

A third advantage that CBITS has over other interventions is that it emphasizes on new techniques during sessions and even between sessions to help consolidate skills learned in the group. This intervention also incorporates both group and individual sessions, in addition to parents and teachers sessions. Finally, this
intervention is short and therefore enables the client to continue practicing on their own even after the intervention is completed (Jaycox, 2004).

The structure of the CBITS manual, therefore, seems to be designed to encourage deliberate rumination, which is a key factor in promoting PTG. According to the PTG model devised by Calhoun and Tedeschi (2006), through the activities, the participants engage in self-disclosure as the therapy group provides social support resulting in deliberate rumination and schema change whose end goal is PTG. On the other hand, Joseph (2009) opined that a process of cognitive processing occurs through the activities, with the participants accommodating new optimistic assumptions - the result being a new assumptive world which is critical for PTG.

The objective of using this model was to support and strengthen the natural resiliency of young adolescents who are continuously under exposure to traumatic events as a result of the nature of their living environment. The manual was designed to provide the children impacted by trauma with information to enhance the sharing of experiences, ideas, and thoughts about the traumatic experiences; and to help them build coping skills. These skills were intended to empower the children to handle life’s adversities, besides improving their self-confidence and self-esteem.

The model has another advantage tied to the fact that it is offered in a school setting. According to a review about responding to students with PTSD in schools, it was reported that school-based services may be important for communities that are less likely to access this type of service, besides enhancing the completion of the intervention (Kataoka et al., 2012). This study was carried out in an informal settlement where the accessibility to mental health care may be a challenge, and therefore the CBITS intervention was purported to be practical in offering solutions to this population.
Since the adolescents in informal settlements are continuously exposed to traumatic events (Atwoli, Stein, Koenen, & McLaughlin, 2015), just treating or reducing PTSD symptoms would not be adequate, hence, the need to equip the adolescents with coping skills to help them manage future traumatic events. A CBITS model would therefore be appropriate for through it the adolescents would gain information about the trauma they are exposed to, why they react the way they do, and how they can cope better.

Cognitive behavior intervention for schools is an evidence-based intervention that uses skills building and early intervention approach and was found to be effective in a randomized controlled study. It was evaluated by the National Registry of Evidence-based Programs and Practices (SAMSHA, 2010; as cited in Little, Akin-Little, & Somerville, 2011), receiving ratings in its outcome of 3.4 out of 4.0 for psychosocial dysfunction, 3.0 out of 4.0 for depression, and 3.1 out of 4.0 for PTSD. The first use of CBITS was in 2000/2001 school year, and it has since been used with different populations to alleviate symptoms of varied traumas (Little, Akin-Little, & Somerville, 2011).

The studies that have been carried out on CBITS were with students from schools located in areas that have a socioeconomic disadvantage. These areas had a population consisting mostly of African American and Latino adolescents. The adolescents had been exposed to different forms of violence that led them to have symptoms of PTSD of clinical levels. One study by Stein et al. (2003) revealed an improvement in school attendance and academic performance by the end of the school year among the adolescents.

As an intervention, CBITS was noted to produce moderate to large effect sizes of -.25 and -.63 on anxiety and posttraumatic stress among adolescents in a study that
was done in San Francisco (Kataoka et al., 2012). The same study revealed moderate to large effect sizes of -0.22 to -1.35 on internalizing and externalizing behaviors among the same population. With the evidence of CBITS programs resulting in statistically significant reduction in PTSD symptoms, functional problems, anxiety, and somatic complaints, it was postulated that after a CBITS intervention with adolescents in an informal settlement, there would be a reduction in PTSD symptoms and an increase in PTG.

Two studies were also carried out to test the effectiveness of CBITS in alleviating PTSD symptoms among adolescents. In the first study, 31% of 879 Spanish-speaking immigrants had PTSD, and only 152 completed the study, and were found to have improved PTSD symptoms compared with 46 participants in the waitlist at the three-month follow-up (Kataoka et al., 2003). In the second study that consisted of 769 children who were 10-12 years old, 21% of the participants exhibited positive symptoms of PTSD. The participants at the end of the study were 126, and they reported reduced PTSD and depression symptoms post-test. The parents also reported reduced behavioral problems post-test (Stein et al., 2003).

Several other programs have been implemented to curb this dire situation of PTSD where mostly girls are empowered and taught life skills. In addition to life skills, the girls are taught topical issues on puberty and sex, changing gender roles and norms, and sports and physical activity. The girls are also educated on how to reduce child marriages, especially in communities where girls are more vulnerable, thus improving mental health and nutrition, and financial education. Some of these programs include ‘Bright Future’ in urban Ethiopia, ‘Girls Awaken’ in urban Burkina Faso, ‘SAFE’ in urban Bangladesh, ‘Parivartan’ in urban India, and lastly ‘AGI-Kenya’ in rural and urban Kenya. AGI-Kenya is an acronym for Adolescent Girls
Initiative in Kenya. Its focus is the training of girls on how to prevent violence, how they can be more healthy, and how they can create wealth to improve the overall wellbeing of adolescent girls in Kibera slums and the marginalized area of Wajir (Chant et al., 2017). These programs, however, do not concentrate on the specific effects of PTSD and may not be effective if the underlying problems such as PTSD, depression, and anxiety are not first addressed.

This study was conducted as a group intervention in groups of 10 to 15 participants without the additional individual sessions offered to the participants with severe symptoms of PTSD. This was done to ensure uniform exposure to the intervention. Furthermore, school-based universal programs have been proposed to potentially serve as effective and significant components of mental health policies, particularly for populations that are continuously exposed to trauma. It is for this reason that a group-based CBITS model to facilitate growth after the traumatic events the adolescents in informal settlements experience was deemed necessary. This would complement the available programs making them more effective and consequently fill the gap that exists in terms of limited interventions for catering for the mental health of the adolescents in the informal settlements.

2.7 Effectiveness of CBITS in Enhancing PTG

To promote PTG, Calhoun and Tedeschi (2006) postulated that therapists should ensure that they discuss trauma and the feelings associated with it. They should also allow the patients to reappraise their trauma experience as they teach them how to regulate their emotions. Finally, the therapists should assist the patient in the adopting of adaptive coping strategies. The protocols designed to promote PTG should thus, be capable of triggering deliberate rumination, enhancing social support, teaching positive reframing, and encouraging the patient to focus on the future.
Coincidentally, the CBITS protocol (Jaycox, 2004) has similar characteristics as those proposed by Tedeschi and Calhoun (2004) to enhance PTG. In the instances where it was applied, CBITS was found to encourage the patients to discuss the trauma and the feelings associated with it, therefore triggering deliberate rumination. The CBITS protocol was also designed to teach the patients how to regulate emotions and reframe their cognitions about the trauma positively. Further, the CBITS program is designed to be carried out in groups and therefore enhances social support even for participants who may not have the social support at home.

Group interventions have been empirically proven to enhance PTG, as seen in a study by Ramos et al. (2016) carried out to facilitate PTG in non-metastatic breast cancer patients. This is because groups can provide the best forum to review cognitive schemas of participants and promote the reconstruction of core beliefs, which happen to be significant predictors of PTG (Ramos et al., 2016).

Further, CBITS also has a program for the parents and the teachers that teach them how they can offer social support to the students who have gone through trauma. The relapse session teaches the participants to focus on the future and ensure that they do not relapse to the effects of traumatic experiences. This was found to be especially essential for adolescents who live in informal settlements since they are constantly bombarded with many risky situations that could lead to traumatic events.

Although there are many studies on the five domains PTG in adults, not much is known about the correlates of these growth domains among children. A study carried out with a general study population of children between the ages of eight and twelve, who had been exposed to adverse life events (N=1290). The aim was to establish whether the children’s demographic or their social characteristics had a relation with their report of their overall PTG and growth in the various specific
domains (Laceulle, Kleber, & Alisic, 2015). The study revealed a relationship between overall PTG and all demographic and social characteristics except time lag. It also found out that high stressor levels were correlated to high PTG in all domains with children who were more religious, experiencing more growth in their spiritual domain (Laceulle et al., 2015). This could be evidence that children experience PTG in more or less similar domains as adults. This is so even though the children’s tool PTGI-C-I gives an overall score since the items were reduced to only 10 from the original 21 that exist in the adults’ tool, the PTGI (Laceulle et al., 2015).

According to Tedeschi and Calhoun (2004), PTG was presumed to be a construct that may be more applicable in adolescents, who were the focus of this study, and adults than in younger children. This argument was because PTG implies that the schemas of individuals change when individuals go through traumatic experiences. Adolescents are going through a period of rapid change and may, therefore find it is easier to change their schemas since they are more open to learning than older people.

After a meta-analytic review of what facilitates PTG, there were at least five important factors associated with adversarial growth (Prati & Pietrantoni, 2009). Among these five factors, the following two were found to be strongly associated with PTG: positive re-appraisal, where one applies a coping style that entails a focus on positive parts or aspects of the occurrence; and religious coping, where individuals turn to religion for support during and after adversity. These other three factors, that is, seeking social support, optimism, and spirituality were, however, found to be only moderately associated with PTG: (Prati & Pietrantoni, 2009).

Even though the PTG studies among adolescents are rare, Taku, Cann, Tedeschi, and Calhoun (2017) did a two-part study to assess the effectiveness of a
psychoeducational intervention in fostering PTG in a non-clinical sample among Japanese adolescents in high school. The researchers hypothesized that to help teenagers make a judgment on whether they experienced growth, there was a need for the teenagers to reflect on their personal experiences, and the psychological changes that people may experience due to their exposure to stressful events (Taku et al., 2017). Since the PTG model indicates that that cognitive processing influences PTG, the researchers argued that there was a need to develop a program that fosters cognitive processing. Their program aimed at assisting the adolescents to learn about the psychological changes that occur when one is exposed to a stressful situation, including PTG, making them aware of the possibility of their growth (Taku et al., 2017).

In the first part, Taku et al.’s (2017) study had a program where the adolescents were taught about the stressors and the reactions that they may have. They were also briefly introduced to possibility PTG. The second part of the study entailed a control group and two experimental groups. The first experimental group expounded on PTG domains and predictors, while the second one concentrated on the negative aspects of PTSD. The control group had sessions where general psychology topics were addressed (Taku et al., 2017).

The results from Taku et al.’s (2017) study confirmed the researchers’ hypothesis: that the students’ participation in the program where they were taught about PTG changed their perceptions, leading to PTG. The students who were taken through the negative effects of PTSD had lower levels of PTG (Taku et al., 2017). This is contrary to the findings in the other studies cited above, where the participants were not taught about the possibility of PTG. This current study, hence, strictly
followed the CBITS manual, which, despite having no mention of PTG, assessed for PTG after the intervention.

Another study was carried out over a weekend by McClatchey and Raven (2017) among youth in a bereavement camp. The study set out to examine what effect the addition of trauma-informed care to existing bereavement interventions would have in fostering PTG among the youth. A total of 52 youth out of the total population of 105 met the criteria to participate in the study. On testing 95% from both groups post-intervention with the experimental group, PTG scores were found to be significantly higher post-test for the experimental group. This led to the conclusion that trauma-informed care is likely to facilitate PTG among bereaved youth (McClatchey & Raven, 2017).

Yet another study was conducted by Marotta-Walters, Choi, and Shaine (2015) to explore the development of a psychosocial pathway that is psychosocial between PTG and posttraumatic stress (PTS) among combat veterans of wars in Iraq and Afghanistan. The results were positive and significant meaning that when the veterans develop psychosocially, it may mediate a process by which they make meaning of the traumatic experiences which may lead to an overall improvement of their wellbeing (Marotta-Walters et al., 2015).

In Kenya, Asatsa et al. (2018) explored the positive outcomes of trauma among the survivors of the Garissa University terrorist attack, and how counseling could impact PTG and confirmed that counseling, on its own, can promote such growth. The findings were such that the participants who attended 5-10 sessions registered the highest PTG scores in all the five domains (Asatsa et al., 2018). This is in agreement with other studies that have been carried out globally. An example is a study carried out by Jeon et al. (2017) with a sample of 10 survivors of a large-scale
maritime disaster that occurred in South Korea. The researchers set out to assess the effectiveness of eye movement desensitization and reprocessing (EMDR) on PTG among the survivors of the disaster. The findings showed that after three months from the time the treatment was concluded, there was increased PTG in all the five domains, confirming that counseling enhances PTG among survivors of traumatic experiences (Jeon et al., 2017).

Similar outcomes were found in a study that was conducted in China by Xu et al. (2016) with a sample of 579 health care workers from Shenzhen. The study examined the effect of positive psychological intervention on PTG among the workers and found the PTGI scores to be significantly higher than those before the intervention (Xu et al., 2016). A recent study in South Africa was carried out among prisoners to assess PTG differences between the prisoners who attended psychotherapy and those who did not. Those who attended psychotherapy were found to have higher PTG in all domains compared to those who did not (Vanhooren, Leijssen, & Dezutter, 2018).

On the other hand, several cross-sectional studies carried out to examine the relationship between PTG and PTSD symptoms did not reveal any systematic relationship (Zoellner & Maercker, 2006). However, such studies revealing an association between PTG and PTSD that is negative were found to have either used self-constructed scales or an interview format to assess PTG. In other studies, such as that conducted in 2009 in China among 2300 Wenchuan earthquake survivors to investigate the relationship between PTG and PTSD, the findings revealed a positive association between PTSD and PTG (Jin et al., 2014). According to the study, 40.1% of the survivors reported PTSD, whereas 51.1% reported PTG (Jin et al., 2014), indicating that PTSD can still exist with or promote the development of PTG. This
emphasizes the proposition that the presence of distress might be essential in the
initiation of the change process and possibly in maintaining the growth.

In Israel, Schechory and Laufer (2017) undertook a study among mothers to
assess the relationship between PTG, PTSD, and the coping strategies the mothers
applied to deal with their exposure to rocket missiles for a prolonged period. The
study found that between PTSD and PTG, there existed a positive correlation. The
relationship between PTSD and PTG was also found to be mediated by problem-
focused coping. Consequently, the study revealed that mothers with higher PTSD
symptoms used more of problem-focused coping, and they had greater PTG
(Schechory & Laufer, 2017).

A longitudinal study by Chen, Zhou, Zeng, and Wu (2015) assessed the
bidirectional relationship between PTG and posttraumatic stress symptoms (PTSS).
The study found that at 12 months after the earthquake, PTG negatively predicted
PTSS at 18 months after the earthquake above and beyond PTSS stability. On the
other hand, PTSS at 12 months after the earthquake could not predict any subsequent
PTG (Chen et al., 2015). Similarly, another study was conducted among refugees in
Liberia to examine the relationship between PTSD, war-related events, PTG,
optimism, and religious commitment (Acquaye, 2017). The study found that
optimistic people had experienced higher growth than those with a pessimistic
disposition. More spiritual individuals also recorded higher growth (Acquaye, 2017).

According to Levine, Laufer, Hamama-Raz, Solomon, and Stein (2008), there
existed an inverted-U curvilinear relationship between PTSD and PTG, assuming that
PTG might be at its highest at moderate PTSD levels. Similarly, a study by Acquaye,
Sivo, and Jones (2018) assessing what moderating effect religious commitment may
have on the relationship between PTSD and PTG, revealed a curvilinear moderating
effect (Acquaye et al., 2018). This implies that those with higher religious commitment levels had lower PTG levels, while those with moderate religious commitment levels had higher PTG levels.

In contrast, however, the independence of PTSD and PTG was confirmed by a study that set out to investigate the role emotional regulation played in 315 adolescents after an earthquake (Zhou & Wu, 2016). The researchers sought to determine the effect of intrusive rumination on PTSD and PTG at different points in time. They found that the mechanisms that influence PTG and PTSD are different and could therefore need to be considered as independent and separate dimensions of psychological experiences that occur after one is exposed to a traumatic event (Zhou & Wu, 2016). Consequently, it is assumed that this independence would allow for the trial of various interventions without the constraint of whether they will influence PTG by first relieving the symptoms of PTSD. The CBITS, being one of such interventions, was therefore applied and its effectiveness on enhancing PTG assessed thereof.

Further, with the evidence that has been presented showing how trauma affects adolescents’ brain development, information processing, school enrollment and performance of adolescents (van Niekerk & Roets, 2017), it would be prudent to deduce that PTG would improve adolescents’ functioning. This is assumed to result from the cognitive processing that would help counter risk factors that would result in social, emotional, and cognitive impairment such as IQ, memory, attention, and language (Perfect et al. as cited in Smith, 2018). Further, the risk factors would also possibly lead to poor academic performance; school-related behaviors, such as indiscipline, dropout and non-attendance; not to mention increased rates of behavioral problems and internalizing symptoms (Smith, 2018).
Posttraumatic growth, on the other hand, has been known to be characterized by growth in five major domains, namely personal strength, experiencing new possibilities, better interpersonal relationships, attaching higher value on life, and spiritual change (Werdel & Wicks, 2012). Evidently, an individual who grows in these five domains will not be one to struggle with school attendance or any other interpersonal problems. However, some studies have shown evidence of improved school attendance after attendance had dropped due to a traumatic event. One such study set out to investigate school performance among adolescents after a shooting incident (Strom, Schultz, Wentzel-Larzen, & Dyb, 2016). The study found that there was a decline in school performance and attendance in the year that the shooting occurred. This improved as the students stayed in school and got the support they needed, signifying possible growth (Strom et al., 2016). The findings also affirmed the importance of having the students who are going through traumatic events stay in school, possibly so that they can get enough social support.

2.8 Conceptual Framework

A conceptual framework can be described as a theoretical structure outlining principles, assumptions, and certain rules that bring together some ideas featured in a broad concept. It could also be viewed as an analytical tool comprising several variations and different contexts. A conceptual framework organizes ideas and helps the researcher to make conceptual distinctions. It is also meant to capture real concepts and explain relationships between the exposure and the outcome, the confounders and the outcome, and how effect modifiers influence the outcome. For this study, the conceptual framework was as depicted in Figure 2.3.
2.9 Discussion

Some studies have demonstrated the potential effectiveness of trauma-informed care in facilitating PTG among youth coping with traumatic events, such as loss (McClatchey & Raven, 2017). The CBITS program has been proven to help adolescents in improving their perceptions and understanding of their personal growth following stressful experiences. The objective of using this model was to support and strengthen the natural resilience of young adolescents continuously exposed to events that are traumatic due to the nature of their living environment (Jaycox, 2004). The implication, therefore, is that knowledge about not only stress reactions or coping, but also about the possibility of PTG can be integrated into the health education (Taku et al., 2017).
Nonetheless, the age of the adolescent at the time of the traumatic event would affect his or her growth after the trauma. Younger adolescents are not able to achieve PTG, the way the older adolescents would. This is because younger adolescents may not be able to gain insight and process the traumatic event in the same manner as their older counterparts. This can be supported by Laceulle et al. (2015) who noted that older children exhibited far less appreciation of life and spiritual change than their younger counterparts even though they cited other studies that postulated that older children experienced higher levels of overall PTG. In addition, they found that children who were from religious backgrounds exhibited more domain-specific growth in the spiritual arena with no significant effect on the other posttraumatic growth domains (Laceulle et al., 2015).

Contrary to this, other authors asserted that no clear findings have been published to assess whether age affects PTG or not (Brooks, Lowe, Graham-Kevan, & Robinson, 2016). Gender, on the other hand, has been found to be associated with PTSD as stated in the DSM-5 that females have a higher risk of developing PTSD than their male counterparts (APA, 2013). Similarly, a study done in Europe determined that women had two to three times higher risk of developing PTSD compared to men (Olff, 2017).

Social support has also been found to influence the process of coping and eventually, how successfully individuals adjust to the traumatic experiences they go through. This makes social support a good predictor of PTG (Ramos & Leal, 2013). CBITS has been suggested to result in improved psychosocial functioning and school attendance (Jaycox, 2004). This is possibly because it is applied in a group setting which enhances social support. Moreover, in this intervention, parents and teachers
are also taught how to support the children through their healing process. Several studies have found social support to be an integral precursor to PTG.

Further, once PTG has been achieved, it is proposed that there will be an increase in school attendance because these students will have a new perspective on their lives and their circumstances. In the experimental group, parents were given handouts as per the manual, and the available parents were taken through the two sessions, while the teachers were taken through one session as per the CBITS manual. In the control group, the researcher controlled for the confounding variables such as social support, religiosity, and other psychological or non-psychological interventions geared towards encouraging or motivating the adolescents. This was achieved by requesting the administration of the school that provided the control group participants not to undertake the indicated activities or hold them off until after the completion of the study.

2.10 Summary

In this chapter, the researcher has explored the theoretical background upon which this study was based and the conceptual framework that describes the relationship between the variables in the study. The literature that describes several concepts of the study has also been discussed. There is evidence of a lot of work being done to find out if PTG can be incorporated into therapeutic interventions for those who have gone through trauma. There are very few studies, however, that have explored the effectiveness of CBITS on PTG. The interest that has been kindled in PTG is so that individuals can be helped to lead more meaningful lives despite their traumatic experiences. In the subsequent chapter, the researcher will explore the study design that was viewed as best suited for this study and the methods that were followed to achieve the results in the study.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the researcher describes the methodology that was applied in the study. The study population, target population, sample size, and the technique that was applied to derive the sample size are also described. Additionally, an outline of the data collection methods and how the data was measured and analyzed is provided. The ethical considerations that the researcher adhered are also described in this chapter, after which a summary of the chapter is given.

3.2 Research Design

A research design can be described as “an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in research procedure” (Kothari, 2004, p. 31). To elaborate this further, a research design is also defined as a collection of procedures and methods a researcher puts together to collect and analyze the measures of the variables outlined in the research problem (Creswell, 2014).

To establish the effectiveness of CBITS in treating PTSD and possibly enhancing PTG among adolescents with PTSD in primary schools in informal settlements in Kajiado County, the researcher employed a quasi-experimental pretest-posttest research design. This design was reckoned as suitable for this study since it allowed the researcher to control the variables. The researcher did not apply full randomization as is the case in quasi-experimental designs (Shadish, Cook, & Campbell, 2002), because the selection of the study location was purposive. The quasi-experimental design allowed the researcher to control how the experimental
group which was assigned the treatment based on an inclusion criterion and not by random assignment (Dinardo, 2008).

Further, the quasi-experimental design enabled the researcher to identify a control group with characteristics similar as possible to the experimental group at baseline. The control group represented what would be the outcome if the CBITS intervention was not implemented. This provided the researcher with the ability to assess whether the intervention had caused a difference in outcome or not between the experimental and control groups (White & Sabarwal, 2014).

3.3 Population

Mugenda (2008) described a population as any group of people, institutions, or objects with characteristics that are common or conform to a given specification. A population was further defined as the largest group of potential participants in a particular study sharing at least one characteristic (Asiamah, Mensah, & Oteng-Abayie, 2017). With reference to this study, the population was described as adolescents aged 10 to 14 years.

Kajiado County, found in the region formerly known as Rift Valley Province, in Kenya has an estimated total population of 687,312, within an area of 21,292.7 km², giving it a population density of 31.38% (KNBS, 2013). The county is located in the borders of Nairobi extending to the Tanzanian border further to the south, and it has three subcounties, namely Kajiado Central, Kajiado South, and Kajiado North. Kajiado North subcounty was the site for this study. The main urban centers in the county are Kitengela, Ongata Rongai, Kiserian, Ngong, Loitokitok, Namanga, Isinya, and Kajiado. The county capital is Kajiado Town though the largest town is Ngong, located in Kajiado North Subcounty.
Ngong and its environs have an estimated population of 107,188 which accounts for approximately 41% of the total urban population in Kajiado County. Kitengela accounts for 23% of Kajiado County’s population, Ongata Rongai 16%, and Kajiado 6%. Of the total population of Kajiado County, 38% live below the poverty line, defined as a monthly consumption of less than KES 3,252 by KNBS; or KES 5,910 as defined by the World Poverty Clock (KNBS, 2013; Ochieng, 2018). Additionally, in a 2015 survey, KNBS reported that 26% of the Kenyan population lives in urban areas. This survey also found that 56% of the urban dwellers reside in informal settlements, thus projecting those living in the informal settlements in Ngong area at approximately 60,000 people (KNBS, 2016). According to a KNBS survey in 2016, there were 16.4 million people living below the poverty line from 16.6 million, a decade earlier when the population was less by 10 million people (KNBS, 2018).

Based on the 2016 Kenya basic education statistical booklet, Kajiado County had 429 public primary schools and 243 private primary schools with an estimated population of 123,122 pupils and 43,926 pupils respectively (Republic of Kenya, Ministry of Education, 2016). Table 3.1 depicts the targeted population, which included the pupils enrolled in primary schools by grade in Kajiado County for grades 5, 6, and 7.

<table>
<thead>
<tr>
<th>Grade</th>
<th>No. of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public Schools</td>
</tr>
<tr>
<td>5</td>
<td>16,501</td>
</tr>
<tr>
<td>6</td>
<td>15,920</td>
</tr>
<tr>
<td>7</td>
<td>14,609</td>
</tr>
<tr>
<td>Total</td>
<td>47,030</td>
</tr>
</tbody>
</table>

3.4 Target Population

Kajiado North subcounty, which was the site for this study is in Kajiado County. Figure 3.1 shows the Kajiado North County assembly wards.

![IEBC Revised Kajiado North County Assembly Wards](image)

**Figure 3.1: IEBC Revised Kajiado North County Assembly Wards**
Source: KNBS (2013)

In Kajiado North Subcounty, the total number of youths aged 10-14 years was approximated to be 14,543 in the urban areas and 14,102 in the rural areas (KNBS, 2016). The researcher chose this subcounty as the study site after noticing the various possibly trauma-related challenges the students in Embulbul were experiencing, having earlier interacted with them while training in the same locality. The location was also chosen due to its proximity and easy accessibility for the researcher.

Kajiado North subcounty has many informal settlements adjacent to the major urban centers. Embulbul and Matasia sub-locations where this study was carried out, are situated approximately 25 and 29 kms respectively from Nairobi City, Kenya.
Even though both areas are located in Kajiado County, they are highly dependent on the surroundings of Karen, which is in Nairobi County. These areas have been described in the Kajiado County 2018-2022 integrated development plan as informal settlements (County Government of Kajiado, 2018). The people residing in the areas either engage in small businesses; work in the businesses around; or work as domestic workers, drivers, and grounds men in homes in the nearby Karen, Vet, Ngong, and Matasia areas. The population in these settlements is dense because of the temporary nature and the fact that residing in the settlements may be more affordable for the inhabitants. The earnings of these workers are often not much and therefore, inadequate in catering for their needs.

The specific group that was studied within this population was adolescents aged 10-14 years, attending Embulbul and Enoomatasiani primary schools in Kajiado, and in grades five to seven. Further, some studies have found that the target population of this study (10-14-year-olds) is often included in interventions of adolescents aged between 10 and 19 years. This generalization in a larger group of older adolescents has been perceived to lead to the failure to identify the needs of the younger adolescents who are often different from the older adolescents (Chant et al., 2017). It is for this reason that this study focused on this target group of 10-14-year olds.

Embulbul Primary School had a population of 1515 students, from pre-primary one to grade eight. Out of this, those in grade five to grade seven were 583 (Embulbul Primary School Records, 2019). Enoomatasiani Primary School, on the other hand, had a population of 830 students from pre-primary one to grade eight, with those in grades five to seven being 360 (Enoomatasiani Primary School Records,
Both schools are owned by the Kenya government. The students in grade eight were excluded from the study due to the fact that they were busy preparing for exams.

The different age levels were included as per the CBITS Intervention as well as to enable the researcher to compare the level of PTSD and PTG after traumatic events based on the ages and the gender of the participants. The researcher worked with the adolescents who in addition to giving assent, their parents or caregivers also gave consent, since they were below 18 years old. The total target population from which the researcher drew a sampling frame was therefore 943 (360+583).

3.5 Sample Size

A sample can be described as a subset or a portion of a population that is deemed representative of a general or entire population (Etikan, Musa, & Alkassim, 2016; Wimmer & Dominic, 1991). The scientific procedure that was used to determine an ideal sample size for this study was based on the requirements for quasi-experimental research. The study only included adolescents aged 10-14 years who were in classes five to seven in Embulbul and Enoomatasiani primary schools. Only the pupils who met the criteria for PTSD with mild, moderate, and severe symptoms - indicated at 31-60, were included in the study.

The recommended sample size appropriate for social research is 10-30% of the population (Mugenda, 2008; Fraenkel & Wallen, 2000). Even though the global estimate of the prevalence of PTSD among adolescent girls living in informal settlements is estimated at 52% (Karsberg & Elklit, 2012; Scheeringa, Zeanah, & Cohen, 2010), this researcher did not consider the prevalence in the study since it is relatively high. This is in comparison to a study that was done in an informal settlement in Kenya by Harder et al. (2012) to determine the prevalence of PTSD. The target population for Harder et al.’s study was school-going youth between the ages of
6 and 18 years and the findings showed that 18% of the study population of 552 had PTSD, while 3% had partial symptoms of PTSD, as they displayed high overall scores (Harder et al., 2012). The UCLA PTSD Reaction Index tool that was used had a positive predictive value of 72% in the sample, leading to a confirmed PTSD prevalence of 12% (Harder et al., 2012). This current study, accordingly, considered this prevalence rate in the calculation of the sample size. The calculated sample size for this study was found to be 176 after applying a method according to Chow, Shao, and Wang (2003), as shown below:

Sample size calculation \( n = \frac{2(Z_{1-\alpha} + Z_{\beta})^2 P_{av}(1-P_{av})}{(P_1 - P_2)^2} \)

\( P_1 = \) Prevalence of PTSD in informal settlements is 12%

\( P_2 = \) Estimated prevalence post intervention is 4%

\( P_{av} = \) Mean of \( P_1 \) and \( P_2 \) and is represented by 8% (0.08)

\( Z_{\beta} = \) The power 80% will be used for the study (0.8)

\( Z = \) Z statistic representing 95% level of confidence (1.96)

\( d = \) desired level of precision set to 8% (0.08) is represented by \( P_1 - P_2 \).

\[ n = \frac{2 \times (1.96 + 0.8)^2 \times 0.08(1-0.08)}{(0.08)^2} = 1.121 \times 0.0064 = 175.156 = 176 \]

The minimum sample size for this study was 176, but the researcher added 20% (36) of the sample size to cater for attrition, that is; the participants who may drop out of the study prematurely. The study was carried out with a sample size of 212 participants. This was then divided into two halves with control and experimental groups, each having a sample size of 106 participants.

3.6 Sampling Techniques

Sampling is a process that involves the selection of a statistically representative sample of participants from the population of interest (Majid, 2018;
Mugenda & Mugenda, 2003). This study applied purposive sampling to select the location of the study that is Kajiado North subcounty, since the subcounty has the highest population of 306,596 (KNBS, 2019) in Kajiado County, and would provide a good base to find a reasonable prevalence of PTSD. Further, out of 83 primary schools, two public primary schools located near towns and therefore likely to serve the children residing in the nearby informal settlements were purposively selected. Purposive sampling is a sampling technique that involves making a deliberate selection of specific participants who would be representative of the general population of the study (Kothari, 2004).

Purposive sampling has also been defined as the deliberate choice of respondents based on the specific relevant qualities they possess. This implies that by virtue of knowledge or experience, the researcher decides what needs to be known and sets out to find participants who can and are willing to provide the relevant information (Etikan et al., 2016). Purposive sampling made it possible for the researcher in this study to administer treatment to the participants who had posttraumatic stress disorder.

Since this was a quasi-experimental research design, the researcher applied various approaches to sampling, starting with a purposive sampling to choose two sites with populations that are predisposed to traumatic events. The two sites identified were Embulbul and Enoomatasiani primary schools, considering that the children who attend these schools reside in the nearby informal settlements as confirmed by their responses to the question “where do you live?” in the SDQ. Being a quasi-experimental study, this study had an experimental and control group. To get the location of the control and experimental groups, the researcher randomly sampled the two primary schools, Enoomatasiani primary School and Embulbul Primary
School in North-Kajiado Subcounty. Students from both schools are day scholars and live in the informal settlements around with similar demographics that include variables such as low socioeconomic status and high population density.

The adolescents in grades five to seven were then screened using the CPSS-SR-5, in order to exclude from the study, those below 10 years and those above 14 years, as well as those who did not meet the criteria for PTSD. The researcher then stratified the population according to gender and then according to age groups of 10, 11, 12, 13, and 14 years, and finally applied simple random sampling to achieve the final sample. The simple random sampling was done by taking turns picking every second name from each category until the desired number of 106 was achieved from each of the schools. The researcher then tossed a coin to determine which school would be the experimental and which would be the control group. This led to Embulbul Primary School being the experimental group, and Enoomatasiani Primary School being the control. The experimental group received the intervention, whereas the control group was waitlisted to receive an intervention after the study was completed. The control group was taken through four weekly sessions of psychoeducation after the study was completed.

The inclusion criteria entailed signing an assent form and having a caregiver sign a consent form. Additionally, the participant had to be in classes 5 to 7, and 10 to 14 years old with PTSD scores of 31 and above on the CPSS-SR-5 scale. The exclusion criteria entailed being below 10 years or above 14 years, and being either below grade five or above grade eight. A participant who abandoned more than two sessions would also be excluded from the study.
3.7 Data Collection Instruments

The study used a standardized sociodemographic questionnaire (SDQ), the CPSS-SR-5, the multidimensional scale of perceived social support (MSPSS), and the PTG inventory for children revised (PTGI-C-R) as its research instruments.

The SDQ was developed by the researcher to obtain information from the participants about their age, level of education, school attendance, and religion. It was also used to obtain further information on the primary language the participants spoke, their village of residence, and their family set-up. On the family set-up, the participants were asked to state if they live with both parents, single parent, divorced, separated, or with a guardian. Finally, the SDQ was applied to assess if the participants had witnessed or experienced violence in school, home or elsewhere, and the frequency of witnessing or experiencing the violence.

The SDQ was administered face-to-face, and it presented the advantage of enabling the researcher to reach large numbers of adolescents in a relatively easy manner and in a more economical way. It also enabled the obtaining of answers that were quantifiable, relatively easy to analyze, and that could be generalized.

The CPSS-SR-5 was subsequently applied to screen, diagnose, and assess the severity of PTSD among the participants. The CPSS-SR-5 questionnaire is a modified version of the Child PTSD Symptom Scale self-report (CPSS-SR) that was developed by Foa, Johnson, Feeny, and Treadwell (2001). The CPSS-SR instrument, which was based on DSM-IV was designed to measure the severity of PTSD and functional impairment among children and adolescents aged between 8 and 18 years (Stewart, Ebesutani, Drescher, & Young, 2015). To cater for the need for an efficient and valid measure of PTSD symptoms according to the DSM-5, the CPSS-SR-5 was developed as a modified version of the CPSS-SR (Foa, Asnaani, Zang, Capaldi, & Yeh, 2018).
The 20 PTSD symptom items on the questionnaire are rated on a 5-point scale measuring frequency and severity, with ‘0’ indicating ‘not at all’ to ‘4’ indicating ‘6 or more times a week’. In addition to this, there are 7 functioning items rated on ‘yes’ or ‘no’. To calculate the total score of symptom severity, the 20 symptom items are used with scores of 0 to 10 - indicating minimal PTSD; 11 to 20 - mild PTSD; 21 to 40 - moderate PTSD; 41 to 60 - severe PTSD; and 61 to 80 - very severe PTSD. This study comprised only participants with scores of 31 to 60 - indicating moderate to severe PTSD. Even though the 7 functioning items rated on ‘yes’ or ‘no’ were answered by the participants, they were not applied during the quantitative analyses of the data. This was due to the fact that the study only used the 20 symptom items to determine the severity of PTSD.

The researcher evaluated the validity of the CPSS-SR-5 tool by computing the bi-variate correlation between the individual questions that make up the CPSS-SR-5 scores. The significance value in each case was found to be less than the critical value of 0.05 (that is, p-value<0.05), implying that all the questions in the tool were valid. To test the reliability of the CPSS-SR-5 tool, a reliability test was executed based on the questions that made up the tool, resulting in a Cronbach’s Alpha value of 0.670. This indicated that the tool was reliable and internally consistent. Cronbach Alpha values above 0.5 indicate the reliability of questionnaire tools.

According to past literature, the CPSS-SR-5 was found to have a very good internal consistency for total symptom severity (Cronbach’s alpha=.924), and a good test-retest reliability (r=.800) (Foa et al., 2018). Further, the CPSS-SR-5 demonstrated a convergent validity with CPSS-I-5 (r=.904), and discriminant validity with the multidimensional anxiety scale (MASC) for Children and child depression inventory (CDI) (Foa et al., 2018). To identify probable PTSD diagnosis among children being
assessed, a cut-off score of 31 is recommended. The CPSS-SR-5 is proven as a reliable and valid self-report instrument for diagnosing and assessing the severity of PTSD for children and adolescents between the ages of 8 to 18 years, according to the symptoms outlined in DSM-5.

The multidimensional scale of perceived social support (MSPSS) instrument was additionally administered to assess the level of social support each participant perceived to have from their family, their friends, and significant others in their lives. The MSPSS, developed by Zimet, Dahlem, Zimet, and Farley (1988), is a 12-item self-report instrument rated on a five-point Likert-type scale. The assessment of social support is essential since this kind is considered a determining factor in PTG (Sescosse et al., 2018). MSPSS has three sub-scales, namely family, friends, and significant others.

The researcher also evaluated the validity of the MSPSS tool by computing the bi-variate correlation between the individual questions that make up the MSPSS score. The significance value in each case was found to be less than the critical value of 0.05 (that is, p-value<0.05), implying that all the questions in the tool were valid. To test the reliability of the MSPSS tool, a reliability test was executed based on the questions that made up the MSPSS tool, resulting to a Cronbach’s Alpha value of 0.713, indicating that the tool was reliable and internally consistent.

The MSPSS has been tested in different populations and has been found reliable and valid as an instrument (Wongpakaran, Wongpakaran, & Ruktrakul, 2011). Further, each item in this tool has a rating of a 7-point scale (1=disagree very strongly, 7=agree very strongly), with a Cronbach's $\alpha$ of 0.92 to 0.94 in clinical samples and 0.81 to 0.98 in non-clinical samples (Clara, Cox, Enns, Murray, & Torgrude, 2003; Zimet et al., 1988).
The researcher also administered the PTG inventory for children revised (PTGI-C-R) to assess the outcome of the intervention. The PTGI-C-R is a 10-item questionnaire that was designed to test the five domains of PTG. The language and the response styles in this tool were adjusted to suit the pre-adolescent and adolescents (Kilmer et al., 2009). The PTGI-C-R was adapted from PTGI-C by being revised, shortened, and simplified for easy administration (Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Kilmer et al., 2009). This culminated in the PTGI-C-R that comprises two open-ended items and 10 items that assess the five PTG domains on a 4-point scale. The simplified format and content, not to mention the language, addresses the challenges that may arise because of the developmental stage of the children (Kilmer et al., 2009).

The researcher further evaluated the validity of the PTGI-C-R tool by computing the bi-variate correlation between the individual questions that make up the scores. As the significance value in each case 0.000 was less than the critical value of 0.05 (that is, p-value <0.05), this implied that all the questions in the tool were valid. To test the reliability of the PTGI-C-R tool, a reliability test was executed based on the questions that make up the tool, resulting to a Cronbach’s Alpha value of 0.728 indicating that the tool is reliable with a sound internal consistency. This confirmed that the set of items in the assessment tool are closely related.

In a study that set out to investigate psychometric properties of the revised PTGI-C-R (Chinese version) among 3256 adolescents in Chengdu, China, the instrument showed good reliability with Cronbach's alpha of α=.86 and composite reliability of 0.87 (Lau et al., 2013). The PTGI-C-R was found to be negatively correlated with depression (r=-0.21), and positively correlated with resilience, friendship, social support, family, and perceived importance of health (r ranged from
0.34 to 0.40). The findings in the study therefore support the idea that the PTGI-C-R is a valid and a reliable measure of PTG.

Types of data

The researcher collected both primary and secondary data. All the data was quantitative. The primary data was collected using the SDQ, which was designed to obtain information regarding the participants’ religious affiliation, peer support, and family composition. Secondary data was collected from the schools’ records. To determine the participants’ school attendance, the class register was used. Class attendance in this case was understood as being physically present in class and being marked present by the class teacher.

3.8 Data Collection Procedures

Two primary schools: Embulbul and Enoomatasiani, were purposively selected for the study due to their location in informal settlements and the relatively large population of students they had. Additionally, they were both located in Kajiado North subcounty and the pupils had similar sociodemographic characteristics. The total population of the two schools was 2345 from pre-primary to grade eight. The targeted category that is, grades (classes) five to seven had a combined population of 943 pupils as per the schools’ records.

Approvals for this study were sought from Daystar University Ethical Review Board (DU-ERB), Daystar University School of Human and Social Sciences, National Commission for Science, Technology and Innovation (NACOSTI), and the Kajiado County Commissioner. Permission was also sought from the head teachers of Embulbul and Enoomatasiani primary schools.
A special assembly was then called separately in each school where the administration informed the students of the research. Following this, a meeting was organized where the researchers explained to the pupils the details of the research, and then they (the pupils) were given the opportunity to ask questions. The students were then given an introduction letter with consent forms to take home for their parents or guardians to sign.

A total of 698 out of the 943 pupils met the criteria of being 10 to 14 years old, as well as being in grades 5, 6, and 7. The 698 were given assent forms to fill following which they were screened for PTSD using the CPSS-SR-5. The school administrators provided informed consent for the participants since they were all below 18 years. The participants comprised 360 boys (51.6%) and 338 girls (48.4%), and their mean age (N=698) was 12.2 years (SD=1.2).

In the first school, the 390 participants were put in classrooms by streams where 9 groups had 40 participants, while 1 group had 30 participants. The second school with 308 participants had 9 groups of 30 students each and 1 group with 38 students. Five research assistants who had gone through prior training were each assigned two groups to which they were to administer the questionnaire. These assistants were students at Africa International University, Nairobi, in their fourth and final year of undergraduate degree studies in Counseling Psychology.

The research assistants were recruited after being interviewed to assess their basic understanding of cognitive behavior therapy. Five of those who seemed to have a satisfactory understanding of cognitive behavior therapy were each given a CBITS manual, and guided to register for the free 5 hour (carried out in 3 days) online training from www.cbitsprogram.org website consisting of part 1 and part 2. The
researcher who had also undertaken the same training went over the training manual once again with the research assistants before the implementation.

The participants were informed about their autonomy in the research process. This was done to help them understand their right to choose whether to participate in the research or not. The participants were informed of their freedom to withdraw at any point during the course of the research. The research assistants distributed the assent forms and explained to the participants who then signed the assent forms. The research assistants then distributed the CPSS-SR-5 questionnaire to the participants. The questions on the CPSS-SR-5 were then each read out loud to the participants who were then given time to answer each question. This method was adopted to ensure that the participants understood each question, asked for clarification, had enough time to answer the questions, and to ensure that there were no missing values.

Out of the 698 participants who met the criteria for being 10-14 years old in class 5, 6 and 7, only 285 scored 31 and above in the CPSS-SR-5 scale, meeting the final criteria for participating in the study. Through simple random sampling, 212 participants were included in the study, 106 each from the control and the experimental groups. The treatment was done for the 106 participants in the experimental group in assigned rooms on Wednesdays from 3.30 pm to 4.20 pm for ten weeks, after which midline assessment was carried out. The assessment was done after the ten weeks to check for a reduction in symptoms of PTSD by use of CPSS-SR-5, and PTG using the PTGI-C-R, for both the control and the experimental groups. No further intervention was administered to either group until after another 12 weeks.

The endline assessment was administered 12 weeks after the midline assessment to both groups using the CPSS-SR-5, and PTGI-C-R. Out of the 212 participants who were included in the study through sampling, only 194 completed
the study with 95 of the participants being in the experimental group, and 99 in the control group.

At the end of the study, each participant in the experimental group was given a debriefing form to normalize any harm that may have been inflicted during the study. Confidentiality was ensured by the use of codes (in place of individual names) to identify the participants. The researcher kept a confidential file with the names and the codes of the participants. The control group was then taken through four sessions of psychoeducation after the study was completed. This was carried out 12 weeks after endline assessment when schools re-opened after a long holiday.

The participants were taken through four weekly sessions of a psychoeducation program. The program was adopted from Miyagi Disaster Mental Health Care Centre in Miyagi, Japan, and it had four components, namely sharing information one is comfortable to share about the traumatic event, explaining emotional reaction, learning relaxation techniques and writing about their feelings, and sharing with each other (Fukuchi, 2020). The rationale for adopting this psychoeducation module was that it is brief, and it has psychoeducation component similar to that of the CBITS intervention which teaches common reactions to trauma and relaxation skills.

Figure 3.2 is a flowchart representing this study’s data collection procedures.
3.9 Pretesting

Pretesting is a method of checking whether the questions in a questionnaire operate as intended and are clearly understood by the participant from whom a response is being sought (Hilton, 2015). Pretesting provides critical knowledge for academic use while increasing the methodological and social reliability central to
conducting credible research. As put forth by Hurst et al. (2015), pretesting tests the rigor of the instruments so that the researcher can address any limitations or threats to bias and management procedures before the actual research. In this study, pretesting offered an opportunity for the researcher to determine if any items posed problems to the respondents, especially on the SDQ, to avoid carrying any such problems into statistical analyses.

The researcher pretested the SDQ, the CPSS-SR-5, the MSPSS, and the PTGI-C-R. The pretest was carried out with a population sample that had similar demographics with the study population. The pretest site was Kerarapon Primary School, a public primary school in Kajiado North subcounty and attended by students who reside in Kerarapon village and Embulbul areas, which are informal settlements. Even though there is a lack of literature declaring Kerarapon Village an informal settlement, this living environment is characterized by overcrowding, insecurity of tenure, informal housing, poverty, and lack of basic services, as confirmed by the researcher via observation on a preliminary visit to the village. These characteristics were outlined to describe the features of informal settlements (Davis; Nuissl & Heinrichs; UN-Habitat as cited in Simiyu et al., 2019). Additionally, the term ‘informal settlements’ was used interchangeably in this study with the term ‘slums’ which was defined by the UN-Habitat and other organizations as households that lack at least one of several amenities: durable housing or security of tenure, water, sanitation, and sufficient living area (Bird et al., 2017), which is characteristic of Kerarapon village.

The sample size that was applied in the pretest was 10% of the sampling size of 212, giving a sample of 22 participants. This conforms to the pretesting sample size of 12 to 25, as suggested by other authors (Sheatsley, 1983; Sprangers et al., 1998).
Later studies by Perneger, Courvoisier, Hudelson, and Gayet-Ageron (2015) suggested a default pretest sample size of 30 since small samples (5-15 participants) that are commonly applied in pretesting questionnaires may fail to reveal even common problems.

The respondents did not identify any ambiguous language, unclear questions, or unfamiliar words that may have needed correction by the researcher before commencing the official research. Out of the 22 questionnaires issued, 2 were spoilt, and 5 respondents in grades 5, 6, and 7 had scores of 31 and above, therefore meeting the study's criteria. The five respondents had MSPSS ranging between 44 and 68, while PTGI-CR scores ranged between 20 and 25.

3.10 Data Management and Analysis Plan

The process of data analysis entails the steps that a researcher takes to make sense of the data and understand what the findings mean in relation to the study (Creswell, 2014). Following data collection, the researcher carried out data processing and interpretation with the help of a statistician. The researcher checked if all the questionnaires were completed. The researcher and the research assistants encouraged the participants who had not completed filling the questionnaires to do so.

To ensure its safety, the data was kept in a lockable cabinet, and access to it was limited to only the authorized persons. This safeguarded it against interference or loss. The data was then sorted and examined for accuracy of data entry, any missing values, distributions (that is - symmetrical, skewed, among others), and outliers. To reduce entry errors, a coding system was formulated by assigning codes to particular responses, and the entry screens were programmed to accept only codes within a predetermined range. Following this, the data was keyed into the computer for electronic storage. To further safeguard the data, the researcher backed it up on two
external hard disk drives in addition to a cloud back-up. The data was then keyed into the statistical package for the social sciences (SPSS), version 20. On completion of the study, the data was archived on a CD to preserve it for at least five years, after which it would be destroyed.

Statistical tables and graphs were used to present the data and analysis was carried out according to the study's objectives. Pretest and post-test data were analyzed descriptively and inferentially with the help of SPSS, by use of descriptive, univariate, and multivariate analysis. Categorical variables were summarized using descriptive statistics such as proportions. On the other hand, continuous variables were summarized by the use of measures of central tendency and dispersion, such as the mean and the standard deviation.

The first objective was to determine the prevalence of PTSD among adolescents attending selected public primary schools in informal settlements. Analysis of data regarding this objective was undertaken by applying a binomial test and a frequency test. The binomial test was used to compute the proportion of participants with PTSD. The test proportion was assumed and specified as 0.3 based on the PTSD prevalence in urban settlements, as indicated in the literature review.

The second objective was to establish the factors associated with PTSD. Multivariate analysis was applied to establish the said association. Analysis of variance (ANOVA) was performed to achieve three purposes. The first purpose was to provide the descriptive statistic of CPSS-SR-5 scores at the baseline stage, with the lower and upper bounds at a 95% confidence interval of each categorical risk factor. Secondly, it provided ANOVA test statistics showing whether there was any statistically significant difference in mean CPSS scores in the various risk categories. Thirdly, it was applied to calculate the partial eta squared ($\eta^2$) to show the strength of
the association between the factor and PTSD scores. The CPSS-SR-5 scores recorded at baseline were used as an indicator of the severity of PTSD.

In relation to the third objective, the researcher used bivariate analysis to examine the relationship between PTSD and school attendance. Numerical records of absenteeism were collected from the schools to determine attendance or absenteeism. A linear regression model was then estimated with the absenteeism as the dependent variable, while PTSD (CPSS-SR-5) score was the independent variable. Pearson correlation coefficient (p) was applied to show the relationship between the variables. The p value was set at p>0.05, 95% confidence level, to help the researcher to make predictions.

To determine the effectiveness of CBITS in treating PTSD and enhancing PTG, and the effect of PTG on school attendance, the researcher employed multivariate analysis to compare the experimental and control groups at baseline, midline, and at endline. Paired samples t-test was used to determine whether there was a significant change in the CPSS-SR-5, between the baseline, midline, and endline stages of the study. Three paired samples were created. These were endline-baseline, midline-baseline, and midline-endline. The data was also split into experimental (EXP) and control (CON) groups to reveal whether the treatment offered to the experimental group was effective. The statistical analysis and presentations were used to show the effectiveness of CBITS in treating PTSD.

The statistical results of confidence interval and effect size were reported to show or indicate the practical significance of the findings in the study. The confidence intervals estimate the range of the upper and lower statistical values consistent with data that has been observed and often contain the actual population mean. To further evaluate the effectiveness of CBITS and determine the effect size of the intervention,
an independent sample t-test was run, and Cohen d was used to determine the effect size of the intervention. This is significant since an effect size identifies how strong the conclusions about the group differences are, or the relationships between variables in quantitative studies (Creswell, 2014).

Finally, to evaluate the effectiveness of CBITS in enhancing PTG among adolescents in informal settlements, a paired samples test was carried out to evaluate the changes in the PTG scores that would indicate whether CBITS was effective in enhancing PTG. Three paired samples, namely endline-baseline, midline-baseline, and midline-endline were created. The data was also split into experimental (EXP) and control (CON) groups to reveal whether the treatment that was offered to the experimental group was effective. The statistical analysis and presentations were used to show the effectiveness of CBITS in enhancing PTG.

Figure 3.3 illustrates the data management and analysis plan that has been described in this section.
Figure 3.3: Data Management and Analysis Flow
Source: Author (2020)

Data Safety: Secure, Sort, Code, Key in, and Back-up data

Data Analysis: Key data into SPSS Version 23

Descriptive Statistics
- Frequency Percentages
- Central Tendency
  - mean, median, mode

Inferential Statistics
- Dispersion
  - Range, Std. Deviation
- Linear Regression
- T-tests
- Pearson’s correlation
- ANOVA

Data reporting and dissemination
The timeline of the various ways the study data was analyzed is laid out in Table 3.3.

Table 3.3: Data Management and Analysis Plan

<table>
<thead>
<tr>
<th>Week</th>
<th>Data</th>
<th>Instruments</th>
<th>Data Technique</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 0</td>
<td>To determine the prevalence of PTSD among adolescents in selected public primary schools in Kajiado County.</td>
<td>SDQ, CPSS-SR-5</td>
<td>Bivariate, Binomial analysis, Binomial Frequency, Descriptive Analysis, and ANOVA.</td>
<td></td>
</tr>
<tr>
<td>Time 0</td>
<td>Establish factors associated with PTSD among adolescents in selected public primary schools in Kajiado County.</td>
<td>SDQ, CPSS-SR-5, MSPSS, PTGI-C-R</td>
<td>ANOVA, Bivariate Analysis Multinomial/ Logistic Regression Statistics, Descriptive, Partial Etta</td>
<td></td>
</tr>
<tr>
<td>Time 0</td>
<td>To establish the relationship between posttraumatic stress disorder and school attendance among adolescents in Embulbul and Enoomatasi primary schools.</td>
<td>SDQ, CPSS-SR-5, Class register</td>
<td>Linear Regression, Correlation, ANOVA</td>
<td></td>
</tr>
<tr>
<td>Time 0</td>
<td>To evaluate the effectiveness of CBITS in treatment of posttraumatic stress disorder for posttraumatic growth and improvement of school attendance among adolescents.</td>
<td>SDQ, CPSS-SR-5, PTGI-C-R, Class register</td>
<td>Bivariate Analysis, Principal Component Analysis, Factor Analysis, Paired sample T-Test, ANOVA, Linear regression, Pearson Correlation</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)

As seen in Table 3.3, data for this study was analyzed at the different time points of zero, midline, and endline. The data analysis methods at each time point, including the instruments that were used to collect data, are outlined. At baseline, data analysis was done using percentages, measures of dispersion, t-tests, and ANOVA. At midline, analysis involved the use of T-tests, ANOVA, and correlation analysis; while at endline, paired sample t-tests and independent sample t-tests were used to determine the effect size using Cohen’s d, ANOVA, and regression analysis.

3.11 Ethical Considerations

The participants were made aware of the purpose of the study, as well as its potential benefits to them and to the society at large.
The researcher ensured that fairness was applied in selecting the participants and distributing any benefits that may accrue. The participants were also informed of their autonomy and liberty to participate and even withdraw along the way, hence were not coerced into participation.

The parents/caregivers/guardians or teachers were required to sign consent forms that allowed the participants who were minors to participate in the study. The participants were then required to sign assent forms before participation since they were under the age of 18 years.

The participants were also assured of confidentiality, privacy, and that no harm would come to them because of participating in the research.

The research assistants were trained on how to help the participants regulate their emotions in the event of re-traumatization that could arise due to the sharing of the traumatic events. The participants were also encouraged to only talk about traumatic incidents that they feel ready to share.

Since the participants were pupils, there could have been a possibility of some indirect coercion from the teachers because of power imbalance. To address this, the researcher ensured that during the sessions, the participants were put at ease and made to understand that they were not under duress to continue with the research.

In addition to this, the researcher endeavored to share the findings of the study with the institutions that participated in the study, namely the Ministry of Education, Science and Technology, the DU-ERB, and Daystar University.

The researcher avoided plagiarism and fraud by presenting original work, not adjusting the findings, and giving credit where it was due.
3.12 Summary

This chapter has focused on the methodology of research that was applied in this study. The researcher has described the research design, the study population, target population, sample and sampling techniques, data collection instruments and procedures, pretesting, data management and analysis plan, and lastly the ethical factors that were taken into consideration during the study. In the following chapter, the researcher will discuss the analysis and interpretations of the collected data.
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, critical analysis of the findings and interpretation from baseline, midline, and endline assessments are presented. Data was analyzed using SPSS, version 20, and presented in tables, figures, and in narratives according to the objectives of the study. Two purposively selected primary schools in Kajiado North Subcounty were studied. A total of 698 pupils met the criteria of being 10 to 14 years old and in grades 5, 6, and 7, hence qualifying as participants for the study. The 698 participants were then screened for PTSD using CPSS-SR-5. Out of the 698, only 285 participants scored 31 and above in the screening tool (CPSS-SR-5), qualifying them to continue in the study.

The researcher then stratified the population according to gender and then according to age groups of 10, 11, 12, 13, and 14 years, and finally applied simple random sampling to achieve the final sample. The simple random sampling was done by taking turns picking every second name from each category until the desired number of 106 was achieved from each of the schools.

4.2 Analysis and Interpretation

4.2.1 Response rate

Out of the sample size of 212 achieved through simple random sampling - from those who had 31 and above on the PTSD scale - only 194 completed the study. This sample of 212 was divided into two groups, namely the experimental group (n=106) and the control group (n=106). With only 194 participants completing the study out of the selected 212 pupils, this study's attrition rate was 8.5%. The 194
participants who completed the study comprised 95 participants in the experimental group, indicating an attrition rate of 10.3% in that group. The control group participants that finished the study were 99, indicating an attrition rate of 6.6%.

4.2.2 Sociodemographic characteristics

The study sought to establish the participants’ sociodemographic characteristics between 10 and 14 years and had scored 31 and above, as indicated by the CPSS-SR-5 questionnaire.

Table 4.1 presents the frequencies and percentages, as indicated by the participants’ sociodemographic characteristics at baseline.

| Table 4.1: Sociodemographic Characteristics of Participants at Baseline |
|-----------------------------|-----------------------------|
|                             | Count (N) | Percent |
| Grouping                    |             |         |
| Experimental                | 95          | 49.0    |
| Control                     | 99          | 51.0    |
| Gender                      |             |         |
| Male                        | 90          | 46.4    |
| Female                      | 104         | 53.6    |
| Age                         |             |         |
| 10                          | 21          | 10.8    |
| 11                          | 40          | 20.6    |
| 12                          | 52          | 26.8    |
| 13                          | 51          | 26.3    |
| 14                          | 28          | 14.4    |
| 15                          | 2           | 1.0     |
| Grade                       |             |         |
| 5                           | 75          | 38.7    |
| 6                           | 66          | 34.0    |
| 7                           | 53          | 27.3    |
| Religion                    |             |         |
| Catholic                    | 49          | 25.3    |
| Protestant (PCEA, ACK, AIPC)| 74          | 38.1    |
| Seventh Day Adventist       | 14          | 7.2     |
| Muslim                      | 8           | 4.1     |
| Others                      | 49          | 25.3    |
| Total                       | 194         | 100.0   |
As observed from Table 4.1, out of 194 participants who completed the study, 49% (95) were from the experimental group, while 51% (99) were from the control group. In terms of gender, the 194 participants comprised 90 boys (46.4%) and 104 girls (53.6%). Of these participants, 10.8% were aged 10 years, 20.6% were aged 11 years, 26.8% were aged 12 years, while 26.3% and 14.4% were aged 13 and 14 years, respectively. The mean age for all the participants (N=194) was therefore 12.2 years (SD=1.2).

The participants in grade five were 75 (38.7%), those in grade six were 34%, and grade seven had 27.3% of the participants. In terms of religion, 38.1% of the participants were Protestant, followed by Catholics and other denominations at 25.3% each. Of the remaining participants, 7.2% were Seventh Day Adventists, while 4.1% were Muslims. It is hence clear that the majority of the participants were Christians (95.9%), while the Muslims were the minority at 4.1%. Among the participants who were Christians, there were more protestants than the other denominations, with Seventh Day Adventists being the lowest.

4.2.3 Prevalence of PTSD among adolescents in informal settlements

In its first objective, this study strove to determine the prevalence of PTSD among adolescents in informal settlements. To achieve this, data that was collected at the screening stage was used.

Frequency for the various categories of PTSD

The frequency for the various categories of PTSD severity was computed first, and the outcome is shown in Table 4.2.
Table 4.2: PTSD Severity

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Severity</th>
<th>%</th>
<th>Std. Error</th>
<th>Bootstrap for Percent</th>
<th>95% Confidence Interval</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-10</td>
<td>Minimal</td>
<td>183</td>
<td>26.2</td>
<td>1.6</td>
<td>23.2</td>
<td>29.8</td>
<td></td>
</tr>
<tr>
<td>11-20</td>
<td>Mild</td>
<td>110</td>
<td>15.8</td>
<td>1.4</td>
<td>12.9</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>Moderate</td>
<td>120</td>
<td>17.2</td>
<td>1.4</td>
<td>14.6</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>Moderate</td>
<td>120</td>
<td>17.2</td>
<td>1.5</td>
<td>14.5</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>41-50</td>
<td>Severe</td>
<td>96</td>
<td>13.8</td>
<td>1.3</td>
<td>11.2</td>
<td>16.3</td>
<td></td>
</tr>
<tr>
<td>51-60</td>
<td>Severe</td>
<td>49</td>
<td>7.0</td>
<td>1.0</td>
<td>5.2</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td>&gt;60</td>
<td>Very Severe</td>
<td>20</td>
<td>2.9</td>
<td>.6</td>
<td>1.6</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>698</td>
<td>100.0</td>
<td>.0</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples.

The results shown in Table 4.2 revealed the participants’ PTSD levels as follows: Moderate: 34.4% (17.2+17.2); Minimal: 26.2%; Mild: 15.8%; and severe: 20.8% (13.8+7.0). Only 2.9% of the participants had very severe PTSD symptoms above 61. The prevalence of PTSD in the overall sample was then computed by the use of these frequencies, as captured in Table 4.3.

Table 4.3: Prevalence of PTSD by Frequency

<table>
<thead>
<tr>
<th>Frequency</th>
<th>%</th>
<th>Std. Error</th>
<th>Bootstrap for Percent</th>
<th>95% Confidence Interval</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-PTSD</td>
<td>59.2</td>
<td>1.9</td>
<td></td>
<td></td>
<td>55.7</td>
<td>62.8</td>
</tr>
<tr>
<td>PTSD (=&gt;31)</td>
<td>40.8</td>
<td>1.9</td>
<td></td>
<td></td>
<td>37.2</td>
<td>44.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>.0</td>
<td></td>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As seen in Table 4.3, the CPSS-SR-5 test scores during the screening phase were <31 for the participants with no-PTSD; and 31 and above for those with PTSD. The prevalence of PTSD was found to be 40.8% among the participants.

Prevalence and sociodemographic characteristics

Further, the prevalence of PTSD by gender was computed to determine whether there was a difference in prevalence between the male and female...
participants. A binomial test was, therefore, carried out to estimate the prevalence of PTSD by gender among the screened participants. The result was as demonstrated in Table 4.4.

Table 4.4: Binomial Test for the Prevalence of PTSD by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Category</th>
<th>N</th>
<th>Observed Prop.</th>
<th>Test Prop.</th>
<th>Exact Sig. (1-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>PTSD &gt;=31</td>
<td>134</td>
<td>0.397</td>
<td>0.3</td>
<td>0.000</td>
</tr>
<tr>
<td>Female</td>
<td>PTSD &lt;31</td>
<td>204</td>
<td>0.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Total</td>
<td>338</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>PTSD &gt;=31</td>
<td>151</td>
<td>0.419</td>
<td>0.3</td>
<td>0.000</td>
</tr>
<tr>
<td>Male</td>
<td>PTSD &lt;31</td>
<td>209</td>
<td>0.581</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Total</td>
<td>360</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For female participants, the binomial test indicated that the proportion of participants with PTSD score equal to or greater than 31 was 0.397, which was greater than the test proportion of 0.3, p<0.001 (one-sided) (see Table 4.4). This suggests that among the female participants, the prevalence of PTSD was 39.7%.

Regarding the male participants, the binomial test indicated that the proportion of participants whose PTSD score was equal to or greater than 31 was 0.419, which was greater than the test proportion of 0.3, p<0.001 (one-sided) (see Table 4.4). It can, consequently, be concluded that the prevalence of PTSD among the male participants was 41.9%. These findings reveal that in this sample of participants, males had a higher PTSD prevalence than the females.

4.2.4 Factors associated with PTSD among adolescents in informal settlements

The second objective was to identify the factors associated with PTSD among adolescents in informal settlements. The PTSD score at the baseline stage was used as an indicator of the severity of PTSD. Analysis of variance (ANOVA) was carried out to determine the various factors associated with PTSD. Table 4.5 portrays the results.
Table 4.5: Mean PTSD Scores by Associated Factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Err.</th>
<th>95% Confidence Interval for Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>90</td>
<td>42.04</td>
<td>8.91</td>
<td>.94</td>
<td>40.18 - 43.91</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>45.56</td>
<td>10.01</td>
<td>.98</td>
<td>43.61 - 47.50</td>
<td>31</td>
<td>77</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>21</td>
<td>39.71</td>
<td>6.56</td>
<td>1.43</td>
<td>36.73 - 42.70</td>
<td>32</td>
<td>53</td>
</tr>
<tr>
<td>11</td>
<td>40</td>
<td>44.18</td>
<td>10.09</td>
<td>1.60</td>
<td>40.95 - 47.40</td>
<td>31</td>
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</tr>
<tr>
<td>12</td>
<td>52</td>
<td>43.46</td>
<td>10.07</td>
<td>1.39</td>
<td>40.66 - 46.26</td>
<td>31</td>
<td>68</td>
</tr>
<tr>
<td>13</td>
<td>51</td>
<td>45.55</td>
<td>10.51</td>
<td>1.47</td>
<td>42.59 - 48.50</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>14</td>
<td>28</td>
<td>44.75</td>
<td>8.10</td>
<td>1.53</td>
<td>41.61 - 47.89</td>
<td>31</td>
<td>65</td>
</tr>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both biological parents living together</td>
<td>119</td>
<td>43.67</td>
<td>9.190</td>
<td>.84</td>
<td>42.00 - 45.34</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>Set-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with stepparent</td>
<td>12</td>
<td>49.42</td>
<td>10.83</td>
<td>3.13</td>
<td>42.54 - 56.29</td>
<td>34</td>
<td>67</td>
</tr>
<tr>
<td>Parents separated</td>
<td>16</td>
<td>43.88</td>
<td>10.13</td>
<td>2.53</td>
<td>38.48 - 49.27</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Parents divorced</td>
<td>39</td>
<td>43.08</td>
<td>10.80</td>
<td>1.73</td>
<td>39.58 - 46.58</td>
<td>31</td>
<td>77</td>
</tr>
<tr>
<td>Single parent</td>
<td>8</td>
<td>43.75</td>
<td>7.21</td>
<td>2.55</td>
<td>37.73 - 49.77</td>
<td>34</td>
<td>53</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>73</td>
<td>41.48</td>
<td>9.042</td>
<td>1.06</td>
<td>39.37 - 43.59</td>
<td>31</td>
<td>68</td>
</tr>
<tr>
<td>Yes</td>
<td>121</td>
<td>45.40</td>
<td>9.744</td>
<td>.89</td>
<td>43.65 - 47.16</td>
<td>31</td>
<td>77</td>
</tr>
<tr>
<td>Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>66</td>
<td>44.09</td>
<td>9.71</td>
<td>1.20</td>
<td>41.70 - 46.48</td>
<td>31</td>
<td>77</td>
</tr>
<tr>
<td>at home</td>
<td>Yes</td>
<td>117</td>
<td>44.62</td>
<td>9.63</td>
<td>.89</td>
<td>42.86 - 46.39</td>
<td>31</td>
</tr>
<tr>
<td>Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>97</td>
<td>44.76</td>
<td>9.49</td>
<td>.96</td>
<td>42.85 - 46.68</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>at school</td>
<td>Yes</td>
<td>90</td>
<td>43.60</td>
<td>9.63</td>
<td>1.02</td>
<td>41.58 - 45.62</td>
<td>31</td>
</tr>
<tr>
<td>Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>125</td>
<td>43.86</td>
<td>9.37</td>
<td>.84</td>
<td>42.21 - 45.52</td>
<td>31</td>
<td>77</td>
</tr>
<tr>
<td>in other places</td>
<td>Yes</td>
<td>62</td>
<td>44.65</td>
<td>10.22</td>
<td>1.30</td>
<td>42.05 - 47.24</td>
<td>31</td>
</tr>
</tbody>
</table>

Gender and PTSD

With regard to gender, the analysis, as indicated in Table 4.5, revealed that the mean PTSD scores for the male participants (n=90) were 42.02: 95% CI [40.18-43.91], while for the female participants (n=104), it was 45.56: 95% CI [43.61-47.50]. The indication here is that the mean PTSD scores among the female participants at baseline were slightly higher than those of the male participants.

Further, ANOVA test was carried out to ascertain if these differences in the gender had a statistically significant effect on the variance of the PTSD scores, and the results (see Table 4.6) pointed to a statistically significant effect on the variance of the PTSD score: ANOVA test results F(1,192)=6.577, p=0.011. The results are
significant because $p<0.05$. Besides, the test between-subject association also resulted in a partial eta squared coefficient $\eta^2=0.033$, an indication of the potential association between gender and levels of PTSD.

**Age and PTSD**

When the association between age and PTSD scores was analyzed, the mean PTSD scores varied as follows: for the 10 year-olds ($n=21$), the mean PTSD score was $39.71$: 95% CI [36.73-42.70], the 11 year-olds ($n=40$) mean PTSD score was $44.18$: 95% CI [40.95-47.40], for the 12 year-olds ($n=52$), it was $43.46$: 95% CI [40.66-46.26], $45.55$: 95% CI [42.59-48.50] for the 13 year-olds, ($n=51$), and lastly, $44.75$: 95% CI [41.61-47.89] for the 14 year-olds ($n=28$) (see Table 4.5). By observation, there was no clear trend in the variation of PTSD values by age.

On further analyzing this difference through ANOVA, the difference in age among the participants did not have a statistically significant influence on the severity of PTSD as indicated by the results: $F(5,188)=1.172$, $p=0.324$ (see Table 4.6). The related partial eta square value was $\eta^2=0.03$, but with $p=0.324$: this was not statistically significant, and the implication is that there was no association between age and PTSD levels in this study population.

**Family set-up and PTSD**

As for the family set-up, the results were as per five possible categories, namely biological parents living together, living with a stepparent, parents separated, parents divorced, and single parents. For the participants whose biological parents were living together ($n=119$), the mean PTSD score was $43.67$: 95% CI [42.00-45.34], while for those who were living with stepparents ($n=12$), the mean PTSD score was $49.42$: 95% CI [42.54-56.29]. The participants whose parents were separated ($n=16$) had mean PTSD score of $43.88$: 95% CI [38.48-49.27], while for
those whose parents were divorced (n=39) the mean PTSD score was 43.08: 95% CI [39.58-46.58]. The participants who were living with a single parent (n=8), had mean PTSD score of 43.75: 95% CI [37.73-49.77] - as shown in Table 4.5.

Upon further analysis by ANOVA, the results: F (4,189) =1.069, p=0.373, were clear that the differences in the family set-up did not have a statistically significant effect on the variance of PTSD scores (as observed in Table 4.6). The related partial eta squared was equally not statistically significant at η^2=0.022, thus denoting no association between family set-up of the adolescents and their PTSD levels.

Exposure to physical violence and PTSD

The researcher further sought to determine if experiencing physical violence could be factor associated with PTSD. As per the outcome (see Table 4.5): the participants who had experienced physical violence (n=121) had a mean PTSD score of 45.40: 95% CI [43.65-47.16], while for those who had not experienced physical violence (n=71), the mean PTSD score was 41.48: 95% CI [39.37-43.59]. These results are indicative that the participants who had experienced physical violence seemed to have higher PTSD scores compared to those who had not.

To verify the above outcome, an ANOVA test was carried out to determine if this difference was statistically significant. The outcome of the ANOVA test (as seen in Table 4.6) showed that physical violence had a statistically significant influence on the variance of PTSD levels, F (1,192) =7.796, p=0.006. In addition, the partial eta squared coefficient was η^2=0.039, signaling that exposure to physical violence was associated with PTSD levels.
Violence at home and PTSD

In relation to the location where the violence occurred, the association between PTSD and violence at home was assessed. According to the feedback captured in Table 4.5, the participants who had experienced violence at home (n=117) had a mean PTSD score of 44.62: 95% CI [42.86-46.39], while for those who did not experience violence at home (n=66), the mean PTSD scores were 44.90: 95% CI [41.70-46.48]. It is evident that the mean PTSD scores for the participants who had experienced violence at home and those who had not were fairly similar.

When this was further analyzed using ANOVA, the outcome demonstrated that experiencing violence at home did not have a statistically significant effect on the variation of PTSD scores, F (1,181)=0.129, p=0.720 (see Table 4.6) with a related partial eta value $\eta^2=0.001$. There was, therefore, no association between violence occurring at home and PTSD levels.

Violence at School and PTSD

Similarly, for the participants who experienced violence at school (n=90), the mean PTSD score was 43.60: 95% CI [41.58-45.62], while for those who did not, the mean PTSD score was 44.76: 95% CI [42.85-46.68] - as shown in Table 4.5. The confidence intervals show that there was no significant difference in the mean value of PTSD scores for those who experienced at school and those who did not.

An ANOVA analysis revealed that experiencing violence at school did not have a statistically significant influence on the variance of PTSD scores, F (1, 185) =0.691, p=0.407 (see results captured in Table 4.6), with a partial eta squared value of $\eta^2=0.004$. It can be noted, therefore, that there was no association between the levels of PTSD and violence at school.
Violence in other places and PTSD

The participants who had experienced violence in other places (n=62) had a mean PTSD score of 44.65: 95% CI [42.05-47.24], while those who did not experience violence in other places (n=127), had a mean PTSD score of 43.86: 95% CI [42.21-45.52] (see Table 4.5). This denotes that there was a little difference in the mean PTSD score of those who experienced violence in other places and those who did not.

To test if this difference was statistically significant, an ANOVA test was carried out, and according to the result (depicted in Table 4.6), experiencing or not experiencing violence in other places did not have a statistically significant effect on the variation of PTSD scores: F (1,185)=0.271, p=0.603, and partial eta squared coefficient of $\eta^2=0.001$. It can, hence be inferred that there was no association between experiencing violence in other places and levels of PTSD.
Table 4.6: ANOVA Test Results for Association between PTSD Scores and Associated Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>595.514</td>
<td>1</td>
<td>595.514</td>
<td>6.577</td>
<td>.011</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17385.476</td>
<td>192</td>
<td>90.549</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17980.990</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>543.628</td>
<td>5</td>
<td>108.726</td>
<td>1.172</td>
<td>.324</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17437.361</td>
<td>188</td>
<td>92.752</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17980.990</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family setup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>397.835</td>
<td>4</td>
<td>99.459</td>
<td>1.069</td>
<td>.373</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17583.154</td>
<td>189</td>
<td>93.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17980.990</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>701.613</td>
<td>1</td>
<td>701.613</td>
<td>7.796</td>
<td>.006</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17279.376</td>
<td>192</td>
<td>89.997</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17980.990</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence at home</td>
<td>11.989</td>
<td>1</td>
<td>11.989</td>
<td>.129</td>
<td>.720</td>
</tr>
<tr>
<td>Within Groups</td>
<td>16876.908</td>
<td>181</td>
<td>93.254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16890.896</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence at school</td>
<td>63.132</td>
<td>1</td>
<td>63.132</td>
<td>.691</td>
<td>.407</td>
</tr>
<tr>
<td>Within Groups</td>
<td>16897.146</td>
<td>185</td>
<td>91.336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16960.278</td>
<td>186</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence in Other places</td>
<td>25.290</td>
<td>1</td>
<td>25.290</td>
<td>.271</td>
<td>.603</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17250.882</td>
<td>185</td>
<td>93.248</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17276.171</td>
<td>186</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2.5 Relationship between PTSD and school attendance

In the third objective, this study evaluated the potential link between PTSD and school attendance. Numerical records of absenteeism were collected from the respective school’s register and quantified as a percentage of the number of days the student was expected to attend school in the term. For example, at baseline, the students were expected to have attended 60 days of school in term one (excluding five
days of mid-term break) that had run from 3\textsuperscript{rd} of January to 5\textsuperscript{th} of April in 2019. The number of days a student was absent was then extracted by the researcher from the class register (managed by the class teachers) and calculated as a percentage of the total number of days the student was expected to attend school in the term. These numbers were then applied in carrying out a simple correlation analysis between PTSD scores and absenteeism at the baseline stage. The outcome is presented in Table 4.7.

Table 4.7: Correlation between PTSD and Absenteeism at Baseline

<table>
<thead>
<tr>
<th>PTSD Score at Baseline</th>
<th>CPSS Score at Baseline</th>
<th>Absenteeism at baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient</td>
<td>.331**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>194</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Absenteeism at baseline</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>194</td>
<td></td>
</tr>
</tbody>
</table>

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

As depicted in Table 4.7, there was a statistically significant positive correlation of 0.331, with a p value<0.001. The rate of absenteeism could thus be predicted from PTSD levels.

A linear regression model with absenteeism as the dependent variable and PTSD score as the independent variable was done, and the model summary is depicted in Table 4.8.

Table 4.8: Linear Regression Model Summary for Absenteeism

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.373\textsuperscript{a}</td>
<td>.139</td>
<td>.135</td>
<td>2.153</td>
</tr>
</tbody>
</table>

\textsuperscript{a}. Predictors: (Constant), PTSD Score at Baseline

A linear regression model was applied to predict the rate of absenteeism from the PTSD score. The model summary (see Table 4.8) showed a moderate degree correlation of R=0.373 between absenteeism and PTSD scores. The R square value of
0.139 (13.9%) indicated that the severity of PTSD could explain only 13.9% of the absenteeism.

To ascertain if PTSD is a predictor of absenteeism, an ANOVA test was carried out, and the results were as shown in Table 4.9.

**Table 4.9: ANOVA Test Predicting Absenteeism**

<table>
<thead>
<tr>
<th>ANOVA a</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Regression</td>
<td>144.126</td>
<td>1</td>
<td>144.126</td>
<td>31.096</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>889.894</td>
<td>192</td>
<td>4.635</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1034.021</td>
<td>193</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Absenteeism at baseline  
b. Predictors: (Constant), PTSD Score at Baseline

As per the results given in Table 4.9, PTSD predicted absenteeism in a statistically significant way: F (1,192) =31.096, p<0.001. In order to ascertain this prediction, a regression analysis was carried, and the results were as displayed in Table 4.10.

**Table 4.10: Coefficients Table for Absenteeism at Baseline**

<table>
<thead>
<tr>
<th>Coefficients b</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-2.160</td>
<td>.722</td>
<td>-2.991</td>
<td>-.373</td>
<td>.003</td>
<td>-3.584</td>
</tr>
<tr>
<td>1 PTSD Score at Baseline</td>
<td>.090</td>
<td>.016</td>
<td>.373</td>
<td>.576</td>
<td>.000</td>
<td>.058</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Absenteeism at baseline

The results depicted in Table 4.10 revealed that absenteeism could be predicted from PTSD scores using this function: Absenteeism = -2.160+0.090 (PTSD), and that PTSD contributes significantly to the model, p<0.001. In this regard, it can be concluded from the simple linear regression model that the severity of PTSD contributes significantly to the rate of absenteeism and that PTSD could be used to predict the rate of absenteeism.
4.2.6 Effectiveness of CBITS in the treatment of PTSD

With regard to the fourth objective, the study determined the effectiveness of CBITS in the treatment of PTSD. The data showing the means and standard deviations at all stages of the study were analyzed, and the outcome is captured in Table 4.11.

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>Grouping</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD Score at Baseline</td>
<td>Experimental</td>
<td>95</td>
<td>43.42</td>
<td>8.72</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>99</td>
<td>44.28</td>
<td>10.62</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>PTSD Score at Midline</td>
<td>Experimental</td>
<td>95</td>
<td>35.29</td>
<td>12.42</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>99</td>
<td>45.12</td>
<td>12.25</td>
<td>1.23</td>
<td></td>
</tr>
<tr>
<td>PTSD Score at Endline</td>
<td>Experimental</td>
<td>95</td>
<td>33.74</td>
<td>13.12</td>
<td>1.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>99</td>
<td>45.08</td>
<td>14.53</td>
<td>1.46</td>
<td></td>
</tr>
</tbody>
</table>

As portrayed in Table 4.11, in regard to the experimental group - there was a decrease in the mean scores for PTSD as follows: from 43.42 at baseline, 35.29 at midline, and finally 33.74 at endline; while for the control group - the mean scores for PTSD increased as follows: from 44.28 at baseline, 45.12 at midline, and 45.08 at endline.

To evaluate the effectiveness of CBITS, a paired-samples t-test was used to find out whether there was a statistically significant change in the mean scores for PTSD between the baseline, midline, and end line stages of the study. Three paired samples were created. The first pair compared midline PTSD scores against baseline PTSD scores, the second pair compared the PTSD scores at endline against those at baseline, and pair 3 compared the end line and midline PTSD scores. The data was split into experimental (EXP) and control (CON) groups to establish whether the treatment that was offered to the experimental group was effective. The outcome is captured in Table 4.12.
Table 4.12: Paired Samples Test for Changes in the Mean PTSD Scores

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Paired Differences</th>
<th>T</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Std. Error</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>EXP. Pair 1</td>
<td>PTSD Score at Midline - PTSD Score at Baseline</td>
<td>-8.26</td>
<td>13.22</td>
<td>1.36</td>
</tr>
<tr>
<td>EXP. Pair 2</td>
<td>PTSD Score at End line - PTSD Score at Baseline</td>
<td>-9.82</td>
<td>13.80</td>
<td>1.42</td>
</tr>
<tr>
<td>EXP. Pair 3</td>
<td>PTSD Score at End line - PTSD Score at Midline</td>
<td>-1.56</td>
<td>12.24</td>
<td>1.26</td>
</tr>
<tr>
<td>CON Pair 1</td>
<td>PTSD Score at Midline - PTSD Score at Baseline</td>
<td>.84</td>
<td>12.12</td>
<td>1.22</td>
</tr>
<tr>
<td>CON Pair 2</td>
<td>PTSD Score at End line - PTSD Score at Baseline</td>
<td>.79</td>
<td>15.85</td>
<td>1.59</td>
</tr>
<tr>
<td>CON Pair 3</td>
<td>PTSD Score at End line - PTSD Score at Midline</td>
<td>-.04</td>
<td>11.31</td>
<td>1.14</td>
</tr>
</tbody>
</table>

According to the results outlined in Table 4.12, there was a statistically significant reduction of -8.26 in the mean PTSD scores between the baseline and midline stages in the experimental group, with t(94) = -6.09, p = 0.000. Similarly, there was a statistically significant reduction of -9.82 in the mean PTSD scores between baseline and end line stages in the experimental group of participants, with t(94) = -6.94, p = 0.000. For the third pair, a reduction of -1.56 in the mean score for PTSD between midline and end line stages in the experimental group was observed, a change that was, however, not statistically significant, t(94) = -1.24, p = 0.218. The results of pair 1 and pair 2 are indicative of the fact that treating the participants with
CBITS led to a statistically significant reduction in PTSD symptoms between baseline and midline stages.

Additionally, treating the participants with CBITS also led to a statistically significant reduction of PTSD between baseline and end line stages. Therefore, it can be determined that CBITS was effective in reducing the severity of PTSD, as seen in the reduction of PTSD scores in the experimental group. Finally, the results of pair 3 confirm that there was no statistically significant change in the PTSD scores between the midline and end line stages. This can be interpreted to mean that the levels of PTSD did not change much between midline and end line, signifying that the participants maintained the gains they had garnered during the intervention.

Nevertheless, for the participants in the control group, there was a statistically insignificant increase of 0.838 in the mean scores for PTSD between the baseline and midline stages, with $t(98) = 0.688$, $p = 0.493$. Similarly, there was a statistically insignificant change of 0.798 in the mean scores for PTSD between baseline and end line stages, $t(98) = 0.501$, $p = 0.617$. This was suggestive that without treatment, there was no significant change in the severity of PTSD among the participants in the control group.

To further evaluate the effectiveness of CBITS and to determine the effect size of the intervention, an independent sample t-test was run. The independent samples T-test for PTSD scores are provided in Table 4.13.
A Cohen’s d of 0.089 at the baseline stage (see Table 4.13) demonstrates that the effect size was small. For the midline and end line stages, Cohen’s d was 0.79 and 0.82 respectively showing that in each case the effect size was large: an indication that the intervention was effective in treating PTSD among the adolescents.

4.2.7 Effectiveness of CBITS in enhancing PTG

As its fifth and final objective, the study evaluated the effectiveness of CBITS in enhancing PTG among adolescents in informal settlements. Other factors, such as
perceived social support, were anticipated to be good predictors of PTG (Ramos & Leal, 2013), and this was displayed in correlation analysis, as shown in Table 4.14.

Table 4.14: Correlation of Perceived Social Support and PTG

<table>
<thead>
<tr>
<th></th>
<th>MSPSS Score at Baseline</th>
<th>PTGI Score at Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.170*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.018</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td>194</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.170*</td>
<td>1</td>
</tr>
<tr>
<td>PTGI Score at Baseline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td>194</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

The findings shown in Table 4.14 reveal a statistically significant positive correlation between perceived social support and PTG at 0.170 with a p-value of 0.018 (p<0.05). A Pearson correlation coefficient of r=0.170 indicates a weak positive correlation (below arbitrary boundary of 0.3) between perceived social support and PTG. The positive correlation implies that as perceived social support increases, the PTG increases as well.

A linear regression model with PTG as the dependent variable and social support as the independent variable was done, and the model summary is depicted in Table 4.15.

Table 4.15: Linear Regression Model Summary for PTG

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.170a</td>
<td>.029</td>
<td>.024</td>
<td>11.087</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), MSPSS Score at Baseline

The linear regression model was applied to predict PTG from the perceived social support score. The model summary (see Table 4.15) showed that there was a minimal degree correlation of R=0.170 between PTG and perceived social support scores. The R square value of 0.029 (2.9%) indicated that the perceived social support could explain only 2.9% of the PTG.
To ascertain if perceived social support is a predictor of PTG, an ANOVA test was carried out, and the results were as shown in Table 4.16.

*Table 4.16: ANOVA Test Predicting PTG*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>704.493</td>
<td>1</td>
<td>704.493</td>
<td>5.731</td>
<td>.018</td>
</tr>
<tr>
<td>1 Residual</td>
<td>23601.264</td>
<td>192</td>
<td>122.923</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24305.758</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: PTGI Score at Baseline  
b. Predictors: (Constant), MSPSS Score at Baseline

The results given in Table 4.16 show that PTG is predicted by perceived social support in a statistically significant way F (1,192)=5.73, p being .018 (p<0.05). To ascertain this prediction, a regression analysis coefficient analysis was carried out, and the results were as displayed in Table 4.17.

*Table 4.17: Coefficients Table for PTG at Baseline*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>5.215</td>
<td>3.984</td>
<td>1.309</td>
<td>.192</td>
</tr>
<tr>
<td>MSPSS Score at Baseline</td>
<td>.161</td>
<td>.067</td>
<td>.170</td>
<td>.018</td>
</tr>
</tbody>
</table>

a. Dependent Variable: PTGI Score at Baseline

As depicted in Table 4.17, PTG could be predicted from perceived social support scores using this function: PTG=5.215+0.161 (perceived social support), and that perceived social support contributes significantly to the model, p=0.018 (p<0.05). In this regard, it can be concluded from the simple linear regression model that the perceived social support contributes significantly to PTG.

To evaluate the effectiveness of CBITS in enhancing PTG, a paired samples test was done. The goal was to evaluate the changes in the PTG scores that would indicate whether CBITS was effective in enhancing PTG. The paired samples test of PTG scores are presented in Table 4.18.
### Table 4.18: Paired Samples Test of PTG Scores

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Paired Differences</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference Lower</td>
</tr>
<tr>
<td>EXP</td>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PTG Score at Midline – PTG Score at Baseline</td>
<td>-0.095</td>
<td>11.408</td>
<td>1.170</td>
</tr>
<tr>
<td></td>
<td>PTG Score at Endline – PTG Score at Baseline</td>
<td>-4.158</td>
<td>12.616</td>
<td>1.294</td>
</tr>
<tr>
<td></td>
<td>PTG Score at Endline – PTG Score at Midline</td>
<td>-4.063</td>
<td>12.768</td>
<td>1.310</td>
</tr>
<tr>
<td>CON</td>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PTG Score at Midline – PTG Score at Baseline</td>
<td>4.687</td>
<td>8.586</td>
<td>.863</td>
</tr>
<tr>
<td></td>
<td>PTG Score at Endline – PTG Score at Baseline</td>
<td>.636</td>
<td>15.709</td>
<td>1.579</td>
</tr>
<tr>
<td></td>
<td>PTG Score at Endline – PTG Score at Midline</td>
<td>-4.051</td>
<td>15.926</td>
<td>1.601</td>
</tr>
</tbody>
</table>

The first pair, that is, between baseline and midline in the experimental group displayed a statistically insignificant reduction of -0.095 in the mean PTG scores, t(94) = -0.081, p=0.936. In the second paired sample test, there was a statistically significant reduction of -4.158 in the mean PTG scores between baseline and end line stages, t(94) = -3.212, p=0.002. The final paired samples test in the experimental group revealed a statistically significant reduction in PTG of -4.063 between midline and end line stages, t(94)= -3.103, p=0.003. Based on these results, it is evident that...
the effect of CBITS treatment took effect after the midline stage, thus showing a potential reduction in PTG. The implication is that CBITS does not enhance PTG but rather reduces it.

In the control group, there was initially a statistically significant increase of 4.687 in the PTGI between baseline and midline stages, t (98)=5.431, p=0.000. In the second paired samples test, there was a statistically insignificant increase of 0.636 in the mean PTGI between baseline and end line stages, t (98)=0.403, p=0.688. The third paired sample showed a statistically significant reduction of -4.051 in the mean PTG score between midline and end line stages, t (98)=-2.531, p=0.013. These results reveal that without any treatment, there were fluctuations in the PTG scores, as seen in the control group analysis. Since there was a statistically significant increase in PTG between baseline and midline when the control group participants were not exposed to CBITS and a decrease where participants in the experimental group were exposed to CBITS, it can be deduced that CBITS contributed to a reduction in PTG.

4.3 Summary of Key Findings

1. The overall prevalence of PTSD among the participants in this study was 40.8%, with that of the female participants being 39.7% and that of the male participants being higher at 41.9%.

2. The mean value of PTSD scores for the participants at baseline was 43.42 (SD=8.72) for the experimental group (n=95), and 44.28 (SD=10.62) for the control group (n=99). The overall mean score for PTSD for all the participants at baseline (n=194) was found to be 43.93 (SD=9.65).

3. In regard to the factors associated with PTSD, gender, and exposure to physical violence were found to have a statistically significant influence on PTSD. This was indicative of gender [F(1,192)=6.577, p=0.011] and exposure
to physical violence \[F(1,192)=7.796, \ p=0.006\] being possible factors that can be associated with levels of PTSD among adolescents aged between 10-14 years.

4. Contrastingly, experiencing violence at home, at school, or in other places did not have a statistically significant influence on PTSD, suggesting that these factors were not associated with levels of PTSD among the adolescents in this study.

5. Regarding the relationship between PTSD and school attendance, a statistically significant positive correlation of 0.331, with a p value < 0.001 was established; thus implying that the rate of absenteeism could be predicted from PTSD scores.

6. The study also confirmed that CBITS was effective in alleviating the symptoms of PTSD. This was a major finding at the core of this study, as confirmed by a statistically significant reduction in PTSD \[t(94)=-6.091, \ p=0.000\] between baseline and midline stages. Consequently, this confirmed that CBITS was effective in reducing the severity of PTSD, as seen in the reduction of CPSS-SR-5 scores from baseline to midline. It was, nonetheless noted that there was no significant change in the PTSD scores between the midline and endline stages. In the control group, however, there was no significant reduction in PTSD scores from baseline to midline and to end line. This proved that without treatment, there was no significant change in the severity of PTSD among the participants in the control group.

7. About the magnitude of the effect of CBITS intervention in reducing the symptoms of PTSD, Cohen’s d=0.089 at baseline was registered, thus demonstrating that the effect size was small. For the midline and end line
stages, Cohen’s d was 0.79 and 0.82, respectively, hence an indication that in each case, the effect size was large. The deduction was therefore made that the intervention was effective in treating PTSD among the adolescents with a large effect size.

8. Posttraumatic growth was found to be significantly correlated with the perceived social support for the adolescents in this study. Another finding concerning PTG was that there was a statistically significant reduction of -4.158 in the mean PTGI scores between baseline and end line stages, $t(94)=-3.212, p=0.002$ in the experimental group. On the other hand, there was a statistically significant increase in PTG $[t (98) =5.431, p=0.000]$ between baseline and midline in the control group. The control group was not exposed to CBITS. Since PTG decreased regarding the participants in the experimental group who were taken through the CBITS intervention, it can be surmised that CBITS contributed to a reduction in PTG levels in this study population.

4.5 Summary

In this chapter, the researcher has discussed the sociodemographic characteristics of the study participants from both the control and the experimental groups. Data from the study has been presented and interpreted according to the study objectives after being analyzed using SPSS, version 20. In the upcoming chapter, the focus will be on the discussion of the findings of this study. The conclusion and recommendations the researcher made based on the findings will also be addressed.
CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a discussion of the findings of the study as per the objectives that the study set out to achieve. The findings are discussed in relation to related previous studies. The conclusion and recommendations made by the researcher based on the study findings are also addressed. The researcher further gives the study limitations and finally suggestions of possible areas for further research.

5.2 Discussions of Key Findings

This study established that adolescents residing in informal settlements were exposed to traumatic events, resulting in PTSD. This is congruent with the situation globally, whereby many studies confirm that exposure to traumatic events may result in PTSD. The findings in this study are further supported by Meinck et al.’s (2015) observation that living in an urban informal settlement was likely to increase exposure to childhood trauma. In this study, the majority of the participants (73%) had mild to severe PTSD symptoms even though only CPSS-SR-5 scores of 31 and above were considered of clinical significance for this study.

The trauma exposure was found to be high since 73% of the participants had mild to severe PTSD symptoms. This observation was supported by Atwoli et al. (2015), whose study found higher trauma exposure in countries with low-income (such as Kenya), compared to countries with higher income; and generally, the same lifetime PTSD prevalence across different countries. Atwoli et al.’s study, however, established higher PTSD prevalence rates in post-conflict settings of different natures. Residency in informal settlements has equally been confirmed to present a higher risk of exposure to traumatic experiences. Thus, most of the participants in this study
(73%) had mild to severe PTSD levels. This study focused only on participants with clinically significant symptoms of PTSD - with CPSS-SR-5 scores of 31 and above, as prescribed by the CBITS intervention.

5.2.1. Prevalence of PTSD among adolescents living in informal settlements

This study's first objective was to find out the prevalence of PTSD among adolescents living in informal settlements in Kajiado County, Kenya. The prevalence of PTSD among the participants was found to be 40.8% (95% CI=37.2-44.3). Compared to other findings, this PTSD prevalence rate falls within the range of 3-52% as noted by Harder et al. (2012), even though this only applied to developed countries, and Kenya is not among such countries. Moreover, Sareen (2014) found estimates of PTSD prevalence among high-risk groups to range widely between 1% and 40%. This study's PTSD prevalence rate of 40.8% is equally similar to that of 40% found among victims of disasters (Sheerin et al., 2019). This indicates that the findings of this study with regard to prevalence rates were within the projected levels.

The PTSD prevalence rate found in this study (40.8%) was also close to a self-reported PTSD prevalence of 37% (95% CI=22-45) - a rate revealed by a systematic review and meta-analysis of mental disorders in general refugee populations (Henkelmann et al., 2019). These notable differences in prevalence rates have been attributed to either true differences across varied samples or simply to differences in methods of assessment (Sareen, 2014). However, when adjustments were incorporated for the methodological factors, torture was reported to be one of the strongest factors associated with PTSD. Following this was cumulative and repeated exposure to traumatic events, as was the case among the participants in this study based on the fact they reside in informal settlements’ environments (Bryant, 2019). Arguably, this cumulative and repeated exposure to traumatic events in the informal
settlements may explain the relatively high levels of PTSD prevalence rates among adolescents who live and attend schools in informal settlements.

Other studies in Kenya found even higher PTSD prevalence rates, possibly because they (studies) were carried out among high-risk populations who had been exposed to multiple or specific traumatic events. For instance, a study by Musau et al. (2017) among 139 purposively sampled displaced persons during the 2007/2008 post-election violence in Kenya revealed a prevalence of PTSD of 62.1%. This was probably due to the traumatic experiences the respondents had endured, such as being displaced from their own homes, not to mention material losses and loss of human lives. When compared to this study where the adolescents were exposed to cumulative repeated exposure to various traumatic events, the experiences of the internally displaced people who now lived in temporary and informal settlements, seemed to elicit higher prevalence rates.

Further, a cross-sectional study carried out by Ndetei et al. (2007) among high school students in Kenya found a higher PTSD prevalence rate of 50%. Even though the population in Ndetei et al.’s study was not from the informal settlements as was the case in this current study, it (population) was comparable since it was among adolescents. However, the PTSD prevalence rates were notably higher (50%) in comparison to those revealed by this current study (40.8%). This finding was intriguing since the expectation would be for adolescents living in informal settlements to have higher PTSD prevalence rates compared to their counterparts attending high schools in the general population. The higher prevalence rates in Ndetei et al.’s study could be attributed to factors that are specific to high school students.
In another study done in Africa, specifically in Uganda among Congolese refugees, 75% of the female refugees met the criteria for PTSD leading to an overall prevalence of PTSD of 49.4% (Ssenyonga et al., 2012). This higher prevalence was presumably linked to the post-conflict situation that these refugees had been exposed to since they had fled from their war-torn countries where they had most likely been exposed to multiple traumatic events. The refugee population is fairly comparable to living in informal settlements due to the nature of residence characterized by the lack of security of tenure, temporary structures, and overcrowding. However, the refugees are likely to have been exposed to more traumatic events than those who simply live in informal settlements, hence the higher prevalence rates.

It is important to note that there is little uniformity in prevalence rates of PTSD from existing literature as the prevalence depends on various factors such as the nature of exposure to traumatic events. Bryant (2019) cited several challenges that arise in the field of PTSD, one of which is the tool used for diagnosis. Bryant asserted that many studies that use the DSM-5 criteria have often found higher PTSD prevalence rates than those that use the ICD-11 guidelines. This argument may explain the relatively high prevalence rates this current study found since it used the DSM-5 criteria to diagnose PTSD.

On the other hand, several other studies done in Africa have revealed lower PTSD prevalence rates. For instance, a South African rural-based study determined that only 8.4% of the participants had PTSD while 21.7% of children in an urban school study and a children’s home study were diagnosed with PTSD (Swain et al., 2017). This demonstrated a higher prevalence in the urban settings compared to rural settings. This still supports the findings of this study that was based in an urban setting of Ngong Town as it exhibits higher prevalence rates. Another study involving
2041 boys and girls from Cape Town (South Africa) and Nairobi Schools (Kenya) also found a lower PTSD prevalence rate of 22.2% (Swain et al., 2017).

Harder et al.’s (2012) study, done six months after the end of the Kenya post-election violence of 2007/2008, had a similar sociodemographic composition as this current study. However, its findings showed a prevalence rate for PTSD of 18% (much lower than the 40.8% in this current study) in a study population of 552 (Harder et al., 2012). The low PTSD prevalence rate in Harder et al.’s study could be ascribed to the possibility of the adolescents being actively cushioned by other protective factors that could have shielded them from developing PTSD. Similarly, the lower prevalence rates (21.6%) found by Nyagwencha et al. (2018), among 232 respondents in charitable children’s institutions could as well be attributed to protective factors offered by the institutions.

Outside Africa, similarly, lower prevalence rates were revealed by studies in the USA (Brock & Reeves, 2008) that revealed exposure to traumatic experiences among 43% of individuals aged 18 years and above. The exposure to trauma of 19-24-year-olds in the urban areas was estimated at 82.5% (which is close to the exposure in this study at 73%) with a PTSD prevalence of 30%. Among 17-18-year-olds in foster care, the trauma exposure was estimated at 80.3%, with a PTSD prevalence of 30% (Brock & Reeves, 2008). The lower prevalence rates could be credited to other protective factors absent in the informal settlement set-ups, as was the case in this current study.

With regard to gender, this study found that males had a higher PTSD prevalence (41.9%) than females (39.7%). These findings are supported by a study done in Ethiopia that revealed higher PTSD prevalence in males (70%) than their female counterparts (30%) (Haji & Shikuro, 2019). This is similar to the findings of a
study carried out among children living in children's homes in Nyeri County, which demonstrated that more male participants (52.6%) had PTSD than their female counterparts (47.4%) (Maina, Munene, & Tuikong, 2019).

Similarly, an earlier study established that 60% of men experienced traumatic events in their lifetime compared to 50% of women and that men are more likely to experience every type of trauma (Galovski, Blain, Chappuis, & Fletcher, 2013). These findings are further supported by Thabet and Thabet’s (2017) study, which determined that boys were likely to report significantly more stressors and traumatic events than girls. Further, a study done among detained youth in the US reported that significantly more males (93.2%) than females (84%) had gone through traumatic experiences, with Hispanic males having significantly higher prevalence rates (19.6%) than their Hispanic female counterparts (16.9%) (Abram et al., 2013).

In yet another study that was undertaken in Wenchuan one year after an earthquake in Wenchuan City, focusing on students who lived in the city, the male students were found to be more prone to developing PTSD than the females (Fu et al., 2013). The studies cited confirm that the findings of this study were within reasonable ranges and that males may have higher prevalence rates of PTSD than the females.

Contrary to this were findings of a survey by Baker (2018) in England that showed that 5.1% of women and 3.7% of men had PTSD; while still another determined that females had a higher lifetime prevalence for PTSD at 8.0% than males at 2.3% (Kessler, 2017). Further, APA (2013) indicated PTSD to be more prevalent among the female gender than the male gender across the lifespan.

On the other hand, some studies have not found any difference in the genders' prevalence rates. For instance, a study among detained youth revealed no significant difference in the overall prevalence of PTSD males or females (Abram et al., 2013).
Similar findings were established by another study in Cape Town (South Africa) and Nairobi Schools (Kenya), where 22.2% of the participants met the criteria for PTSD with no differences in prevalence between the genders (Swain et al., 2017). The findings of this study, which are indicative that boys had a higher PTSD prevalence than girls, would therefore be a point for further study to find out the reasons behind this difference seen with this population in the informal settlements.

Concerning age, the prevalence of PTSD among the participants who were 10 years old was approximately 42.2% (p=0.019), while for the ones who were aged 11 years, the prevalence was 49.2% (p<0.001). Among the participants who were 12 years old, the prevalence of PTSD was 39.6% (p=0.003), while the participants aged 13 and 14 years had a prevalence of 35.5% (p=0.055) and 41.7% (p=0.007), respectively. From the findings of this study, it is noted that the younger participants (10 and 11 years) had relatively higher PTSD levels than their older counterparts (12, 13 and 14 years). These findings are supported by a study by Haag et al. (2019), which determined that younger participants had higher PTSD than their older counterparts.

Another study by Elklit, Vangsgaard, Olsen, and Ali (2019) confirmed how younger school children were likely to experience higher psychological distress than their older counterparts. Further, the study posited that younger school-going children may experience a higher prevalence of PTSD possibly due to the proposition that the traumatic experiences are likely to influence how they express their affection, thereby increasing their risk behavior above what is age appropriate (Elklit et al., 2019). On the other hand, the older adolescents are likely to withhold information about the traumatic experiences they have gone through, therefore revealing lower PTSD prevalence rates (Haag et al., 2019).
This could explain the higher prevalence rates found among the younger participants in this study. By observation, the older adolescents in the study only opened up later as the sessions went on, and therefore may have held back some information. The younger participants were notably more vocal right from the beginning. This observation is however contrary to earlier findings by Abram et al. (2013) that revealed relatively lower percentages (82.4% males and 59.1% females) among detained youth in an age group category of 10-13 years as opposed to youth aged 14-18 (94.2% males and 86.5% females), hence showing that the younger adolescents reported lower percentages of trauma.

It is evident that several studies indicate different prevalence rates across diverse populations. Still, the extent to which these differences can be ascribed to actual differences in the populations is not clear. Moreover, the differences could also be attached to the assessment methods, such as the tools used and how the sample was selected (Mahmood, Ibrahim, Goessmann, Ismail, & Neuner, 2019). Therefore, with regard to this study, it is possible that the self-report instrument aligned to the DSM-V used in this study may have contributed to the prevalence rates as it gave the participants freedom to express their true feelings.

5.2.2 Factors associated with PTSD among adolescents in informal settlements

This study identified the factors associated with PTSD among adolescents living in informal settlements as its second objective. Concerning gender, the findings of this study indicated that the mean PTSD scores among the female participants were slightly higher than those of the male participants. Further, these differences in gender had a statistically significant effect on the variance of the PTSD levels. This indicates an association between gender and PTSD, thus inferring that gender difference is likely to influence the severity of PTSD.
The finding that gender is significantly associated with PTSD concurs with the DSM-5 position that females have a higher risk of developing PTSD than their male counterparts (APA, 2013). Similarly, a study done in Europe determined that compared to men, women had two to three times higher risk of developing PTSD (Olff, 2017). Further, a systematic review of gender differences in the mental health of unaccompanied refugee minors (URM) that was carried out in Europe indicated that girls were likely than males to develop late-onset PTSD (OR=1.64, p=<0.1) (Mohwinkel, Nowak, Kasper, & Razum, 2018).

Studies in Africa have equally confirmed the association of gender with PTSD. For example, a cross-sectional study among Koshe Island survivors in Ethiopia found the female gender significantly associated with PTSD (AOR=1.74, 95% CI 1.21 TO 2.50) (Asnakew et al., 2019). Another study in Ethiopia among road traffic survivors also found the female gender (AOR =2.23, 95 CI 1.40, 3.56) to be associated with PTSD (Yohannes, Gebeeyehu, Adera, Ayano, & Fekadu, 2018).

Similarly, in a study carried out in Uganda, females were found to possess a greater risk of developing PTSD (44.4%) than males (31%) (Elklit & Mandrup, 2014). This was further affirmed by Jenkins et al. (2015) in a cross-sectional household survey in Kenya that found being female a risk factor for PTSD. In agreement with these findings was another study done among Kenyan school children during post-election violence. The study found gender to correlate with PTSD (with girl as referent AOR = .70, 95% CI = .57-.86) (Mbwayo, Mathai, Harder, Nicodimos, & Vander Stoep, 2019).

This difference in gender has been attributed to the difference in exposure to traumatic events and the varied ways in which the different genders respond to traumatic events (Idemudia, William, Boenke, & Wyatt, 2013). A further
explanation for this gender difference was offered by Olff (2017), who postulated that women appeared to have a hypothalamus-pituitary-axis that is more sensitized than men. On the other hand, men were viewed as having a physiological hyperarousal system that is more sensitized than women (Olff, 2017). Therefore, the gender and sex differences in the brain of women and men can be applied as a basis of explaining why females have a higher risk of developing PTSD.

Other authors have further argued that although gender is associated with PTSD, it is less clear what the disparity can be attributed to. According to Farhood, Fares, and Hamady (2018), the gender disparity was proposed to arise from differences associated with pretrauma, trauma, and posttrauma factors. Additionally, the differences could partly arise from specific profiles that are unique to specific genders such as cultural and traditional social values (Farhood et al., 2018). Adolescent females were also found to be at greater risk for cognitions that are related to PTSD, leading them to have more negative views of themselves and the world that are longer lasting (Ma et al., 2011 in Noonor, et al., 2012). This could explain the gender difference when considering factors associated with PTSD in this study population since girls are generally likely to develop negative views of themselves, especially after a negative experience.

On the other hand, some studies found no significant relationship between the gender of an individual and their risk of developing PTSD. One such study was carried out by Harder et al. (2012) among adolescents in an informal settlement in Kenya six months after post-election violence. The study's findings showed no sex difference in the development of PTSD (Harder et al., 2012). Similarly, a study that was undertaken in Northern Uganda, seven years after a conflict in three districts found no association between gender and PTSD (Mugisha, Muyinda, Wandiembe, &
Kinyanda, 2015). These findings were further supported by another study carried out 10 to 11 years after the September 11, 2001 terrorist attack in the USA, whose results showed that 13.7% of men and 24.1% of women had met the criteria for PTSD (Bowler et al., 2017). However, when all other variables such as socioeconomic, demographic, and social resources were considered, gender did not qualify as a significant predictor of the severity of PTSD symptoms (Bowler et al., 2017).

With regard to whether experiencing physical violence was associated with PTSD, this study found the participants who had experienced physical violence to have higher PTSD scores, an indicator that physical violence had a statistically significant influence on the variance of PTSD levels. This finding is backed by an earlier meta-analysis of risk factors for PTSD that found childhood adversity to predict PTSD consistently across various studies (Brewin, Andrew, & Valentine, 2000). A study on victimization among Ugandan youth corroborated these findings that physical abuse had a positive relationship with PTSD (Elklit & Mandrup, 2014). Another study in Kenya after the 2007/2008 post-election violence in Kenya found the adolescents who experienced post-election communal violence to have higher levels of PTSD (Mwania & Muola, 2013). This was further backed by another study that confirmed how previously experiencing physical violence was a risk factor for being raped (Baiocchi et al., 2019), a traumatic event likely to result in PTSD.

Exposure to physical violence has been found to be common among the adolescents in informal settlements. This exposure makes the adolescents feel that their lives are under threat since the events are also often perpetrated by those very close to them. This may cause unimaginable and constant fear of injury and helplessness in the adolescents. The violence thus turns into a trauma-eliciting event...
with the development of PTSD as a likely outcome. It is, hence evident that adolescents who experience physical violence are likely to develop PTSD.

It was also established in this current study that the mean PTSD score seemed to increase with the frequency of violence. This is supported by a study undertaken in Kenya that compared two locations where one experienced communal violence (Kibera), and the other did not (Kayole). The study that was undertaken after the post-election violence found higher PTSD levels in Kibera than in Kayole (Mwania & Muola, 2013), indicating that PTSD levels are likely to increase with the frequency of violence. However, this increase in the frequency of violence was not statistically significant in this study even though the mean PTSD score seemed to increase with the frequency of violence. A possible explanation for the increase not being statistically significant could be related to the type of violence the adolescents were exposed to. For instance, if the violence was perpetrated by members of the family, the frequency may not matter since the violence would more or less be chronic.

Regarding age, the difference in age among the participants in this study did not influence the severity of PTSD since the difference was not statistically significant. This is reinforced by findings of a study in Northern Uganda that found no association between age and PTSD (Mugisha et al., 2015). It is nevertheless contrary to what several other studies have established. For example, a systematic review of child mental health in sub-Saharan Africa found children’s age a significant risk factor for the development of PTSD (Cortina, Sodha, Fazel, & Ramchandani, 2012). The study found that older children had a higher risk of developing PTSD (Cortina et al., 2012). In agreement with this is another study in Kenya that revealed age as a statistically significant predictor of PTSD symptoms \[F(2,87)=2.479, P<.05\], with older adolescents being more likely to develop PTSD than their younger counterparts.
that being young is a predictor of the severity of symptoms of PTSD (Bowler et al., 2017).

Arguably, the findings in this study that age was not significantly associated with the levels of PTSD could be attributed to the fact that there was very little difference in age among the participants. This study was carried out among 10 to 14-year-olds who are more or less within the same developmental stage and, therefore, were likely to respond to PTSD in a similar manner where age-related factors were concerned. This is supported in a study that asserted how developmental differences would be more evident where the population consists of a larger diversity in terms of age, such as pre-schoolers and youth attending schools (Greene et al.; Scheeringa et al., as cited in Harder et al., 2012).

In relation to the association between the family set-up and PTSD, differences in the family set-up were not found to have a statistically significant effect on the variance of PTSD scores. This could due to the few questions asked about the family set-up that did not adequately assess family dysfunction. It is also possible that some of the participants may have been embarrassed about their family set-up and therefore selected a more acceptable description. Another explanation could be that the types of families present in the informal settlement set-up have been normalized. Therefore, this aspect did not qualify as a factor associated with PTSD.

This study's findings were contrary to findings from other studies such as one done in the USA to assess family functioning and PTSD in adolescents who had survived cancer (Alderfer, Navsaria, & Kazak, 2009). The study revealed that adolescents who were diagnosed with PTSD had poorer family functioning, especially in the domains of Affective Responses ($F[1,116]=8.03, p=.005$, partial $\eta^2=.07$), and
Affective Involvement ($F[1,92]=6.81$, $p=.011$, partial $\eta^2=.07$) (Alderfer et al., 2009). Further, 75% of adolescents with PTSD came from families that were described as poorly functioning. The study found that adolescents who had PTSD were 5.32 times likely to be members of families described as poorly functioning (95% CI: 1.28-22.72) (Alderfer et al., 2009). This infers an association between family functioning and levels of PTSD, which is contrary to the findings of this study.

Further, experiencing violence at home did not significantly affect the variation of PTSD scores. This, however, is contrary to findings of a study by Knight (2015), which determined that continuous exposure to family violence can result in trauma. Similarly, contrasting the findings was another study by Baiocchi et al. (2019) which established that previous experience of violence at home was a risk factor for traumatic events such as rape that often results in PTSD. Still, another study revealed that being exposed to domestic violence was related to anxiety and depression symptoms; and how a child perceives their father-child, and father-mother relationships are significantly associated with symptoms of PTSD and anxiety (Paul, 2019). Most studies seem to affirm that violence at home is likely to be associated with PTSD even though this study revealed findings contrary to the studies.

The explanation, therefore, that is likely to be applicable in the finding that the effect of violence at home did not have a statistically significant effect on the PTSD scores could be that the violence was normalized among the participants in this study. This normalization could arise from the likelihood of higher frequencies of violence in the informal settlements as described in the reviewed literature, such that the adolescents do not even recognize violence as serious and wrong, but instead as part of the day-to-day life. This observation is supported by a study in which women educators revealed how the violence in the domestic space is perceived, even
naturalized and replicated in the other areas of interaction such as the schools (Cordeiro et al., 2019). Therefore, it is possible that the adolescents had witnessed and lived with frequent violence in the home that it no longer caused them significant levels of distress.

Similarly, experiencing violence at school did not have a statistically significant influence on the variance of PTSD scores. These findings are also contrary to results of a meta-analysis that found a correlation of .42 (95% CI: .36-.48; p<.001) between bullying and PTSD (Nielsen, Tangen, Idsoe, Matthiesen, & Magerøy, 2015). In accord with the contrary findings were results of another study that revealed 50% (range 46.2 -61.5%) of adolescents who had been bullied as having PTSD scores within the clinical range (Ossa, Pietrowsky, Bering, & Kaess, 2019).

Bullying is likely to be one of the most common forms of violence in any school set-up. The findings of this study could, consequently, imply that the violence the students experienced in school was probably not severe enough to significantly predict PTSD. This could be credited to the high discipline levels that are maintained in the controlled school environment leading to milder forms of violence among the students. In addition, the teachers are also restricted by government policies on the level and types of punishment they can administer to them. Further, this may also be explained by how the adolescents perceive everyone in their community as interdependent and, therefore, focus on social harmony by building relationships that help fulfill social roles (Lidell & Jobson, 2016). This is likely to alter how adolescents perceive any traumatic events they experience in school resulting in fewer cases developing into PTSD.

Even though this study only found gender and exposure to physical violence to have a statistically significant association with PTSD, other studies with related
objectives have revealed different outcomes. For instance, a study carried out among the elderly in Indonesia after an earthquake found that having a chronic illness (OR=2.490; 95% CI=1.151-5.385), public health center utilization (OR=2.200; 95% CI=1.068-4.535), and occupational status before the disaster (OR=2.726; 95% CI=1.296-5.730) were associated with PTSD (Aurizki et al., 2019). Further, a study in South Africa found recent life stressors to be significantly associated with lifetime trauma, whereas childhood trauma and recent stressors were significantly associated with PTSD among mothers (Koen et al., 2016). Another study carried out among humanitarian workers based in South Sudan found that exposure to chronic stress was positively associated with PTSD (p<0.001) (Strohmeier, Scholte, & Ager, 2018). This, therefore, affirms that there are many other factors associated with PTSD.

5.2.3 Relationship between PTSD and school attendance

The third objective evaluated the potential link between PTSD and school attendance or absenteeism from school. The findings indicated that there was a statistically significant positive correlation between the rate of absenteeism and PTSD levels; thus showing that the rate of absenteeism could be predicted from PTSD levels. A moderate degree of correlation between absenteeism and PTSD scores was established, demonstrating that the severity of PTSD could explain 14% of the absenteeism noted in the study. The results also indicated that PTSD predicts absenteeism in a statistically significant manner.

In support of these findings, several studies have revealed how poor mental health could lead to reduced or poor school attendance, describing anxiety disorders (such as PTSD in this study) as particular risk factors (Egger, Costello, & Angold, 2003; Elliott & Place, 2009). For instance, a systematic review of anxiety disorders
and poor attendance at school revealed associations between anxiety and different types of absenteeism (Finning et al., 2019).

Furthermore, another systematic review that examined the school-related outcome of exposure to trauma revealed indiscipline, poor school attendance, and even dropout as some of the consequences of PTSD (Perfect et al., 2016). Similarly, traumatic stress has been found to have some behavioral consequences, which include reduced school attendance and attachment difficulties (Layne et al., 2014). These studies confirmed that adolescents who have PTSD are likely to have poor school attendance due to the negative consequences of PTSD.

On the other hand, in concurrence with the findings of this study, some studies show evidence of improved school attendance after relief from PTSD symptoms following a traumatic event that had contributed to reduced attendance. One such study by Stein et al. (2003) showed an improvement in school attendance and academic performance by the end of the school year among the adolescents who had recovered from the effects of PTSD. Another study set out to investigate school performance among adolescents after a shooting and found a decline in school performance and attendance in the year that the shooting occurred (Strom et al., 2016). The school performance and attendance, however, improved as the students stayed in school and got the support they needed (Strom et al., 2016), signifying possible growth after relief from the effects of PTSD.

Even more studies substantiate the negative effects of trauma on school-going adolescents. For instance, a study was done to assess absenteeism from school and the academic performance among adolescents who had survived a terrorist attack in Norway (Strom et al., 2016). Compared to the previous year, the study recorded increased absence from school after the attack. Nonetheless, after recovery, there was
improved school attendance and therefore, performance, an indication that the recovery from trauma played a role in the outcome (Strom et al., 2016). In alignment with these findings was a study carried out by Yablon (2015), which determined that a reduction in PTSD led to an increase in school attendance among students in an armed conflict zone in Israel.

Literature is replete with evidence of how trauma affects the children invasively, causing a stress-reaction that wires them to operate on a survival mode. When in survival mode, it is difficult for these adolescents to negotiate the normal developmental challenges in a healthy manner. Consequently, they are likely to not socialize, learn, and develop the skill sets necessary to go through this stage of life successfully. These inadequacies may therefore combine, resulting in a decline in school attendance and performance, made worse by behavioral problems such as poor emotional regulation and inattentiveness. It is, therefore as well that this study confirmed (and is supported by plenty of studies) a positive correlation between PTSD and school absenteeism.

5.2.4 Effectiveness of CBITS in the treatment of PTSD

With regard to the fourth objective, the study evaluated the effectiveness of CBITS in the treatment of PTSD. Statistically significant reductions were established in the mean PTSD scores between the baseline and midline stages, and between baseline and end line stages among the participants in the experimental group. This was indicative of the fact that treating the participants with CBITS led to a statistically significant reduction in symptoms of PTSD between baseline and midline stages. The levels of PTSD did not change much between midline and end line, an indication that the participants maintained the gains they had garnered during the intervention.
With regard to effect size, a Cohen’s d of 0.089 at the baseline stage showed that the effect size was small. For the midline and end line stages, Cohen’s d was 0.79 and 0.82, respectively, showing that in each case, the effect size was large, hence denoting that the CBITS intervention had a large effect size on the PTSD. That is, CBITS was effective in reducing the PTSD symptoms among the participants.

As expected, the control group of participants displayed a decrease in the mean scores for PTSD between baseline and midline stages, as well as between baseline and end line stages, that was not statistically significant. This confirmed that without the CBITS treatment, there was no significant change in the severity of PTSD among the participants in the control group, further affirming that without the CBITS intervention, the symptoms of PTSD significantly.

The findings of this study are in congruence with scientific evidence asserting that CBTs such as CBITS are recognized evidence-based interventions for the reduction of PTSD symptoms among adolescents (Dorsey et al., 2017). The effectiveness of CBITS in alleviating the symptoms of PTSD is affirmed by a study carried out to assess the CBTs for PTSD among children and adolescents (Dorsey, Briggs, & Woods, 2011). The authors noted that in a meta-analysis of treatments for child and adolescent PTSD, CBT approaches gave better results than other approaches, including play therapy, art therapy, psychodynamic and pharmacologic therapies (Wethington et al., 2008). Yet another study confirmed that cognitive behaviorally-based treatments demonstrated a moderate Cohen’s d effect size of .50 in reducing symptoms of PTSD when compared to control groups (Silverman et al., 2008). This study yielded an even larger Cohen’s d effect size of 0.79 between the baseline and midline stages of the study.
Similarly, a review of psychological interventions for the treatment of PTSD among children and adolescents found CBT to have the best evidence of effectiveness for up to one month after treatment ended (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013). This aligns with the findings of this study, where 12 weeks after midline assessment of the PTSD levels, the CBITS intervention was still effective as it yielded an even higher Cohen’s d effect size of 0.82. The indication here is that the CBITS intervention was still effective 12 weeks after treatment ended.

In further support of this was a systematic review in Brazil that confirmed the efficacy of CBTs in treating PTSD (Lopes, Macedo, Coutinho, Figueira, & Ventura, 2014). Additionally, another review of therapies carried out to address childhood PTSD found cognitive behaviorally-based therapies to be more effective in alleviating PTSD symptoms than non-CBT interventions (Gilman, Strawn, & Keeshin, 2015).

In agreement with the findings, further systematic analysis of intervention for posttraumatic stress among children who were exposed to violence revealed that individual CBT interventions were the most promising in alleviating symptoms of PTSS (Miller-Graff & Campton, 2016). Further, a meta-analysis of interventions for children and adolescents with PTSD found psychological interventions specifically, TF-CBT, to be most effective in reducing symptoms of PTSD with medium to large effect sizes (Morina, Koerssen, & Pollet, 2016). All these studies affirm the effectiveness of cognitive-behavioural therapies such as the CBITS, that was applied in this study.

According to Jaycox et al. (as cited in Horton, 2019), since its initial development in 1997, CBITS as an intervention has been continuously applied and evaluated as evidenced by several studies that found it to be effective in relieving symptoms of traumatic stress among children and adolescents. Moreover, there is
plenty of evidence in research showing a significant reduction in symptoms of PTSD and depression among children following the CBITS intervention (Allison et al., as cited in Horton, 2019). For instance, a study undertaken in the USA among Spanish-speaking immigrants revealed improved PTSD symptoms when compared with participants in the waitlist at three months follow-up (Kataoka et al., 2003).

Correspondingly, a study among 769 children aged 10-12 years with 21% of them exhibiting positive symptoms of PTSD, 126 of the participants reported reduced PTSD and depression symptoms posttest (Stein et al., 2003). Further evidence for the effectiveness of CBT approaches was provided by a review of psychosocial treatments by Silverman et al. (2008), who stated that school-based group cognitive-behavioral treatment such as CBITS met the criteria for being feasibly efficacious.

Additionally, an adaptation of CBITS in American Indian communities in Southwest showed reduced symptoms of depression and PTSD among the students (Morsette et al., 2009). Congruent with these findings were the results of a study carried out in San Francisco among adolescents where CBITS produced moderate to large effect sizes of -.25 and -.63 on anxiety and posttraumatic stress (Kataoka et al., 2012). Corresponding to these findings are results from a drive to implement CBITS in schools in the USA whereby 350 children from diverse racial and ethnic backgrounds went through the CBITS intervention (Hoover et al., 2018), and the results revealed significantly reduced PTSD symptoms (42%, d=.879) (Hoover et al., 2018).

More studies carried out in other regions, even though not necessarily with the CBITS intervention, concur with the results of this study. For instance, an assessment of the efficacy of a school-based intervention among children affected by political violence in Indonesia reported significant improvement in PTSD symptoms (mean
change difference, 2.78; 95% confidence interval [CI], 1.02 to 4.53) in the treatment group compared to the waitlisted group (Tol et al., 2008).

In Germany, a trauma-focused group intervention that was cognitive-behavior based named Mein Weg (My Way) was adapted and applied among young unaccompanied young refugees (UYR) (Pfeiffer & Goldbeck, 2017). The study revealed a significant reduction in posttraumatic stress symptoms (preintervention (mean=27.6, SD=7.9; postintervention mean=20.7, SD=6.3; t(28)=4.2, p=.001, Cohen's d=0.97); thus demonstrating the efficacy of the intervention concerning the reduction of PTSD symptoms (Pfeiffer & Goldbeck, 2017). Another study done among refugees with PTSD in Copenhagen reported positive outcomes of reduced PTSD symptoms when the respondents were subjected to a highly structured CBT that incorporated mindfulness and acceptance therapy (Buhmann et al., 2015).

Likewise, in Iran, a study carried out to examine the effectiveness of CBT in treating child victims of domestic violence established that CBT was effective in relieving the symptoms of psychological effects of the abuse on the measured variables (p=.001) (Jaberghaderi, Rezaei, Kolivand, & Shokoohi, 2019). Moreover, a randomized controlled trial of teaching techniques of recovery among adolescents in rural Palestine revealed a similar outcome. After the intervention, the adolescents had significantly fewer posttraumatic stress symptoms when compared to the waitlist group (Barron, Abdallah, & Heltne, 2016).

In Africa, even though there is a paucity of CBITS focused studies, several studies have confirmed the efficacy of other cognitive-behaviour based interventions such as TF-CBT and NET. For instance, a study carried out in South Africa among young males living in a community plagued with violence yielded reduced PTSD scores (Cohen’s d=-0.97) at the first follow-up after receiving forensic offender
rehabilitation narrative exposure therapy (FORNET), a CBT intervention (Hinsberger et al., 2017).

Contrary to the findings of this study, some studies showed no conclusive results on whether school-based interventions were effective in treating PTSD. For example, a study carried out in Burundi among war-affected children showed no main effects of a school-based intervention on symptoms of PTSD and depression among the affected children (Tol et al., 2014).

The effectiveness of CBITS in reducing PTSD symptoms may be explained in reference to the organismic valuing process that proposes how each individual has an inborn motivation to always move towards improvement knowing what is important and of value to them (Joseph & Linley, 2005). The organismic valuing theory posits that individuals have an inborn ability to build a new assumptive world to replace the one shattered due to having undergone traumatic experiences. In the process, the affected individuals also acquire and incorporate new trauma-related information into their new assumptive world (Payne et al., 2007).

This organismic theory further posits that after one is exposed to a traumatic event, the cognitive-emotional processing may lead to assimilation, positive accommodation, or negative accommodation (Joseph & Linley, 2005). At baseline, before the intervention, it is assumed that the adolescents who had gone through traumatic experiences accommodated the new information and therefore had trauma-related information that was not consistent with their pre-existing beliefs. This led them to revise their assumptions in order to take into consideration the trauma-related information. Those who accommodated the information negatively with perceptions such as ‘there will always be bad things happening, and we have no control over them, neither can we prevent them,’ were likely to develop depression and PTSD.
symptoms (Jayawickreme & Blackie, 2014). This negative accommodation is often changed through cognitive processing drawn from interventions such as CBITS, which may lead to the individuals assimilating the new trauma-related information.

As observed in this study, it is evident that CBITS facilitated the cognitive emotional processing leading to the alleviation of the PTSD symptoms. According to Payne et al. (2007), when assimilation occurs, trauma-related information is perceived to be consistent with the pre-existing beliefs that an individual had about the self and the world (Payne et al., 2007). This may explain the reduced symptoms of PTSD recorded in this study.

5.2.5 Effectiveness of CBITS in enhancing PTG

As its fifth objective, the study evaluated the effectiveness of CBITS in enhancing PTG among adolescents in informal settlements. Perceived social support was indicated to be a good predictor of PTG (Ramos & Leal, 2013). The findings indicated a weak positive correlation between perceived social support and PTG. The R square value of 0.029 (2.9%) demonstrated that the perceived social support could explain only 2.9% of the PTG. The implication here is that 97.1% of the PTG could be attributed to other factors.

Regarding the intervention, there was a statistically significant reduction of -4.158 in the mean PTG scores between baseline and end line stages, t(94) = -3.212, p=0.002. The results showed that the effect of CBITS treatment was associated with a reduction in PTG. This was confirmed when the control group was found to initially have a statistically significant increase of 4.687 in PTG between baseline and midline stages, and indicated a fluctuation in PTG scores, followed by a statistically insignificant increase of 0.636 in the mean PTGI between baseline and end line.
stages, \( t (98) =0.403, p=0.688 \). The inference, therefore, was that CBITS intervention contributed to a reduction in PTG in the experimental group.

These findings are endorsed by the results of a general study population of children (\( N=1290 \)) aged between eight and twelve years who had been exposed to adverse life events in Australia (Laceulłe et al., 2015). According to the findings, there was a correlation between high stressor levels and high PTG in all PTG domains (Laceulłe et al., 2015). Another study, conducted in 2009 in China among 2300 Wenchuan earthquake survivors to investigate the relationship between PTG and PTSD, revealed a positive association between PTSD and PTG (Jin et al., 2014). The study results were such that 40.1% of survivors had PTSD, whereas 51.1% had PTG. This was indicative of the possibility that PTSD may still exist with or enhance the development of PTG; hence the proposition that the presence of distress might be necessary for the initiation of the change process and perhaps in maintaining the growth is emphasized.

Also, a study carried out in Israel to investigate the association between PTG and posttraumatic stress found that PTG may lead to a deterioration of marital relationships between veterans and their wives over time (Lahav, Kanit-Maymon, & Solomon, 2017). PTG was found to be positively correlated with PTSS, with higher PTG at T1 predicting higher PTSS at T1 (\( B=1.71, SE=0.38, P<0.001 \)) (Lahav et al., 2017). Yet another study was undertaken in Israel among mothers to assess the relationship between PTG, PTSD, and the coping strategies the mothers applied to deal with their exposure to rocket missiles for a prolonged period of time (Schechory & Laufer, 2017). The study determined that between PTSD and PTG, there existed a positive correlation. The relationship between PTSD and PTG was also found to be mediated by problem-focused coping (Schechory & Laufer, 2017). Consequently, the
study found that mothers with higher PTSD symptoms used more of problem-focused coping, and they had greater PTG (Schechory & Laufer, 2017).

Other studies to examine the relationship between PTSD and PTG among adolescents have been carried out with varying outcomes. For example, in Israel, Levine et al. (2008) discovered an inverted-U curvilinear relationship between PTSD and PTG, assuming that PTG might be at its highest at moderate PTSD levels. Additionally, Acquaye et al. (2018) carried out a study among refugees and IDPs in Liberia, assessing what moderating effect an individual’s religious commitment may have on the relationship between PTSD and PTG, and established a curvilinear moderating effect (Acquaye et al., 2018). This means that the respondents who had higher religious commitment levels presented lower PTG levels, while those with moderate religious commitment levels presented with higher PTG levels.

In contrast, a longitudinal study that set out to assess the bidirectional relationship between PTG and posttraumatic stress symptoms in China revealed a different outcome, as it established that at 12 months after the earthquake, PTG negatively predicted PTSS (Chen et al., 2015). This implies that as the PTSS levels reduced, PTG levels increased. However, PTSS at 12 months after the earthquake could not predict any subsequent PTG. In agreement with this was a study in Israel among students attending school in armed conflict areas, which confirmed that school connectedness and support from teachers contributed positively to PTG as PTSD levels reduced (Yablon, 2015).

Still, another study in Spain by Ochoa et al. (2017) showed that facilitating PTG among cancer patients who had been taken through an intervention called positive psychology for cancer (PPC) had positive effects. The same study indicated a decrease in emotional distress and posttraumatic stress with an increase in PTG.
In Kenya, a study carried out among survivors of the Garissa University terrorist attack revealed a positive significant relationship between initial trauma processing strategies in the form of crisis counselling, and PTG (R²=0.121, F=6.474, P≤0.05) (Asatsa et al., 2018).

In contrast to the negative or positive correlation, however, a study that set out to investigate the role emotion regulation played among 315 adolescents after an earthquake confirmed the independence of PTSD and PTG (Zhou & Wu, 2016). The findings revealed that the mechanisms that influence PTG and PTSD are different and could therefore be considered as independent and separate dimensions of psychological experiences that occur after one is exposed to a traumatic event (Zhou & Wu, 2016). This independence could be a factor in the results of this study that found a somewhat positive correlation between PTSD and PTG among the experimental and control groups.

Moreover, several cross-sectional studies carried out to examine the relationship between PTG and PTSD symptoms did not reveal any systematic relationship (Zoellner & Maercker, 2006). However, such studies revealing an association between PTG and PTSD that is negative were found to have either used self-constructed scales or an interview format to assess PTG. This study, on the other hand, used PTGI-C-R - a standardized, valid, and reliable tool - to assess PTG.

Posttraumatic growth was found to be a phenomenon of growth that may occur after a severe crisis and not moderate or low levels of stress. It is, therefore, possible that the traumatic events that led to the development of PTSD in adolescents were not as severe, hence the reduced levels of PTG. In the assertion of Tedeschi and Calhoun (2004), PTG is also expected to transform individuals’ lives beyond an illusion and challenge their basic assumptions of life. Nevertheless, alternative
perspectives argued that PTG might have a quality that is illusionary, hence hindering coping in the end (Lahav, Solomon, & Levin, 2016; McFarland & Alvaro, 2000). The adolescents in this study may have perceived the possible growth as illusionary and therefore failing to register it when it was assessed using the PTG instrument. This could be applied in explaining the reduced rates of PTG.

In reference to the theories of PTG, organismic valuing process theory proposes that individuals are inwardly wired to recognize the things that are of importance to them, and that would make them feel a sense of fulfillment (Joseph & Linley, 2005). Adolescents in this study were, therefore, expected to know what is necessary for them to function reasonably despite the traumatic experiences they had gone through. This theory proposes that individuals have an innate ability to build a new assumptive world that would replace the one shattered by trauma if they incorporate the new trauma-related information (Payne et al., 2007).

Further, the cognitive-emotional processing that is often facilitated through psychotherapy - such as CBITS - was expected to lead the adolescents to either assimilating, positively accommodating, or negatively accommodating the new trauma-related information as postulated by Joseph and Linley (2005). According to Joseph (2009), everyone has an assumptive world concerning all their daily activities that is often interrupted by traumatic events, forcing the individual to process the trauma to either disregard or confirm existing assumptions. It is possible that the adolescents in this study confirmed their new assumptions such as ‘the world is not a safe place’, leading to a registered reduction in PTG.

Another possibility is that the adolescents in the experimental group assimilated their experiences into the beliefs they had before about the world, such as ‘bad things happen’, after the cognitive processing they were taken through by the
CBITS intervention protocol. This could have given them the chance of recovering from trauma signified by a reduction in PTSD levels, with no positive psychological growth (Jayawickreme & Blackie, 2014).

The implied role, thus, of psychotherapy such as CBITS in this study in fostering PTG was to promote positive accommodation by improving the autonomy and competency of the participants. From the analysis of the data, it can be deduced that CBITS only achieved cognitive and emotional processing that led to the adolescents in the experimental group assimilating their traumatic experiences into their pre-trauma beliefs. This consequently led to their PTSD symptoms being alleviated with the possibility of the participants returning to a pre-trauma state. However, the adolescents did not achieve positive accommodation, which would have propelled them to achieve PTG.

About the functional descriptive model of PTG, the adolescents may have had assumptions reinforced for a long time that made them believe they understood their environment. The traumatic experiences may have made them start questioning how reliable and adequate their schemas were. After being taken through CBITS intervention, the adolescents may have been triggered through rumination to view their environment differently to manage their emotions in the process.

From the findings of this study, it can be determined that the participants probably did not change their schemas in ways that would encourage PTG. This could be credited to perhaps inadequate support systems in their environment, a factor that is necessary for the development of new schemas and new meanings that would lead to PTG. Given the environment in the informal settlements, it may be a challenge for persons to get the support they need to enhance PTG. This could accordingly explain why the PTG levels reduced among the experimental group that had processed the
5.3 Conclusion

This study found a relatively high prevalence of PTSD (40.8%) among adolescents living in informal settlements; thus indicative of the possible influence of the environment on the prevalence of PTSD. The female participants were found to have a lower prevalence, at 39.7%; compared to the males who had 41.9%. With regard to the risk factors for PTSD, the study found the female gender (p=0.011) and physical violence (p=0.006) to be significantly associated with the development of PTSD among adolescents in the informal settlements.

Posttraumatic stress disorder was equally found to increase absenteeism from school after the study reported a statistically significant positive correlation of 0.331, with a p value<0.001 between PTSD and school attendance.

While perceived social support was found to be associated with PTG, CBITS intervention was found to contribute to a reduction in PTG. Further, the intervention, CBITS, was found to be effective in reducing the PTSD symptoms with a high effect size (Cohen’s d=0.79); there was a statistically significant reduction in PTSD score \( [t(94)=-6.091, \ p=0.000] \) between baseline and midline. The findings of this study consequently revealed a positive outcome of CBITS on the symptoms of PTSD. This calls for the need to scale up school-based interventions, especially among adolescents who are at risk, such as those living in informal settlements, in order to cushion them against developing PTSD.
5.4 Recommendations

One recommendation would be the need for the CPSS-SR-5 assessment tool, and the CBITS intervention to be simplified and adapted for the various populations. The adaptation could include a modification of the CBITS curriculum to uniquely fit into the busy schedule of the school counselors and school timetable. The uniqueness of the population, such as persons living in informal settlements, the culture, context, and the size of the student population, should be considered.

Secondly, there is a need for additional strategies to protect adolescents from exposure to traumatic events to prevent posttraumatic stress from escalating into PTSD.

In addition, it would be beneficial to adolescents if additional plans and strategies were incorporated into existing policies to support institutions in implementing psychological care, especially for informal settlements. This could be taken up by the cabinet secretary in the Ministry of Education in conjunction with the Ministry of Health.

Further, since CBITS has been proven to alleviate symptoms of PTSD, the intervention could be simplified, and school counselors trained to implement it so that they would be able to empower school children with coping skills. This would aid in the prevention and alleviation of symptoms of PTSD. This is an exercise that could be undertaken by bodies that govern psychologists and counselors, in conjunction with the Ministry of Education.

Finally, the findings and recommendations should be disseminated, especially through conferences and seminars so as to reach the relevant authorities in the ministries of education and health. This would then be followed by an evaluation of
the program, after which an implementation process of what would go to improve access to mental health among adolescents would be initiated.

5.5 Recommendations for Further Research

Social support, which has been known to be a protective factor against PTSD and a contributing factor to PTG, did not come out clearly in this study. Hence, a study can be carried out to ascertain the concept and role of social support among adolescents in informal settlements. Similarly, there is a need to study further, the concept of PTG among adolescents who are continually exposed to traumatic events in informal settlements.

Further research can be done to determine if there is complex trauma among adolescents living in informal settlements and the intervention that would best help alleviate its symptoms. This is in consideration of the indication of possible complex trauma among adolescents living in these settlements, as a result of the myriad traumatic events they are frequently and repeatedly exposed to.

Also, a study can be carried out focusing on the role of teachers and other caregivers in managing trauma among children in schools located in informal settlements.
REFERENCES


Klinic Community Health Centre. (2013). *Trauma-informed: The trauma toolkit: A resource for service organizations and providers to deliver services that are trauma-informed* (2nd ed.). Winnipeg, Canada: Author.


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APPENDICES

Appendix A: Introduction and Consent for the Headteacher (Experimental Group)

To: The Head Teacher
Embubul Primary School
From: Preskilla Ochieng-Munda, PhD
Student, Daystar University
Date: 14th May, 2019.

Dear Sir/Madam,

RE: Permission to collect data from your school

My name is Preskilla Ochieng-Munda. I am a PhD student in Clinical Psychology at Daystar University, Nairobi, Kenya. I do hereby request to conduct a study on the effectiveness of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in treatment of Posttraumatic Stress Disorder among adolescents in selected public primary schools in Kajiado County, Kenya.

I chose your school to participate in the study. I request that you grant me permission to recruit adolescents aged 10-14 years from the school to participate in the study. Students who will agree to participate in the study will be given assent forms to fill because they are below 18 years. The study will not only benefit the participants but adolescents in the county and nationwide. The study will involve individuals in grades five, six and seven. If given permission, the procedure for the study will entail recruiting the participants by administering a socio-demographic questionnaire as well as standardized tools for posttraumatic stress, and posttraumatic growth. The study is intended to take six months to allow for both data collection and intervention. Students who will be recruited will be assessed three times. The first time will be at baseline while the second time will be after 10 weeks of intervention. The third assessment will take place after another 12 weeks since the end of the intervention.

Kindly allow me to conduct the study as it will be strictly for academic purposes and will benefit the students who have PTSD. The identity of the students will remain highly confidential.

I look forward to your logistical support and thank you in advance.

Yours faithfully,

Preskilla Ochieng-Munda

Consent

I Mr./Mrs./Ms. _______________________________, the Head teacher of Embubul Primary School, do hereby give permission to the researcher to conduct research in the school.

[Signature]

Date: ____________________________
Signed

NGONG HILLS

Date 31/7/19

Daystar University
Library Archives Copy
Appendix B: Introduction and Consent for the Headteacher (Control Group)

To: The Head Teacher  
Enoomatasiani Primary School  
From: Preskilla Ochieng-Munda  
PhD Student, Daystar University  
Date: 14th May, 2019

Dear Sir/Madam,

RE: Permission to collect data from your school

My name is Preskilla Ochieng-Munda. I am a PhD student in Clinical Psychology at Daystar University, Nairobi, Kenya. I do hereby request to conduct a study on the effectiveness of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in treatment of Posttraumatic Stress Disorder among adolescents in selected public primary schools in Kajiado County, Kenya.

I chose your school to participate in the study. I request that you grant me permission to recruit adolescents aged 10-14 years from the school to participate in the study. Students who will agree to participate in the study will be given assent forms to fill because they are below 18 years. The study will not only benefit the participants but adolescents in the county and nationwide. The study will involve individuals in grades five, six and seven. If given permission, the procedure for the study will entail recruiting the participants by administering a socio-demographic questionnaire as well as standardized tools for posttraumatic stress, and posttraumatic growth. The study is intended to take six months to allow for data collection. Students who will be recruited will be assessed three times. The first time will be at baseline while the second time will be after 10 weeks. The third assessment will take place after another 12 weeks. Being a control group, the participants who meet the criteria for PTSD will be taken through an intervention after six months from the time the baseline data was collected.

Kindly allow me to conduct the study as it will be strictly for academic purposes and will benefit the students who have PTSD. The identity of the students will remain highly confidential. I look forward to your logistical support and thank you in advance.

Yours Faithfully,

Preskilla Ochieng-Munda

Consent

I Mr./Mrs [Signature] the Head teacher of Enoomatasiani Primary School, do hereby

✔ Give permission  
;o Deny permission

To the researcher to conduct research in the school.
Appendix C: Letter and Permission Form for Parents

Date: ______________________

Dear Parents,

[School name] is fortunate to have a special counseling program for students who have experienced stressful events. We have found that students who have experienced trauma as victims or witnesses often suffer from a unique kind of stress called traumatic stress. It could show up in the form of your child not wanting to go to school or as difficulties with schoolwork and concentration. We would like your permission to ask your child some questions about whether he or she has experienced or witnessed stressful events. Examples of questions that we will ask your child are “Have you been in a serious accident where you could have been badly hurt or could have been killed?” and “Has anyone very close to you been very sick or injured?” In addition, we will ask your child whether he or she has been experiencing trouble with falling and staying asleep or is experiencing bad dreams or nightmares due to the experience.

These questions will help us determine if the academic and/or social problems your child may be having are due to one or more stressful events that he or she might have experienced or witnessed. All of the information collected will be used to try to improve your child’s emotional wellbeing, his or her academic success, and the overall success of the school. If we find that your child has been a victim or witness to a stressful event, we hope to be able to offer a support group that will help him or her deal with any problems in a constructive way that we hope will improve his or her grades and attendance. The information that we collect will be kept confidential and will not be a part of your child’s school record.
If you would like your child to participate and wish to give us permission to ask your child questions related to stressful events, please sign the bottom of this form. If you have any questions related to this program or would like to review a copy of the questions that we will be asking your child, please contact me at 0722-267580.

Thank you for your cooperation and support.

Sincerely,

Student

Name: __________________________________________________________

Student Date of Birth ____________________________________________

☐ I accept ☐ I do not accept

Parent signature: ______________________________________________

_________________________________ Date:__________________________
Appendix D: Assent Explanation for the Experimental Group

Dear Participant,

My name is Preskilla Ochieng-Munda. I am a PhD student at Daystar University studying Clinical Psychology. I am conducting a research on Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in treatment of Posttraumatic Stress Disorder among adolescents in selected primary schools in Kajiado County, Kenya. I would like to invite you to take part in the research study.

I am requesting you to participate in this study by completing a set of questionnaires that enquire about some of your personal details. You will also answer other assessment tools that will measure whether you experience symptoms of posttraumatic stress disorder, besides establishing your levels of social support and posttraumatic growth. However, I will require permission from your school head teacher and parent or guardian indicating that you have been allowed to participate in the research since you are below 18 years of age. If you accept to participate in the study, you will be requested to attend therapy sessions on a weekly basis for a period of ten weeks, amounting to two and a half months. Baseline survey will be conducted before the intervention begins, followed by a midline assessment after ten weeks. A final assessment will then be conducted six months from the baseline assessment.

Your participation in this research is voluntary and you will not be discriminated for refusal to participate. Besides, you will be free to opt out anytime you feel like. Data gathered from this research will remain highly confidential and your name will not appear anywhere. However, the limits to confidentiality will entail any suspected threats to the lives of the participants such as abuse or neglect during the course of the study.
Therefore, I encourage you to be as honest as possible. Information gathered will be strictly for academic purposes and to assist mental health professionals develop treatment strategies for posttraumatic stress disorder among adolescents. Additionally, information gathered will assist in offering advice to policy makers on mental health issues that concern adolescents. For any questions, feel free to get in touch with me for clarification on 0722267580 or on prisakoth@yahoo.com. You can also contact my supervisor Alice Munene, Psy. D. on 0725354050, Daystar University.

I have read and understood all the information above and voluntarily accept to participate in the study.

Participants signature: ………………………… Date: …………………………

Researcher’s signature: ………………………… Date: …………………………
Appendix E: Assent Explanation for the Control Group

Dear Participant,

My name is Preskilla Ochieng-Munda. I am a PhD student at Daystar University studying Clinical Psychology. I am conducting a research on Cognitive Behavioral Intervention for Trauma in Schools (CBITS) in treatment of Posttraumatic Stress Disorder among adolescents in selected primary schools in Kajiado County, Kenya. I would like to invite you to take part in the research study.

I am requesting you to participate in this study by completing a set of questionnaires that enquire about some of your personal details. You will also answer other assessment tools that will measure whether you experience symptoms of posttraumatic stress disorder, besides establishing your levels of social support and posttraumatic growth. However, I will require permission from your school head teacher and parent or guardian indicating that you have been allowed to participate in the research since you are below 18 years of age. If you accept to participate in the study, you will be requested to participate in the baseline assessment. After six months from the time of the baseline assessment, you will be requested to participate in the endline assessments. Following this, you will be further required to attend four weekly sessions of psycho-education.

Your participation in this research is voluntary and you will not be discriminated for refusal to participate. Besides, you will be free to opt out anytime you feel like. Data gathered from this research will remain highly confidential and your name will not appear anywhere. However, the limits to confidentiality will entail any suspected threats to the lives of the participants such as abuse or neglect during the course of the study.
Therefore, I encourage you to be as honest as possible. Information gathered will be strictly for academic purposes and to assist mental health professionals develop treatment strategies for posttraumatic stress disorder among adolescents. Additionally, information gathered will assist in offering advice to policy makers on mental health issues that concern adolescents. For any questions, feel free to get in touch with me for clarification on 0722267580 or on prisakoth@yahoo.com. You can also contact my supervisor Alice Munene, Psy. D. on 0725354050, Daystar University.

I have read and understood all the information above and voluntarily accept to participate in the study.

Participant’s signature: ........................................ Date: ......................................

Researcher’s signature: ............................... Date: ......................................
Appendix F: Sociodemographic Questionnaire

Questionnaire serial number |___|___|___|___|

Date of interview:     __/__/ day    /__/__/month /__/__/__/__/Year

Your answers will be kept secret. No one will know how you answered these questions.

Introduction

The researcher is student of Clinical psychology at Daystar University. She is required to carry out research as a fulfillment for the course research methodology. The researcher is conducting an interventional study to determine the effectiveness of cognitive behavioral intervention for trauma in schools on posttraumatic stress disorder among adolescents in Embulbul primary school. The researcher also seeks to determine whether CBITS can lead to posttraumatic growth among adolescents who have PTSD. The results of this research will create awareness on the effective treatment of posttraumatic stress disorder. Kindly complete the following short questionnaire to help with this researcher. It should not take more than 20 minutes of your time. Please do not write your name or contact details on the questionnaire so that the information remains confidential.

BACKGROUND INFORMATION

Tick [✔] the appropriate answer or fill the blank spaces provided

1. Name of School___________________________________

2. Gender   [male] [female]

3. Age

10  [ ]
4. Class _________________________

5. What is your primary language of communication?
   - Kiswahili [ ]
   - English [ ]
   - Other [ ]

6. Nationality________________________

7. Religion (circle one)
   - Roman Catholic [ ]
   - Protestant (PCEA, ACK, AIPCA, etc) [ ]
   - Seventh Day Adventist [ ]
   - Muslim [ ]
   - Others [ ]

8. Where do you currently live? ____________________

9. Which of the following represents your family set up?
   - Both biological parents living together [ ]
   - Living with a step parent [ ]
   - Parents separated [ ]
   - Parents divorced [ ]
   - Single parent [ ]
Living with guardian (s) [ ]

10. Have you ever witnessed violence in the following places;

Home [Yes] [No]
School [Yes] [No]
Other [Yes] [No]

11. How many times have you witnessed the violence mentioned above?

Not at all [ ]
Once a week or less / a little [ ]
2 to 3 times a week / somewhat [ ]
4 to 5 times a week / a lot [ ]
6 or more times a week / almost always [ ]

12. Have you ever gone through physical violence [Yes ] [No]

13. If yes to question 12 above, how many times have gone through the physical violence

Not at all [ ]
Once a week or less / a little [ ]
2 to 3 times a week / somewhat [ ]
4 to 5 times a week / a lot [ ]
6 or more times a week / almost always [ ]

14. How many times have you missed school last term

Not at all [ ]
Once a week or less / a little [ ]
2 to 3 times a week / somewhat [ ]
4 to 5 times a week / a lot [ ]

15. State the reason for missing School

________________________________________________________________________
________________________________________________________________________

16. How many friends do you have in school?______________________________?

17. How many friends do you have at home?______________________________?
Appendix G: CPSS-SR-5

ID:

Date

Sometimes scary things happen to kids. It might be something like a car accident, getting beaten up, living through an earthquake, being robbed, being touched in a way you didn’t like, having a parent get hurt or killed, or some other very upsetting event.

Please write down the scary or upsetting thing that bothers you the most when you think about it

When did it happen?

These questions ask about how you feel about the upsetting thing that you wrote down. Read each question carefully. Then circle the number (0-4) that best describes how often that problem has bothered you IN THE LAST MONTH.
<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not at all</strong></td>
<td>Once a week or less / a little</td>
<td>2 to 3 times a week / somewhat</td>
<td>4 to 5 times a week / a lot</td>
<td>6 or more times a week / almost always</td>
<td></td>
</tr>
<tr>
<td>1. Having upsetting thoughts or pictures about it that came into your head when you didn’t want them to</td>
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<tr>
<td>2. Having bad dreams or nightmares</td>
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<tr>
<td>3. Acting or feeling as if it was happening again (seeing or hearing something and feeling as if you are there again)</td>
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<tr>
<td>4. Feeling upset when you remember what happened (for example, feeling scared, angry, sad, guilty, confused)</td>
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<tr>
<td>5. Having feelings in your body when you remember what happened (for example, sweating, heart beating fast, stomach or head hurting)</td>
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<tr>
<td>6. Trying not to think about it or have feelings about it</td>
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<tr>
<td>7. Trying to stay away from anything that reminds you of what happened (for example, people, places, or conversations about it)</td>
<td></td>
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<tr>
<td>8. Not being able to remember an important part of what happened</td>
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<tr>
<td>9. Having bad thoughts about yourself, other people, or the world (for example, “I can’t do anything right”, “All people are bad”, “The world is a scary place”)</td>
<td></td>
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<tr>
<td>10. Thinking that what happened is your fault (for example, “I should have known better”, “I shouldn’t have done that”, “I deserved it”)</td>
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<tr>
<td>11. Having strong bad feelings (like fear, anger, guilt, or shame)</td>
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<tr>
<td>12. Having much less interest in doing things you used to do</td>
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<tr>
<td>13. Not feeling close to your friends or family or not wanting to be around them</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14. Trouble having good feelings (like happiness or love) or trouble having any feelings at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Getting angry easily (for example, yelling, hitting others, throwing things)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Doing things that might hurt yourself (for example, taking drugs, drinking alcohol, running away, cutting yourself)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Being very careful or on the lookout for danger (for example, checking to see who is around you and what is around you)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>18. Being jumpy or easily scared (for example, when someone walks up behind you, when you hear a loud noise)</td>
<td></td>
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<td></td>
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<tr>
<td>19. Having trouble paying attention (for example, losing track of a story on TV, forgetting what you read, unable to pay attention in class)</td>
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<tr>
<td>20. Having trouble falling or staying asleep</td>
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<td></td>
</tr>
</tbody>
</table>
Have the problems above been getting in the way of these parts of your life IN THE PAST MONTH?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
<td>21. Fun things you want to do</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>22. Doing your chores</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>23. Relationships with your friends</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>24. Praying</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>25. Schoolwork</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>26. Relationships with your family</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
<td>27. Being happy with your life</td>
</tr>
</tbody>
</table>

CPSS SYMPTOM SEVERITY RANGES

<table>
<thead>
<tr>
<th>Symptom Severity</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal</td>
<td>0-10</td>
</tr>
<tr>
<td>Mild</td>
<td>11-20</td>
</tr>
<tr>
<td>Moderate</td>
<td>21-40</td>
</tr>
<tr>
<td>Severe</td>
<td>41-60</td>
</tr>
<tr>
<td>Very Severe</td>
<td>61-80</td>
</tr>
</tbody>
</table>
Appendix H: Multidimensional Scale of Perceived Social Support (MSPSS)

Instructions:

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Very Strongly Disagree</th>
<th>Strongly Disagree</th>
<th>Mildly Disagree</th>
<th>Neutral</th>
<th>Mildly Agree</th>
<th>Strongly Agree</th>
<th>Very Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is a special person who is around when I am in need.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. There is a special person with whom I can share joys and sorrows.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. My family really tries to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. I get the emotional help &amp; support I need from my family.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. I have a special person who is a real source of comfort to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. My friends really try to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. I can count on my friends when things go wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. I can talk about my problems with my family.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. I have friends with whom I can share my joys and sorrows.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. There is a special person in my life who cares about my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11. My family is willing to help me make decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12. I can talk about my problems with my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

**Scoring**

To calculate total score: Sum across all 12 items. This total score can also be calculated as a mean score (divide by 12).

To calculate the mean subscale scores:

- Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4.
- Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4.
- Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4.

Note that there are no established population norms on the MSPSS. Also, norms would likely vary on the basis of culture and nationality, as well as age and gender.

To divide respondents into groups on the basis of MSPSS scores, you can use the scale response descriptors as a guide. In this approach any mean scale score ranging from 1 to 2.9 could be considered low support; a score of 3 to 5 could be considered moderate support; a score from 5.1 to 7 could be considered high support. Note that Greenspace has not calculated a mean score (dividing the total score by 12 questions), and as a result the response scale ranges from 12 to 84 (as opposed to 1 to 7).

<table>
<thead>
<tr>
<th>Score</th>
<th>Level of Perceived Social Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-35</td>
<td>Low perceived support</td>
</tr>
<tr>
<td>36-60</td>
<td>Medium perceived support</td>
</tr>
<tr>
<td>61-84</td>
<td>High perceived support</td>
</tr>
</tbody>
</table>
Appendix I: Posttraumatic Growth Inventory for Children-Revised (PTGI-C-R)

Ok, now we’re going to move on to another one… Some things change over time, some things don’t. For example, some things in your life are different now than they were before the scary or upsetting thing you went through, and what happened afterward, and some things are not.

I want to hear from you – what has changed since the problem you went through?

____________________  
____________________

Some kids like you tell us that they have noticed ways in which they are different now in how they are and what they feel and think, compared to how they were before the scary or upsetting thing and what happened afterward. How about you? How have you changed?

____________________  
____________________

Let’s talk about some more specific questions about changes…

As we have been talking about, some kids like you tell us that they have noticed ways in which they are different now, compared to how they were before the scary or upsetting thing and what happened afterward. Everybody’s different, so some kids don’t notice any change, some kids notice a lot, and some kids are in between. There are no right or wrong answers, and there’s no right or wrong way to be.

I want you to think about how you used to be before scary or upsetting thing and how you are now. I am going to ask you some questions about some different changes that
might have happened from before the problem to now. Tell me how much you have changed. It is ok to say that these changes didn’t happen, and it is ok to say that they did. Tell me what answer is better. [SHOW THE RESPONSE CARD TO THE CHILD.]

To get the hang of it, let’s first try some for practice.

**The first one is:** I am a boy/girl.

Which one would you answer there? Has that changed since before the problem? Yes or No. No change? A little? Some? Lots? Right—whether you’re a boy or a girl hasn’t changed since then so, right, you would answer “No change.”

**Next one:** I am bigger than I used to be.

So, has that changed? Yes or No? If it has changed, how much has that changed since the problem? Think back to how tall you were before the scary or upsetting thing…. are you taller now than you were then?

What would you say? Answer ‘no change’ if you are just as tall as you were then, ‘a little’ if you’re a little taller than you were then, ‘some’ if you’ve grown more than a little, or ‘a lot’ if you are a lot taller than you were before the scary or upsetting thing.

Any questions about how this works? Ok, now let’s go on to our other questions. These aren’t for practice anymore.
<table>
<thead>
<tr>
<th>No Change</th>
<th>A Little</th>
<th>Some</th>
<th>A Lot</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>1</td>
<td>I learned how nice and helpful some people can be.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>2</td>
<td>I can now handle big problems better than I used to.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>3</td>
<td>I know what is important to me better than I used to.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>4</td>
<td>I understand how God works better than I used to.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>5</td>
<td>I feel closer to other people (friends or family) than I used to.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>6</td>
<td>I appreciate (enjoy) each day more than I used to.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>7</td>
<td>I now have a chance to do some things I couldn’t do before.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>8</td>
<td>My faith (belief) in God is stronger than it was before.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>9</td>
<td>I have learned that I can deal with more things than I thought I could before.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
<tr>
<td>10</td>
<td>I have new ideas about how I want things to be when I grow up.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>-8</td>
</tr>
</tbody>
</table>
Appendix J: CBITS Manual

CBITS MANUAL

CHILD GROUP AND IDIVIDUAL PROGRAM

GROUP SESSION 1

AGENDA

I. Introduction to the Group
   A. Meeting Schedule
   B. Confidentiality
   C. Introduction Game

II. Explanation of CBITS

III. Why We Are Here: Our Stories

IV. Activities Assignment

OBJECTIVES

1. Build group cohesion.
2. Reduce anxiety about participating in the group.

SPECIAL SUPPLIES

1. M&M’s candies
2. Confidentiality statement (optional)
3. Index cards
4. Copies of the “Goals” worksheet

I. Introduction to the Group
Meeting Schedule: Review the meeting schedule, and pass out written schedules for the children to take home. Talk about the importance of being on time to show respect for other group members and to review their between-session practice. Make sure that group members understand that each session builds on the one before it and that it is important to make it to all of the sessions.

Confidentiality: Review the concept of confidentiality, and elicit from group members reasons why they might want the group to be private. Request that group members keep everything that is talked about in the group private, but allow group members to talk about their own participation with anyone that they want. Review a few examples to make sure that everyone understands:

“Let’s say that there is a boy named Joe in this group. If Joe were to tell everyone in the group that he has been fighting a lot with his brother, would it be okay to tell a classmate at school that he said that? Why not?”

“Would it be okay to tell a classmate at school who the others in the group are and why they are in the group? Why not?”

“If I feel upset after the group, would it be okay for me to tell my mother what it was that made me upset? Why?”

It may be a good idea to have group members sign a statement saying that they will keep what others say in the group private, to ensure that they are taking this issue seriously.

Introduction Game: The M&M’s Game

Pass around a bag of M&M’s, and tell each child to take a small handful but not to eat them. Tell them that you are going to ask them some questions about themselves and
that everyone who has a certain color M&M in their hand has to answer the question in front of the group before they can eat it. For example:

“This is for anyone who has a blue M&M: What do you do for fun after school?”

Model an appropriate answer yourself first, and play along so that they can get to know you as well. If the children have more than one blue M&M, they must tell you one thing for each one. Other possible questions include:

“What kind of job would you like to have after you finish school?”

“What sports or physical activities are you good at?”

“When do you have fun during the school day?”

Write questions on index cards before the session for easy use during the game. You can then give one of the children an index card and ask him or her to read the question aloud to increase group participation.

The goal of this game is to build group rapport and to get the group members used to sharing personal information. Try to use questions that will be relevant and interesting to the group (depending on age, gender, maturity), but avoid questions that will lead to too much self-disclosure at this early stage in the group.

II. Explanation of CBITS

Give an overview of the idea that thoughts and behaviors influence the way we feel.

Draw a triangle on the board. Write the phrase “Stress or Trauma” to one side, with an arrow pointing at the triangle (see Figure 1). Then say:

“What do I mean by stress or trauma? Can you give some examples of things that might happen that would be stressful?”

Elicit ideas about stressful events, and list under the “Stress or Trauma” heading. Then ask:
“When something stressful happens [use one of their examples], how does that change what we think? What we do? What we feel?”

Make the point that stress or trauma causes all three aspects to change and that each then impacts the others, making feelings worsen. A possible example:

“You get into a car accident. That’s the stress or trauma. Afterwards, you feel shaky, nervous, upset. You think that driving is really dangerous, and you don’t want to go in the car again. When your mother asks if you want to go shopping with her, you say no and stay home because you don’t want to be in the car.”

Using a made-up name in this example can be useful. As the group progresses, you can refer back to the named person when explaining what you are working on. (For instance, Session 3 could be introduced this way: “Remember George, who was in that car accident? Remember how George thought about what happened to him? Well, today, we’re going to work on changing that kind of thinking.”)

Explain how CBITS is going to help the children cope with upsetting things:

“You are all here because you had something really stressful happen to you. In this program, we are going to work on all three corners of the triangle. We are going to:

• Learn some exercises that will make you FEEL better, and less nervous or upset.
• Learn some ways to THINK about things that will help you feel better.
• Learn some ways to DO things so that you are able to do everything you want to be able to do and not feel upset when you do it.”
III. Why We Are Here:

Our Stories Use this section to introduce the reasons for each group member’s participation. You will want to limit self-disclosure at this point. The goal is for group members to talk very briefly about why they are in the group but not leave the group feeling upset. Begin with this explanation:

“Let’s spend a few minutes talking about the biggest stress or trauma each of you went through, the one that brought you into the group. It can sometimes be upsetting to talk about stresses or traumas, and we don’t want you to feel upset today. So please just share a very little bit of what happened to you so that the others in the group have an idea, but not so much that you start to feel upset about it. If anyone wants help from me in telling the group what happened, let me know, and I’ll say it for you. If more than one thing happened to you, tell us about the different things and which one bothers you the most now.”

Spend a minute or two allowing each group member to tell the others about the event or events that brought him or her into the group. For those with more than one event, ask them to tell the group which one bothers them the most at present. If a child says that all are equal, ask which one was the most difficult at the time that it happened. Take notes about the relevant trauma for each child so that you can refer to them later in the program.

At the end, summarize the kinds of experiences for the group, emphasizing commonalities. For instance:
“This shows us that everyone has had something really stressful happen. Every one of you had a different thing happen, but it seems like a few/ several/all of you went through something that was very scary/where someone might have been hurt/that was really startling or shocking/where you didn’t have any control over what happened. We’re going to work on making these stresses or traumas easier for you to deal with.”

IV. Activities Assignment

Describe the activities assignment of setting goals for therapy. Distribute copies of the following “Goals” worksheet and have the children begin to work on it if there is time. Tell them to share their worksheets with their parents and ask their parent to complete the bottom section. Have them bring the worksheets to the next group session.

GROUP SESSION ACTIVITY 1

GOALS

Name:

_____________________________________________________________________

Section:

_____________________________________________________________________  

BY THE END OF THIS GROUP, 

I want to feel LESS:

  o  Nervous  o  Scared  o  Angry  o  Upset  o  Sad

I want to feel MORE:

  o  Happy  o  Calm  o  Excited  o  Relaxed

I want to change the way I do things and think about things so that I can:

  o  Calm myself down when I feel upset.

  o  Think about things that happened without feeling upset.

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o Talk about things that happened without feeling upset.

o Stop avoiding things that make me nervous.

o Do more of the things that I used to do.

o Think more about things before I do them.

o Make better decisions.

o Have fewer problems with my family.

o Have fewer problems with my friends.

I also want to change:

Parent’s Section

What would you like to see changed in your child by the end of the group?

Group Session 1 • Activity Worksheet © 2004 by The RAND Corporation, Inc. This page may be photocopied.

GROUP SESSION 2: EDUCATION AND RELAXATION

AGENDA

I. Activities Review

II. Education About Common Reactions to Trauma

III. Relaxation Training to Combat Anxiety

IV. Activities Assignment

OBJECTIVES

1. Reduce stigma about trauma-related symptoms.

2. Build peer support.

3. Increase parent-child communication and support.
4. Build skills: Relaxation.

SPECIAL SUPPLIES

1. Index cards and hat (optional)
2. Highlighters (optional)
3. Copies of the “Handout for Parents”
4. Copies of the “Activities” worksheet

I. Activities Review

Review each group member’s “Goals” Worksheet by asking for volunteers to share their goals. Reassure group members that goals are attainable and remind them about the ways in which you will help them with each goal. At the same time, point out which goals are unrealistic, and help group members understand how they can begin work on some goals in group session and then continue to work on them on their own afterwards. The overall tone of this part of the session should convey a realistic, hopeful attitude.

If some group members did not have their parents complete the worksheet or did not want to share it with their parents, normalize that for them (“Yes, parents can be busy, and it can be hard to get this done,” or “Yes, sometimes these things feel too private to share with others”). This will help ensure that they are not embarrassed in front of the group.

II. Education About Common Reactions to Trauma

Take some time to convey information about general types of problems that children experience when they have been exposed to traumatic life events. The goal is to normalize symptoms. In groups of older children, this can be presented in a group
discussion format, by writing the problem on the board and then having group members describe what that problem is like for them. In a younger group, write the problems on slips of paper or index cards and put them in a hat. Have each group member pick a problem and describe what it’s like for him or her. Have other group members add their experiences as well, and then move on to another group member.

**Alternative approach:** Pass out colored highlighter pens and ask group members to turn to the list of common reactions in the “Activities” worksheet (at the end of the Group Session 2 section). Ask them to highlight the parts that apply to themselves.

If group members add additional problems to the list, adopt an accepting attitude and try to make the connections to the traumatic events. If there are no apparent connections, gently remind the group members that there are all sorts of problems, but only those that stem from stress and trauma will be discussed in the group. Since the goal is to normalize symptoms, an inclusive discussion that includes all sorts of problems is best. Adding comments to the group members’ experiences (examples follow) will help to normalize the symptoms and provide hope that they can be reduced in the group.

**Common Reactions to Stress or Trauma:** When stress or trauma occurs, people cope in different ways. Describe to the group the most common reactions to trauma.

**Having nightmares or trouble sleeping:** When something really scary or upsetting happens, it takes awhile to figure out exactly what happened and what it means. After severe stress or trauma, people tend to keep thinking about what happened in order to “digest” it, just like your stomach has to work to digest a big meal. This can take a long time. Nightmares are one way of digesting what happened to you.
Thinking about it all the time: This is another way to digest what happened. Just like having nightmares, thinking about the trauma all the time is a problem because it makes you feel upset. It can be unpleasant.

Wanting to NOT think or talk about it: This is natural, since it is upsetting to think about a past stress or trauma, and it can make you feel all sorts of emotions. Avoiding it makes things easier, but only for a little while. It’s important to digest what happened sooner or later. So, while avoiding it sometimes makes sense, you have to set aside some time to digest it also. This group can be the time and place you set aside to digest what happened to you.

Avoiding places, people, or things that make you think about it: Just like not wanting to talk about or think about the trauma, avoiding situations that remind you of what happened can help you feel better right then. The problem with this, though, is that it keeps you from doing normal things that are an important part of your life. The goal of this group is to get you back to the point where you are able to do whatever you want to do, without worrying about whether it will remind you of what happened.

Feeling scared for no reason. Sometimes this happens because you remember what happened to you, or you are thinking about what happened. Other times it happens because your body is so tense all the time that you just start feeling scared. Either way, we can work on helping you feel calmer when it happens.

Feeling “crazy” or out of control: If all of these things are problems for you, you can start to feel really out of control or even crazy. Don’t worry, though; these problems don’t mean that you are going crazy. They are all normal reactions to stress or trauma, and there are ways to help you feel better.

Not being able to remember parts of what happened: This happens to a lot of people. The stressful event can be so awful that your memory doesn’t work the way it
usually does. Sometimes it gets easier to remember later on, and sometimes it gets harder. This can be frustrating, but it is really normal.

Having trouble concentrating at school or at home: With all the nervousness you are feeling and all the time you are spending thinking about what happened, it can be hard to concentrate on school work or even on what your friends or family say to you.

Being on guard to protect yourself; feeling like something bad is about to happen: After something bad happens to you, it makes sense to be prepared for another bad thing to happen. The problem with this is that you can spend so much time waiting for the next bad thing to happen that you don’t have time or energy for other things in your life. Also, it is scary to think something bad is going to happen.

Jumping when there is a loud noise: This is one way that your body says it is prepared for action, in case something else happens. As you begin to feel calmer, this will go away.

Feeling anger: Some people feel angry about the stress or trauma that happened, or about the things that happened afterward. Other people just feel angry all the time, at everything and everybody. Both of these are normal and will get better as you begin to digest what happened to you.

Feeling shame: Sometimes people are ashamed about what happened to them or how they acted. Even though it’s hard to believe, this gets better the more that you talk about what happened. If you keep it a secret, it’s hard for the shame to go away.

Feeling guilt: People can feel guilty about what happened or about something they did or did not do. Sometimes you blame yourself for things that you couldn’t control. You may also feel guilty for upsetting your parents. Guilty feelings can make it hard to talk about what happened.
Feeling sadness/grief/loss: Sometimes stress events or traumas include losing someone close to you or losing something that is important to you. This makes you feel sad and down. We’ll help you talk about these feelings in the group.

Feeling bad about yourself: Sometimes, all this stress can make you feel really bad about yourself, like you’re a bad person or that no one likes you. This makes it harder to be friendly and to have fun with others.

Having physical health problems and complaints: Stress has an effect on your body as well. People sometimes get sick more often or notice pain and discomfort more often when they have been under stress.

At the end of the discussion, summarize for the group that people feel many different things but that all are normal. Use the information gleaned during this discussion to guide the program for each individual group member, focusing practice of relevant techniques on the group members who need that technique the most.

III. Relaxation Training to Combat Anxiety

The goal of this part of the session is to train group members in progressive muscle relaxation. Present the following rationale:

“Stress makes our bodies tense, and feeling nervous or upset makes it even worse. But there are ways to relax your body that will make you feel calmer. Today, I’ll teach you one way to do that.”

Ask group members to lean back in their chairs (or lie on the floor if that is more comfortable), close their eyes, and follow your instructions. Giggling is common among children doing relaxation exercises. Warn them that they might find it funny at first, but that they should try to relax and concentrate on your voice. If group members have trouble staying focused, move over to them one by one and put your
hand on their shoulder to help them focus. (If, however, the group member is jumpy, warn him or her that you will touch a shoulder before you do it.) Guide the children: “I’d like you to start by thinking of someplace that makes you really comfortable, like your bed or going to Uhuru Park. Imagine that you are lying down there or sitting comfortably. Take a breath in [wait 3–4 seconds] and out [wait 3–4 seconds], in . . . and out . . . in . . . and out. Try to keep breathing this way as we continue. And keep thinking about your most comfortable spot.

“Now I’d like you to make a fist and squeeze it really tight. You can open your eyes and see how I’m doing it if you’re not sure how. Hold it. Now relax it completely, and shake it out. Do it again; make a fist. Now relax it completely. Can you feel the difference between how it was when it was tight and now how it feels when it’s relaxed? Let’s do the same thing for the rest of your arms. Tighten up your whole arm, like you are making a muscle, and hold it. Now relax it completely. Do it again. Tighten, now relax. Now let’s move to your shoulders. Bring your shoulders up to your ears and tighten them . . . hold it. Now relax. Do that again. Bring your shoulders way up near your ears . . . hold it . . . now relax it completely. Make sure your hands, arms, and shoulders are completely relaxed. Breathe in . . . and out . . . in . . . and out.

“Let’s work on your face now. Scrunch up your face as tight as you can, close your eyes tight, scrunch up your mouth, and hold it. Now relax. Try that again. Tighten up your whole face, and hold it. Now relax it. Keep breathing like we did before . . . in . . . and out . . . in . . . and out.

Next comes your body. Arch your back as much as you can, and put your shoulders way back, like I am doing. Hold it. Now relax that. Next, lean forward onto your knees and curl your
back the other way, and tighten up your stomach as much as you can. Hold it. Now relax it. Do that again . . . hold it, and relax it. Keep breathing . . . in . . . and out . . . in . . . and out.

“Let’s work on your legs and feet. Straighten your legs up in the air in front of you and bring your toes as close to your face as you can. Tighten en up your bottom also. Now hold it. Relax. Do that again . . . hold it, and now relax. Next, point your toes as far as you can away from your face, and again tighten up your leg muscles. Hold it. Now relax. Do that again . . . hold it, and relax. Breath in . . . and out . . . in . . . and out.

“Think about all the parts of your body, and relax any part that is tight now. Let all the tension go out of your body. Breathe in . . . and out . . . in . . . and out. Now begin to open your eyes, sit back up, and be a part of the group again.”

IV. Activities Assignment.

There are two activity assignments:

1. Give group members copies of the “Handout for Parents” about common reactions to stress or trauma, and ask them to talk with their parents about the problems bothering them.

2. Tell group members to practice the relaxation exercise three times, before going to bed.

Distribute copies of the “Activities” worksheet. Ask the children to fill them out and bring them to the next session.

HANDOUTS FOR PARENTS: GROUP SESSION 2
Name: 
____________________________________________________________________

Common Reactions to Stress or Trauma

Show this to your parents. Tell them which things are bothering you.

There are many different ways that young people react to stressful life events. Below we’ve listed several kinds of reactions, all of which are very common. We’ve asked your child to show this list to you and to talk with you about which ones he or she has had problems with recently. You might also notice the way that you’ve reacted to stressful events in your own life. Feel free to call us if you have any questions about these problems or the way in which the group will address them.

**Having nightmares or trouble sleeping.**

**Thinking about it all the time.**

**Wanting to NOT think or talk about it.**

**Avoiding places, people, or things that make you think about it.**

**Feeling scared for no reason.**

**Feeling “crazy” or out of control.**

**Not being able to remember parts of what happened.**

**Having trouble concentrating at school or at home.**

**Being on guard to protect yourself;**

**Jumping when there is a loud noise.**

**Feeling anger.**

**Feeling shame.**

**Feeling guilt.**

**Feeling sadness/grief/loss.**

**Feeling bad about yourself.**
Having physical health problems and complaints.

ACTIVITIES

GROUP SESSION 2: EDUCATION AND RELAXATION

Name:

_____________________________________________________________________

1. Did you show the “Common Reactions to Stress or Trauma” handout to your parent and talk about which problems are bothering you?

☐ Yes—How did it go?
_____________________________________________________________________

☐ No—Why not?
_____________________________________________________________________

2. When did you practice your relaxation?

1st time __________ How did it go?
_____________________________________________________________________

2nd time __________ How did it go?
_____________________________________________________________________

3rd time __________ How did it go?
_____________________________________________________________________

Activities • Group Session 2: EDUCATION AND RELAXATION
GROUP SESSION 3: INTRODUCTION TO COGNITIVE THERAPY

AGENDA

I. Activities Review

II. Fear Thermometer

III. Thoughts and Feelings (Introduction to Cognitive Therapy)

IV. Linkage Between Thoughts and Feelings

V. Hot Seat: Combating Negative Thoughts

VI. Activities Assignment

OBJECTIVES

1. Develop common language for “level” of feelings.

2. Teach link between thoughts and feelings.


SPECIAL SUPPLIES

1. Copies of Fear Thermometers

2. An extra chair to use as the Hot Seat

3. Copies of the Activity Worksheets

I. Activities Review
Review group members’ progress with the relaxation technique and help them solve any problems, such as:

1. Not enough time/too noisy in the house. Ask the group member to talk to his or her parent to figure out a way to have quiet time set aside for the relaxation exercise.
2. Couldn’t relax—kept thinking about problems. Ask the group member to continue to practice and to make sure that he or she is doing the exercise correctly. Review the relaxation technique for the whole group if necessary. Another option is to record tapes of the instructions for group members to use at home.
3. Felt worse/made me upset. In some rare cases relaxation can have the opposite effect and make people feel agitated or panicky. If this seems true for an individual in the group, ask him or her to stop using the technique and to try to identify other ways to relax at home.

Ask group members if they shared the “Handout for Parents” with their parents and how that went. If group members did not complete the activity, ask them to explain why not. Use this opportunity to remind group members about the rationale:

“Though it may be embarrassing to admit that you are having any problems, these kinds of problems are really common, and your parent can help you with it if he or she knows what is happening to you.”

“Though it is hard to talk and think about what happened to you, part of being in this group involves digesting that experience, and the more you take advantage of opportunities to do that, the quicker you will feel better.”

II. Fear Thermometer

The goal of this part of the session is to introduce a way for group members to talk about how anxious or nervous they feel in various situations:
“Today we’re going to talk about feelings and thinking, but in order to do that, we need to find some way to measure how we are feeling. Who can tell me how we measure the temperature outside? We can use the same idea for measuring how scared or upset we feel. We call it the Fear Thermometer.”

Show the children the first Fear Thermometer (Appendix B). Use the other Fear Thermometers to show different levels of feelings, and ask group members to give examples of when they felt each way (not at all scared or upset; a little scared or upset; pretty scared or upset; really scared or upset). Explain that the “10” on the Fear Thermometer is kept for those times when we are completely and utterly scared and upset. Tell group members that they will be using the Fear Thermometer to tell how they feel during the rest of the group sessions. Ask each child to give their Fear Rating for right then, and make sure that they are all using the scale correctly. (Query any extreme ratings to make sure that the child is actually feeling that way.)

III. Thoughts and Feelings (Introduction to Cognitive Therapy)

The goal of this part of the session is to show that thoughts cause emotions. Begin with an example of the way thoughts can influence feelings.

For Younger Groups:

“Does anyone know the story of Chicken Little? How does that go? [Fill in story details as necessary.] Chicken Little was scratching around in the barnyard, and then suddenly felt something hit him in the head. He thought to himself, ‘The sky is falling!’ He was so certain that the sky was falling that he ran all over the place yelling, ‘The sky is falling, the sky is falling!’ and everyone thought he was crazy. He
was probably feeling about a ‘9’ on the Fear Thermometer. Was the sky really falling? No. An acorn had fallen off the tree and hit Chicken Little on the head. So he had gotten all upset about nothing—just a little acorn.

“In this situation, Chicken Little’s THOUGHTS got him into a lot of trouble and made him all upset. His thoughts were wrong. What would have happened if Chicken Little had thought, ‘An acorn just hit me on the head!’ Would he have felt as scared or upset? No, he would probably have just kept on scratching around the barnyard, without feeling scared or upset.”

**IV. Linkage Between Thoughts And Feelings** The goal of this part of the session is to make sure that group members understand the way in which thoughts and feelings are linked. Pick an example that is relevant to the group (use one of the group member’s own problem situations, if possible) to do the following exercise:

“Different kinds of thoughts can lead to different feelings. Let’s take an example.

Example 1:

“You are walking through the cafeteria at school, and a bunch of kids are laughing and looking over at you.

Example 2:

“You are waiting for your brother/sister outside of a store, and some kids come up and start to hassle you.

“What are some ways that you might feel if this happened to you? [List feelings, eliciting several different types, on the board.] So, this is interesting. We have the same situation, but it’s causing all kinds of different feelings. Why is this? Let’s take a look at the way that you might be thinking about this situation that would lead to the different feelings. [Fill in the possible thoughts that would lead to each of the different
emotions (see Table 4). Make the point that different thoughts lead to different feelings, even if the situation is exactly the same.] What might you be saying to yourself that would make you feel _______?”

Feelings and related thoughts.

Example 1

<table>
<thead>
<tr>
<th>Feelings</th>
<th>Possible Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angry</td>
<td>They have no right to laugh at me!</td>
</tr>
<tr>
<td>Sad</td>
<td>No one likes me. I’ll never have good friends like that.</td>
</tr>
<tr>
<td>Embarrassed</td>
<td>They must think I look funny.</td>
</tr>
<tr>
<td>Ok</td>
<td>They’re just telling jokes; it’s not about me.</td>
</tr>
<tr>
<td>Good</td>
<td>They think I’m funny and like me.</td>
</tr>
</tbody>
</table>

Example 2

<table>
<thead>
<tr>
<th>Feelings</th>
<th>Possible thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angry</td>
<td>They should leave me alone</td>
</tr>
<tr>
<td>Scared</td>
<td>They are going to try to beat me up</td>
</tr>
<tr>
<td>Ok</td>
<td>They are just talking – nothing will happen</td>
</tr>
<tr>
<td>Ashamed</td>
<td>Why are they picking on me? There must be something wrong with me.</td>
</tr>
</tbody>
</table>

V. Hot Seat: Combating Negative Thoughts
The goal of this part of the session is to train group members to challenge their negative thinking. It is broken into several parts, with a bit of teaching followed by practice.

“How can you argue with negative thoughts? There are a few different ways to make sure that a thought isn’t totally wrong, like Chicken Little’s idea that the sky was falling.

“The first approach is to ask yourself if there are any OTHER WAYS OF THINKING (ALTERNATIVES) about this situation that make sense:
Is there another way to look at this?
Is there another reason why this would happen?

“Let’s take another example [use an example from the group if possible]:
You are at home alone, and you hear a noise in the other room.
Your first thought: Someone is breaking into the house.
Your feeling: Scared.”

Ask the children to list other possible thoughts and the feelings they evoke, and write these on the board. Make sure the alternatives make sense and are not completely irrational. As time permits, work through other examples from children’s own lives on the board.

“Now it’s time to PRACTICE coming up with alternative thoughts.”

**Group Exercise:**

Introduce the Hot Seat activity, which you will use for the rest of the session. Explain that a designated chair is the “hot seat” and the person who sits in the chair practices coming up with new ways of thinking. Begin by sitting in the Hot Seat yourself. Select one child to assist you in case you get stuck and can’t think of a more positive
approach. Instruct the child to provide negative thoughts, one at a time. You will respond by producing alternative positive thoughts. Use the child’s own examples or the one that follows:

“Consider the situation we used before:

You are home alone and you hear a noise in the other room.

What are some negative thoughts you might have? Call them out, and I’ll try to come up with more positive alternatives. If I get stuck, [name of youth] will help me out.”

After the exercise, review the thoughts. Identify any irrational thoughts, and point out the additional strategies for arguing with negative thoughts during the rest of this session and in Group Session 4.

Select a volunteer for the Hot Seat. Select another as “coach” to help the child in the Hot Seat contend with negative thoughts. When the child in the Hot Seat gets stuck, have the coach ask a question to help generate positive counter-thoughts. Also be prepared to serve as coach yourself to ensure that the child in the Hot Seat is supported and that strategies for generating positive thoughts are demonstrated. (Optional: Select some children as “recorders” to note positive and negative thoughts.)

Tell the group other situations for the Hot Seat exercise:

“You fail an important test at school.”

“Your friend is supposed to call you to arrange a time to pick you up to go out, but he/she hasn’t called yet.”

“Your parents go out and leave you at home alone.”

“You are waiting for the bus, and some older kids start to come down the block.”

“Another way to work on irrational negative thoughts is to look at WHAT WILL HAPPEN (IMPLICATIONS) or to ask yourself:
Even if this thought is true, what’s the worst thing that can happen?

Even if this thought is true, what’s the best thing that can happen?

What will be the most likely thing to happen?

“The trick is to look at both the positive and negative things that could happen, to make sure you aren’t only thinking about the bad things that could happen. For instance, in the home-alone example, one thing you thought is ‘Someone is in the other room.’

“First, ask yourself, ‘Even if this thought is true, what’s the WORST thing that could happen?’” [Don’t spend much time on this one—move quickly to the best and most likely things.]

Elicit ideas and write them on the board:

“It could be a burglar; I could get hurt; they could take our stuff.”

“Next ask yourself, ‘If this thought is true, what’s the BEST thing that could happen?’” For example, maybe it’s someone in your family trying to surprise you!

Elicit ideas and write them on the board.

“Finally, ask yourself, ‘What will be the most likely thing to happen?’

Think, for example: ‘I’d listen for more noises. If it’s a person, I’ll get out of the house and call the police or go to a neighbor’s house.’”

Elicit ideas and write them on the board.

**Group Activity:**

Repeat the Hot Seat activity with a new situation, using both alternatives and implications to produce positive counter-thoughts. Provide a situation to the group member in the Hot Seat, then ask these questions: “What is the worst that could happen? The best that could happen? The most likely thing to happen?” Have another group member act as coach in case the one in the Hot Seat has difficulty.
VI. Activities Assignment

Distribute copies of the Activity Worksheets that follow. Describe the assignment, which is to practice the Hot Seat thinking at home. Give group members several copies of the worksheet, and have them practice with an example before they leave the group if there is sufficient time. Try to give group members specific instructions about the kinds of situations to work on, depending on their needs. Show group members the “Hot Seat Exercise Example” to help them understand how to fill in the “Hot Seat Exercise” worksheet.

GROUP SESSION 3: HOT SEAT ACTIVITY

Name:

Questions you can use to argue against negative thoughts:

Other ways to think about it—

Is there another way to look at this?

Is there another reason why this would happen?

What will happen next—

Even if this thought is true, what’s the worst thing that can happen?

Even if this thought is true, what’s the best thing that can happen?
What is the most likely thing to happen?

SESSION 3: HOT SEAT EXERCISE

Name:

In the box, write something that happened to you that made you upset. Then write down some of the thoughts you had under “Negative Thoughts.” Use the questions on the “Hot Seat Activity” worksheet to find new ways of thinking about what happened. Refer to the “Hot Seat Exercise Example” worksheet to see how to complete your own worksheet.

What happened:

Negative Thoughts: Hot Seat Thoughts:

Session3

Group Session 3 • Activity Worksheet 41

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GROUP SESSION 4: COMBATING NEGATIVE THOUGHTS

AGENDA

I. Activities Review

II. Continuation of Cognitive Therapy

III. Practice

IV. Activities Assignment

OBJECTIVES

1. Build skills: Challenging negative thoughts.

SPECIAL SUPPLIES

1. An extra chair to use as the Hot Seat
2. Copies of the Activity Worksheets

I. Activities Review

Review the activities from the previous session. Look for the following trouble spots and correct them as needed:

1. Didn’t do any activities. Attempt to find out why and suggest ways to improve compliance. Ask if the group member noticed any negative thinking in the past week and to describe what it was. Ask if he challenged that negative thinking in any way. If so, praise him for work well done. If not, ask the child to try to do it right then and to ask for help from other group members if needed.

2. Couldn’t think of any Hot Seat thoughts to challenge negative thinking. Have other group members help the child think of Hot Seat thoughts. If none are appropriate, remind the group that sometimes negative thinking is realistic and that, in those cases,
it’s important to try to accept the situation and figure out a way to handle it or solve the problem.

3. The Hot Seat thoughts are unrealistic. Sometimes group members will supply very unrealistic Hot Seat thoughts. A few thoughts like this are OK. If this happens too much, so that the exercise seems like a joke, ask the group member or the entire group if thinking this way is helpful. Remind them that they are trying to correct thinking that is wrong (go back to the Chicken Little/flat world examples), not to come up with more “wrong” thoughts.

II. Continuation of Cognitive Therapy

Pick up where you left off in the previous group session, and introduce two new ways to question negative thoughts: plan of attack and evidence for negative thoughts.

“Last time we worked on making sure that the way we THINK about things isn’t too negative—that we aren’t thinking like Chicken Little and thinking that the sky is falling when it is just an acorn hitting us on the head. Today we’re going to find some more ways to do that.

“Another way to work on irrational negative thoughts is to look for any possible PLAN OF ATTACK. Even if your most negative thought seems true, there might be something you can do about it. Continuing with the example from the last session, what are some things you could do if you decide that the person in your house really is a burglar? Ask yourself:

‘Is there anything I can do about this?’

“Remember our example from last time? You are at home alone, and you hear a noise in the other room.

Your first thought: Someone is breaking into the house.
Your feeling: Scared.”

List possible plans of attack on the board, such as: o Listen to see if there are more noises. o Look and see what’s making the noise. o Go to a neighbor’s house and ask them to help you check it out.

Group Activity:
Repeat the Hot Seat activity as described in Session 3 using a new situation and new alternatives, implications, and plans of attack to produce positive counter-thoughts. Then introduce “checking the facts.”

“Another way to make sure you’re not believing irrational negative thoughts is to try to see how true they are by CHECKING THE FACTS. We figure out if a thought is true by thinking about all the facts. Facts are things that everyone would agree are true, not feelings or guesses about things. Sometimes when we are feeling down or stressed out, we tend to focus on negative facts and ignore other facts that might lead to a more positive approach to the situation. You need to look at all of the facts in order to figure out whether your thoughts are true or not.

“The key here is to look for all kinds of facts. You need to list not only facts that say your thought is TRUE but also facts that show your thought might be FALSE. The kinds of questions you can ask yourself to find the facts are:

How do I know this is true?
Has this happened to me before?
Has this happened with other people?

“Take the example we used a minute ago. I’ll list some evidence, and you tell me whether these facts show whether or not the thought ‘Someone is in the other room’ is TRUE or FALSE.”

List facts, such as the ones that follow, under two columns: “true” and “false.”
1. The cat comes running out of the room, trailing water and broken flowers. (FALSE—the cat probably knocked over a vase.)

2. There aren’t any more noises for a few minutes. (FALSE)

3. You hear a couple of footsteps. (TRUE)

4. You hear a sneeze. (TRUE)

5. You are upstairs and know that all the windows and doors are locked. (FALSE)

6. Your brother sometimes comes home without you knowing it. (TRUE)

“Let’s take another example. You see your good friend laughing with another person and looking over at you. You think, ‘They are laughing at me. He doesn’t like me anymore.’

“Let’s list the kinds of facts that you could look for, ones that show this thought might be true and others that show it might be false.”

Write the thought on the board and then make two columns: “true” and “false.” Help group members generate facts that would fit under both columns, like the ones in Table 5.

Table 5; Checking the facts

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>He keeps doing this day after day.</td>
<td>day after day.</td>
</tr>
<tr>
<td></td>
<td>He comes over and talks to you next.</td>
</tr>
<tr>
<td>He doesn’t do things with you anymore</td>
<td>It turns out they were laughing about something else.</td>
</tr>
<tr>
<td>He says no when you ask him to do something.</td>
<td>He is still friendly with you.</td>
</tr>
</tbody>
</table>
**Group Activity:**

Repeat the Hot Seat activity with a new situation, using alternatives, implications, evidence, and a plan of attack to produce positive counter-thoughts.

**III. Practice**

Continue with more Hot Seat activities, using members’ own examples of recent stressful situations. Have the group come up with negative thoughts related to the event. Have the child who offered the situation sit in the Hot Seat and dispute the negative thoughts. If the group has difficulty generating scenarios, supply ones that are relevant to the group members and pick anyone in the group to dispute negative thoughts.

**IV. Activities Assignment**

Describe the assignment, which is to practice the Hot Seat thinking at home. Give group members several copies of the worksheets and have them practice with an example before they leave the session if there is time. Try to give group members specific instructions about the kinds of situations to work on, depending on their needs. Show group members the “Hot Seat Exercise Example” worksheet from Session 3 to help them understand how to fill in the worksheet.

**SESSION 4: HOT SEAT ACTIVITY**

Name:

Questions you can use to argue against negative thoughts:

Other ways to think about it— Is there another way to look at this?
Is there another reason why this would happen?

What will happen next— Even if this thought is true, what’s the worst thing that can happen?

Even if this thought is true, what’s the best thing that can happen?

What is the most likely thing to happen?

Plan of attack— Is there anything I can do about this?

Check the facts— How do I know this is true?

Has this happened to me before?

Has this happened with other people or in other situations?

**SESSION 4 : HOT SEAT EXERCISE**

Name:

________________________________________________________________________

In the box, write something that happened to you that made you upset. Then write down some of the thoughts you had under “Negative Thoughts.” Use the questions on the “Hot Seat Activity” worksheets to find new ways of thinking about what happened. Refer to the “Hot Seat Exercise Example” worksheet to see how to do it.

What happened:
Negative Thoughts:         Hot Seat

Thoughts:

_______________________________
_____________________________

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GROUP SESSION 5: INTRODUCTION TO REAL LIFE EXPOSURE

AGENDA

I. Activities Review

II. Avoidance and Coping (Introduction to Real Life Exposure)

III. Construction of Fear Hierarchy

IV. Alternative Coping Strategies

V. Activities Assignment

OBJECTIVES

1. Identify trauma-related avoidance.

2. Plan to decrease avoidance.

3. Plan to decrease anxiety through approaching trauma reminders.

4. Build skills: Thought stopping, distraction, positive imagery.

SPECIAL SUPPLIES

1. Copies of the Activity worksheets

I. Activity Review

Review the activities from the previous session. Look for the following trouble spots and correct them as indicated: (refer to activity review in session 4)

1. Didn’t do any activities.
2. Couldn’t think of any Hot Seat thoughts to challenge negative thinking.

3. The Hot Seat thoughts are unrealistic.

II. Avoidance and Coping (Introduction to Real Life Exposure)

The goal of this part of the session is to introduce the idea that avoidance is one form of coping with anxiety-provoking events, but that it usually creates more problems than it solves. Begin with an example (from the group, if possible) of an anxiety-provoking event:

“Let’s take an example. What kinds of things make you really nervous or afraid? (Possible examples: the first day at school, a big test at school, asking someone out for a date, performing something in front of an audience, going somewhere new alone, etc.). Have you ever felt so nervous III. Construction of Fear Hierarchy The goal of this part of the session is to build a list of situations that make each group member feel anxious or upset, and then to rank them in terms of how much anxiety each situation causes. Use the Activity worksheets that follow. Group members will need help along the way, since stress or trauma survivors are often unaware of these types of situations (especially if they are avoiding them effectively).

“Let’s begin by making a list of all the kinds of situations that make you nervous or upset, especially ones that started to make you feel upset because they remind you of the stresses or traumas you went through. Put down everything you can think of while we talk; it doesn’t mean that you’ll have to work on it—that will be up to you to decide later. But it’s important to get down everything you can think of.”

Use the following questions to guide the activity. Have group members offer examples. Circulate around the room to see how group members are doing as you ask
the questions, taking 15–20 minutes for the activity. There are several important things to discuss with group members as they build their lists using the worksheet:

1. The situations on the list need to be SAFE. List only things that the children should feel comfortable doing. Examples of situations that would not work are: being exposed to violence in person, doing anything dangerous, and being in an unsafe environment (e.g., out alone in a deserted area at night). If group members list such things, tell them that those things are supposed to make people nervous, because they are dangerous. You are trying to help them feel less nervous in situations in which they are supposed to feel OK. Tell them that in a few minutes you will introduce ways to calm down when these things happen.

2. Some situations are designed to make people feel nervous or excited, and are hard to work on. These include watching scary movies and riding roller coasters. Explain to the children that part of the fun of these is to feel scared, and make sure that they really want to work on those things. 3. The lists should include things that the children are avoiding. They may not be sure how anxious they would be in these situations. For these situations, ask them to guess how nervous or upset the thing or situation would make them.

Questions:

☐ “Are there any things that you used to do regularly that you stopped doing after the stress or trauma you went through? Examples: going to places that remind you of what happened, doing things like you were doing when the stress or trauma happened.”

☐ “Have you started avoiding things like being alone in certain places, being in the dark, or sleeping by yourself?”
“Do you avoid talking to people about what happened? Is there anyone that you’d like to be able to talk to about it?”

“Do you avoid reading things or watching certain TV programs that would remind you about what happened?”

“Do you avoid certain objects that would make you nervous or upset because they were there when it happened?”

After group members have created their lists, use the Fear Thermometer to rate each item for the anxiety it would cause:

“Now let’s figure out how much each of the things on your list would bother you if you did it today. If you did it recently, you can write down how much it bothered you then. Use the Fear Thermometer [show graphic] to rate each one. If it wouldn’t bother you very much, give it a low number, like a 1 or 2 or 3. If it would bother you a whole lot, give it a high number like a 7 or 8 or 9.”

Work individually with group members to identify items on the list that are likely to be beneficial to work on. Do not include any items that might pose a danger to the group member (either because the situation itself poses risks or because the group member will lack the parental supervision necessary to make the assignment work). The first priority is safety; the second priority is to assure that the group member has a high likelihood of decreasing anxiety, rather than feeling overwhelmed or out of control. Examples of good exercises include the following, with parental supervision in place: crossing roads at traffic lights, sleeping with the lights off or with the door closed, looking at pictures that remind them of the trauma, visiting a location that is similar to one in which the trauma occurred (if safe, such as a shopping mall, school, or other public place). See the full discussion of the activities assignment in Section V.
IV. Alternative Coping Strategies

Begin by asking the group what they can do if they feel anxious or nervous when they are in some way reminded of the trauma (such as the things or situations on their lists). After some group discussion, practice the following techniques:

- Thought Stopping. Begin by asking the group to think about the traumas that they experienced. Ask them to think about what happened; what it looked like; what they heard, saw, smelled, tasted, thought about, felt. Facilitate this imaginative process for a minute or so, and then say, “STOP!” loudly to distract the group. Ask them what they are thinking about now. Most will tell you that they are thinking about you, or the other group members, or about nothing at all. Explain that this is thought stopping. Encourage them to talk about ways they can use this technique when upsetting thoughts are bothering them.

- Distraction. Next discuss distraction. Ask for examples from the group members about how they distract themselves when they are upset. These can include getting involved in a book or TV program, playing games, exercising, or talking to friends.

- Positive Imagery. Another way to reduce anxiety is to change negative images into positive ones, or to replace negative thoughts and images with positive ones. Have group members tell you things that they love to do or really great things that happened to them. Examples include lying on the beach, taking a warm bath, hiking in the mountains, riding a bike, or some particularly meaningful event. Ask group members to close their eyes and imagine this scene or event, helping them build the image by asking questions like, “How
do you feel? What are you doing? What is going on around you? What do you hear? What do you smell or taste?”

- Relaxation. Remind group members of the relaxation exercise taught in Group Session 2, and review or practice as a group if necessary. Explain that if they practice a technique enough, they will be able to call it up in times of stress to reduce anxiety. Have each group member pick one or two techniques to practice.

V. Activities Assignment

Parent phone call:

Call parents at this point to gain their help and support in the real life exposures techniques and to remind them of what to expect. Inform group members before you call.

Work with group members individually to identify specific things from their lists (the first Activity worksheet). Pick items on the list that seem manageable and that have a rating of 4 or less.

Distribute copies of the Assignment worksheet and ask the children to pick two things to practice from their lists and to write them on the lines below “This week, I am going to” on the worksheet. After they write down the two things, ask them to talk to you about when and where they are going to do them. Have them write this information in the boxes on their worksheets. Ask them how they will explain the activity to their parents. Be sure to assess the safety of the situations, and help the children make adjustments as necessary to ensure they are supported by parents and will be safe during the activity. Show the children how to mark the “Fear Thermometer Rating” boxes with the levels from their Fear Thermometers before and
after the activity, and at its highest level. Show the children how to fill in the boxes each time they do the activity.

The success of behavioral exposure is your responsibility, even though the group members work on these things at home, between sessions. This means that it is up to you to help group members pick reasonable assignments, plan them in enough detail so that they know exactly what to do, and anticipate and discuss potential problems ahead of time. For instance, if a group member chooses sleeping alone with the lights off but shares a room with a sibling, you will have to help him or her plan how to accomplish this. You may find it necessary to involve parents directly in order to get their assistance and support in creating exercises for group members.

In addition to logistic constraints, help group members anticipate negative thoughts that might interfere with the activity. For instance, ask, “When you first start to do this, what negative thoughts might come into your head?” Have them develop Hot Seat thoughts in advance and write them down so that they can readily access the counter-thought when needed.

Safety is a key issue. Make sure that the group members are planning assignments that will not expose them to any real danger over and above what they experience on a daily basis. For instance, pick assignments that fit into group members’ existing schedule and activities. If in doubt, consult with parents about particular assignments. But beware that parents have their own trauma histories and avoidance techniques, and may be overly protective because of their own fears. If this appears to be the case, reiterate the rationale for these techniques and suggest that the parent engage in the exercises with the child if appropriate.

The best assignments for the first week are ones that can be done repetitively (e.g., are at home or close to home, or are part of the group member’s normal schedule) and
evoke moderate but manageable anxiety (around a 4 on the Fear Thermometer). Look for these, and if they aren’t on the list already, add some that will make this first try a successful one.

You may notice that, when you begin to assign specific activities, group members get nervous. Be sure to conduct the assignment as a collaborative process so that group members feel in control of the process. Reiterate the rationale and examples when necessary. Remind the group members that this work will make them feel better and able to do a whole range of activities.

**ACTIVITIES GROUP SESSION 5**

**LIST OF THINGS THAT MAKE ME FEEL NERVOUS OR AFRAID OR THAT I AVOID**

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situations</td>
</tr>
<tr>
<td>Rating</td>
</tr>
</tbody>
</table>

Group Session 5 • Activity Worksheet

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FACING YOUR FEARS

1) Choose something from the list that you are sure you can manage, with a rating of no more than 4 for your first try.

2) Figure out when and where you can try to do the thing you chose. – You need to do it over and over again, not just once or twice. – You need to be able to do it SAFELY:
   • Don’t do anything that will put you in danger.
   • Don’t do anything without telling someone first.

3) Tell a parent what you are going to do. Make sure your parent understands what you plan and can help you with it, if you need help.

4) When you do it, stick with it no matter how nervous you feel. Keep at it until you begin to feel a little bit less nervous or upset. You can use the relaxation technique if you need it. You might need to stick with it for a long time, up to an hour, before you start to feel better. If you don’t feel better after an hour, make sure to try it again and again. Eventually, with enough practice, you’ll start to feel more comfortable.

5) Fill out the Assignment worksheet and show how you felt on the Fear Thermometer before and after each time you did it. Also, tell what your highest level on the Fear Thermometer was. Talk to your group leader if you don’t see any improvement.

6) If you feel very anxious, use one of the following skills to help yourself feel better:
   • Thought stopping.
   • Distraction.
   • Positive images.
   • Relaxation.

Activities • Group Session 5
SESSION 5: ASSIGNMENT

Name: _______________________________________________________________

This week, I am going to:

1) _________________________________________________________________

This shows you how I felt when I did it:

Fear thermometer

<table>
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<tr>
<th>When/where</th>
<th>Before</th>
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<th>Highest</th>
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2) _________________________________________________________________

This shows you how I felt when I did it:

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SESSION 6: EXPOSURE TO STRESS OR TRAUMA MEMORY
AGENDA

I. Activity Review
II. Exposure to Trauma Memory Through Imagination and Drawing/Writing
III. Providing Closure to the Exposure.
IV. Activities Assignment

OBJECTIVES

1. Decrease anxiety when remembering trauma.
2. Help children “process” the traumatic event.
3. Build peer support and reduce stigma.

SPECIAL SUPPLIES

1. Paper for drawing or lined paper for writing narratives
2. Drawing and writing implements
3. Copies of the Activity Worksheets

I. Activities Review

Review children’s progress with the real life exposure to stress or trauma. Highlight the fact that, if practiced enough, anxiety or upset decreases. Give a few examples of this in the group. Look for the following problems, and discuss potential solutions. As you review success with the assignment, note other fears from the “List of Things That Make Me Feel Nervous” worksheet that would be appropriate for each group member so that the activity at the end of Session 6 is easier.

1. Didn’t do the activities. Explore why and look for avoidance. Use this opportunity to review negative thoughts and practice Hot Seat exercises if possible (e.g., ask
“When it was time to do the activity, what thought popped into your head that made you decide not to do it?”

2. Started to do it, but felt upset and cut it short. Commend group member on his courage, but point out that this won’t help him feel better. Reiterate the assignment and the need to stick with it until anxiety decreases. Talk about ways to redo the assignment in the coming week with more support or using an easier fear.

3. Logistics interfered. Problem-solve with the group to figure out ways to get around barriers to the activities assignment.

4. Did it but never felt upset. This could mean that the group member is making progress or avoiding the assignment somehow (e.g., using some kind of “security blanket” or safety net that makes the situation somehow not count). Examples of this include having someone there for support, doing it at a certain time of day, etc. Explore if there was anything special that made him or her feel OK. If so, consider asking the group member to remove that part of the experience to make the assignment more challenging next time. Remember that the goal is to eliminate all stress- or trauma-related avoidance. Unless the group member is likely to encounter a particular situation in his or her real life, it is not necessary to work on it.

5. Started to feel unsafe because something happened. If something happened that was potentially dangerous (or that would cause anxiety in anyone who was there), then this reaction is normal and healthy. Congratulate group members on their good judgment in detecting real danger. Discuss ways to plan the next assignment to avoid any real danger and involve the group in solving this problem. Remind group members that you are working on stress- or trauma-related distress, not trying to make sure they never feel upset again.
II. Exposure to Trauma Memory Through Imagination and Drawing/Writing

The goal of this part of the session is to continue exposure to the memory of the stress or trauma in a group format. Depending on how the individual encounters went, the level of symptoms among group members, and the nature of the traumas, specific techniques are chosen for use in this and the next session. The techniques include:

1. Leading children in imagining the stress or trauma scenes chosen in the individual sessions. This is a good warm-up exercise for the drawing/writing exercises. For instance, review with each child briefly the scene that was agreed upon in the individual sessions. Then say to the group:

   “Now we are going to each imagine the part of the event that we just talked about. Please lean back in your chair and close your eyes. Try to picture that part of what happened to you. As I talk, imagine the things I ask you about. I’ll be talking with each of you from time to time, so try not to let it distract you when you hear me talking to others. I’ll be asking some questions to help you imagine it, but do not answer me aloud. [Talk slowly and ask the following questions. Monitor the group and stop by to check in with group members as needed, either to make sure they are doing the exercise or to help keep them from getting overly upset.] Who is in your picture?

   What is happening? What does it look like? How do you feel as this is happening?

   What are you thinking? Doing?

   “What are the smells? Sounds? Tastes? Feelings of things that you touch? What happens next? How do you feel as this is happening? What are you thinking? Doing?”

Optional: A relaxation exercise may be helpful if group members seem shaken at the end of the exercise.

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2. Drawing pictures (younger/less verbal children) or writing the narrative of the stress or traumatic event. This allows for creative expression of the stress or trauma memory and can be especially useful if the memory has just been “primed” by the imagination exercise. These drawings/narratives can be shared with the group or kept private. Ask group members to describe their pictures or to read their narratives aloud. Then ask other group members to offer support. Be careful to make sure that the other group members do not make judgmental comments or ignore the disclosure. If any of this does occur, process it by reviewing common reactions to stress or trauma and normalizing other group members’ reactions. Let group members know ahead of time that you do not want them to provide too much detail to the other group members about what happened, because it’s hard for others to hear so many stories. Instead, ask them to focus more on the details of how they felt and what they were thinking at the time. Warn them that you may stop them if you feel like they are giving too much detail.

3. Telling the group about specific parts of the stress or traumatic event. This can be more upsetting but also most helpful. Use this technique carefully with events that children are able to process already and won’t overwhelm other group members. This technique is less structured than sharing the drawings or narratives, and may be most appropriate in groups of older children. Leave time for processing the disclosures. Before using this technique, coach group members that they will need to give support after disclosures, not judgments or withdrawal. Let group members know ahead of time that you do not want them to provide too much detail to the other group members about what happened, because it’s hard for others to hear so many stories. Instead, ask them to focus on the details of how they felt and what they were thinking at the time. Warn them that you may stop them if you feel like they are giving too much detail.
Use information from the individual sessions to encourage group members to offer support to each other. Before you begin, remind them of the importance of being supportive. Model offering supportive statements yourself first, then ask group members to say something as well. Do not allow group members to ignore or make fun of each other.

If the individual session(s) and assignments went well, and a group member appears to have worked through some of the distress related to the trauma, consider assigning work on a second traumatic event in addition to the first. You may also include this as part of the group member’s assignment if you believe he or she would be able to work on it successfully.

During this part of the session, take the time to reinforce skills already learned by group members. For instance, use the Hot Seat to counteract particularly difficult thoughts (after the exercise is over.) You might introduce this idea by saying:

“I noticed that during the trauma you thought, ‘It’s all my fault.’ When you think about it right now, how true do you think that is? [If group member still thinks it’s true, continue.] Remember when we worked on Hot Seat thoughts? Is there a Hot Seat thought that is more realistic that might work better for this situation?”

If a group member has difficulty generating an alternative thought, ask for help from the group until a more realistic thought is offered.

III. Providing Closure to the Exposure

The goal of this part of the session is to provide closure to the exercise by leading a discussion of what was helpful. Ask the following questions of group members:

☐ “How did it feel to spend time thinking about what happened? Was it better or worse than you expected?”
“How did it feel to share what happened to you with the group? Was it better or worse than you expected?”

“What did other group members say to you that was helpful?”

“How do you think it will feel the next time you think about/talk about what happened to you?”

“What do you want to do in the next session to make this a better experience for you?”

IV. Activities Assignment

Use the Assignment—Part 1” worksheet to assign both real life exposures and stress or trauma memory work (use additional copies if necessary). Assign activities individually to group members, using one of the following options to continue exposure:

1. Have group members finish the drawings or narratives they began in Part II. (These should be about parts of an event that need more work than they received in the group session.) Make specific suggestions about parts to focus on.

2. Ask the group members to spend time looking at the pictures or reading the stories. Ask them to spend time imagining the traumatic part of the story several times.

3. Continue with real life exposure assignments using the “Assignment—Part 1” worksheet.


SESSION 6 ASSIGNMENT PART I

Fear thermometer rating (same as before)

SESSION 6 ASSIGNMENT PART 2
Hot seat thoughts (In the box, write something that happened to you that made you upset. Then write down some of the thoughts you had under “Negative Thoughts.”)

GROUP SESSION 7: EXPOSURE TO STRESS OR TRAUMA MEMORY

AGENDA

I. Activity Review
II. Exposure to Trauma Memory through Imagination and Drawing/Writing
III. Providing Closure to the Exposure
IV. Activities Assignment

OBJECTIVES

1. Decrease anxiety when remembering trauma.
2. Help child “process” the traumatic event.
3. Build peer support and reduce stigma.

SPECIAL SUPPLIES

2. Paper for drawing or lined paper for writing narratives.
3. Drawing and writing implements.

I. Activities Review

Review the activities with group members, asking how they felt when they did imaginal exercises, drawing, or writing about the stresses or traumas. Look for the following trouble spots and correct them as indicated:

1. Didn’t do any activities.
2. Didn’t have time/privacy/etc.
3. Didn’t bother me/wasn’t upsetting.

4. Felt awful/too upsetting.

II. Exposure to Trauma Memory Through Imagination and Drawing/Writing

Based on a group member’s work in the previous session and on the activities, it may be necessary to modify the goals for exposure that were formulated in the individual session. In this part of the session, challenge the group member to work on a more difficult part of the stress or trauma memory, but only if he or she has been successful in the previous exercises. Otherwise, you may choose to repeat an earlier exercise and perhaps to modify it to make it more useful. As in the last session, the options include:

1. Leading children in imagining the stress or trauma scenes chosen in the individual sessions. This is a good warm-up exercise for the drawing/ writing exercises. For instance, review with each child briefly the scene that was agreed upon in the individual session. Then say to the group:

   “Now we are going to each imagine the part of the event that we just talked about. Please lean back in your chair and close your eyes. Try to picture that part of what happened to you. As I talk, imagine the things I ask you about. I’ll be talking with each of you from time to time, so try not to let it distract you when you hear me talking to others. [Talk slowly and ask the following questions. Monitor the group and stop by to check in with group members as needed, either to make sure they are doing the exercise or to help keep them from getting overly upset.] Who is in your picture? What is happening? What does it look like? How do you feel as this is happening? What are you thinking? Doing?

   “What are the smells? Sounds? Tastes? Feelings of things that you touch? What happens next? How do you feel as this is happening? What are you thinking? Doing?”
Optional: A relaxation exercise may be helpful if group members seem shaken at the end of the exercise.

2. Drawing pictures (younger/less verbal children) or writing the narrative of the traumatic event. This allows for creative expression of the stress or trauma memory, and can be especially useful if the memory has just been “primed” by the imagination exercise. These drawings/narratives can be shared with the group or kept private. Ask group members to describe their pictures or to read their narratives aloud. Then ask other group members to offer support. Be careful to make sure that the other group members do not make judgmental comments or ignore the disclosure. If any of this does occur, process it by reviewing common reactions to stress or trauma and normalizing other group members’ reactions. Let group members know ahead of time that you do not want them to provide too much detail to the other group members about what happened, because it’s hard for others to hear so many stories. Instead, ask them to focus more on the details of how they felt and what they were thinking at the time. Warn them that you may stop them if you feel like they are giving too much detail.

3. Telling the group about specific parts of the stress or traumatic event. This can be more upsetting but also most helpful. Use this technique carefully with events that children are able to process already and won’t overwhelm other group members, perhaps after imagination exercise. This technique is less structured than sharing the drawings or narratives and may be most appropriate in groups of older children. Leave time for processing the disclosures. Coach group members, before using this technique, that they will need to give support after disclosures, not judgments or withdrawal. Let group members know ahead of time that you do not want them to provide too much detail to the other group members about what happened, because
it’s hard for others to hear so many stories. Instead, ask them to focus on the details of how they felt and what they were thinking at the time. Warn them that you may stop them if you feel like they are giving too much detail.

As in the last session, it may be appropriate to turn to a second or even a third traumatic event if the group member has made sufficient progress on the one that was deemed the most upsetting.

During this part of the session, take the time to reinforce skills already learned by group members. For instance, use the Hot Seat to counteract particularly difficult thoughts (when the exercise is over). You might introduce this idea by saying:

“I noticed that during the trauma you thought, ‘It’s all my fault.’ When you think about it right now, how true do you think that is? [If group member still thinks it’s true, continue.] Remember when we worked on Hot Seat thoughts? Is there a Hot Seat thought that is more realistic that might work better for this situation?”

If a group member has difficulty generating an alternative thought, ask for help from the group until a more realistic thought is offered.

III. Providing Closure to the Exposure

The goal of this part of the session is to provide closure to the exercise by leading a discussion of what was helpful in the exercise. Ask the following questions of group members:

☐ “How did it feel to spend time thinking about what happened? Was it better or worse than you expected?”

☐ “How did it feel to share what happened to you with the group? Was it better or worse than you expected?”

☐ “What did other group members say to you that was helpful?”
“How do you think it will feel the next time you think about/talk about what happened to you?”

“What do you want to do in the future to keep working on this problem?”

IV. Activities Assignment

Use the Activity Worksheets that follow to assign both real life exposures and stress or trauma memory work (use additional copies if necessary). Assign activities individually to group members, using one of the following options to continue exposure:

1. Have group members finish the drawings or narratives they began in Part II. These should be about parts of the events that need more work than they received in the group session. Make specific suggestions about parts to focus on.

2. Ask the group members to spend time looking at the pictures or reading the stories. Ask them to spend time imagining the traumatic part of the story several times.


ACTIVITY SESSION 7

ASSIGNMENT PART -1

Fear thermometer rating (same as before)

ASSIGNEMNT PART-2

Negative /Hot seat thoughts (In the box, write something that happened to you that made you upset. Then write down some of the thoughts you had under “Negative Thoughts.”)
GROUP SESSION 8: INTRODUCTION TO SOCIAL PROBLEM-SOLVING

AGENDA

I. Activities Review

II. Introduction to Social Problem-Solving

III. Link Between Negative Thoughts and Actions

IV. Brainstorming Solutions

V. Decision Making: Pros and Cons

VI. Activities Assignment

OBJECTIVES

1. Teach link between thoughts and actions.


3. Help children deal with real life problems.

SPECIAL SUPPLIES

1. Copies of the Activity Worksheets

I. Activities Review

Review the activities with group members, as you did in the last session. Ask how they felt when they did imaginal exercises, drawing, or writing about the stress or trauma. Look for the following trouble spots and correct them as indicated.

1. Didn’t do any activities.

2. Didn’t have time/privacy/etc.

3. Didn’t bother me/wasn’t upsetting.

4. Felt awful/too upsetting.

II. Introduction to Social Problem-Solving
The purpose of this part of the session is to briefly introduce the idea that solving problems with other people takes practice. Begin by asking group members to list conflicts or problems they have with friends or family members; write these on the board. As much as possible, draw from this list of problems during the rest of the session. In choosing examples for the group, consider the types of symptoms they are expressing and how well they work together within the group. Two types of examples are possible:

(1) a general example drawing on common peer or family problems (but about anxiety and/or avoidance); and

(2) a stress- or trauma-focused example relating to social situations (e.g., disclosure about abuse, avoidance that interferes with friendships). Both examples are shown in Section III. Introduce social problem-solving as follows:

“If you feel this way, you usually think you have to solve the problem in order to feel better. But that’s not true. You DO have some control over feeling better.

“There are four parts to every problem:

1. Physical (objective, measurable) events.

2. How others think and act.

3. How you think.

4. How you act or what you do.

We can work today on how you think about things and how you act on them.”

III. Link Between Negative Thoughts and Actions
Continuing with social problem-solving, this part of the session reviews the ways in which thoughts influence behavior with friends and family members. Make the point that different thoughts lead to different actions and that one way to change the way we act with friends and family is to check our thinking about what happened.

To summarize, make the point that different thoughts about a problem will lead to doing things differently to handle the problem. So, it is important to make sure that your thinking is accurate before you decide what to do.

**IV. Brainstorming Solutions**

The goal of this part of the session is to practice generating lots of solutions to real life problems, so that group members aren’t “locked in” to one type of response (often based on faulty thinking). This part of the session is especially important for those group members who tend to act impulsively. It helps them slow down the thought process and give themselves more options for how to act. Encourage group members to be creative but also to include appropriate behaviors as much as possible. Follow through with the examples used in Section III, or use a new example based on issues that have come up. To break up the didactic presentation, divide the group into two teams and have them work on the same example. Tell the group that the team that comes up with the most possible actions will win the competition. Then reconvene as a group and review all the possibilities generated.

**V. Decision Making:**

Pros and Cons The goal of this part of the session is to evaluate the possible actions the children are considering. For younger groups, use the terminology “pluses and minuses” and for older groups “pros and cons.” Pick one of the favorite actions that
go with the two examples given in Section III, and write it on the board, then make
two columns labeled “pluses” or “pros” and “minuses” or “cons.” Divide the group
into two teams, and ask them to generate reasons why the favorite action would be a
good or bad thing to do. Encourage them to come up with items in both columns.
Review as a group.

VI. Activities Assignment

The activities that follow involve picking a current interpersonal problem and using
the worksheets to problem-solve. Spend a few minutes with group members
individually, selecting interpersonal problems. If they can’t think of problems, select
ones that they have worked on in group session before or ones that have given them
difficulty with compliance. Also select additional topics from the fear hierarchy
(Group Session 5, Section III) for real life exposure. Be sure to work with each group
member to work out the details of the assignment.

1. Complete the “Problem-Solving Practice” worksheet.

2. Continue with real life exposure (using the “Problem-Solving Assignment”
worksheet).

GROUP SESSION 8. ACTIVITY

Name: ____________________________________________________________

What is the problem that you will work on?

___________________________________________________________________

___________________________________________________________________

In the box, write about a problem that you are having. Then complete the rest of the
page.
Negative Thoughts:  
Thoughts:  
_______________________________  

Possible things you could do about it  

Which one is best? Think about the pluses and minuses, or pros and cons, of each, and put a ** next to the one you want to try first.  

Try it! How did it work?  

Group Session 8 • Activity Worksheet  

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SESSION 8 ASSIGNMENT 2: PROBLEM SOLVING ASSIGNEMENT  

ASSIGNMENT  
Name:  

This week, I am going to:  
1)  

This shows you how I felt when I did it:  

Fear thermometer Rating  

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<tr>
<th>When/where</th>
<th>Before</th>
<th>After</th>
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263
This shows you how I felt when I did it:

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**GROUP SESSION 9: PRACTICE WITH SOCIAL PROBLEM-SOLVING**

**AGENDA**

I. Activity Review

II. Practice with Problem-Solving and Hot Seat

III. Review of Key Concepts (No Activities Assignment)

**OBJECTIVES**

1. Build skills: Challenging negative thoughts.


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3. Help children deal with real life problems.

SPECIAL SUPPLIES

None

I. Activities Review

Review the problem-solving assignment. Review obstacles to problem-solving practice and ask the group to generate new ideas for how to handle it if a group member is stuck. Some group members will not be able to overcome problems because of the nature of the problem. When this happens, point out that the group members made their best efforts but that not everything is under their control. Point out that they CAN control how they think and act, and, therefore, how to feel about the problem. Help group members find ways to feel better about the situations, using Hot Seat exercises or suggesting relaxation, if appropriate.

Review real life exposure practice and determine if continued work is necessary. If so, address this individually via parent phone calls or private discussions with the children. If children are reporting low Fear Thermometer levels for most things on their lists, congratulate them and address the need to continue.

II. Practice with Problem-Solving and Hot Seat

In this part of the session, most of the time is devoted to practice and review. Depending on the group, time can be devoted to problem-solving, to the Hot Seat, or, in most cases, to both. Focus the group and individual members on real life problems that are currently interfering with their lives. Use this time to consolidate techniques and help children develop skills to handle real problems.
Group Activity:

Divide the group into two teams. Present a problem that has several people involved (see the example that follows but try to use something relevant to the group). Assign the role of Joe to one team and the role of Anna to the other. First, use the Hot Seat to challenge negative thoughts for each of the roles. Then, have each group follow the problem-solving steps to make a decision on what to do for each role. Compare decisions and discuss as a group.

Assign the thoughts of Joe to one group, the thoughts of Anna to the other. Have each team do the Hot Seat to counteract negative thoughts leading to anger for Joe/Anna and then brainstorm solutions, weigh pros and cons, and pick a solution. Convene the two teams and ask them to present the solution and reason they picked it. If the solutions match (work for both parties), it is the end of the exercise. If they do not match, have them negotiate a compromise that works for both teams.

III. Review of Key Concepts

Structure an informal review of the key concepts the children have learned. One option is to create a trivia game and to give points for correct answers. Examples of questions:

“Name three common reactions to trauma.”

“What is one question you can ask yourself when you have a negative thought?”

“Name another way (besides asking yourself questions) to combat negative thoughts.”

“What is a good thing to do if you aren’t sure how to handle a problem?”

“When something bad happens to us, is it better to think about it and talk about it, or to try to avoid it completely?”
GROUP SESSION 10: RELAPSE PREVENTION AND GRADUATION

AGENDA

I. Relapse Prevention

II. Graduation Ceremony

OBJECTIVES

1. Provide closure to the group.

2. Plan for the future.

3. Highlight strengths and accomplishments.

SPECIAL SUPPLIES

1. Certificate of completion (optional)

2. Small gifts or treats (optional)

I. Relapse Prevention

The goal of this part of the session is to consolidate skills and anticipate future problems of group members. Use this time to help group members summarize their experiences in the program. Work on relapse prevention by anticipating future problems and how the children will handle them. Make sure to highlight group members’ strengths as well as areas in which they should continue to practice skills.

“Since this is your last group, let’s take a few minutes to review with you how it went and what you’ll do in the future. Let’s talk about:

1. What you got out of the group.

2. What you see as the biggest challenges you’ll face in the next few months or few years.

3. How you can apply the skills you learned here to tackle those challenges.”

Highlight avoidance as problematic, and make the following point:

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“Avoidance can easily creep back into your life. You’ll notice that you’ve stopped thinking about the event, talking about it, going certain places, doing certain things [use examples from group]. If that happens, use the skills you learned here to start doing all those things again, until it gets easy.

4. How you can recognize avoidance. What are the warning signs? What can you do?”

Spend a few minutes discussing any future contact you will have with the group, if any (e.g., reunions, booster sessions, individual contact). Tell them how to reach you (if applicable) or how to get additional help somewhere else if they need it.

Parent phone call: If you plan to make parent phone calls at the end of group, remind group members that this will occur. Use the phone call to review the group member’s progress and areas that require additional work. Highlight progress and strengths to parents. Make any referrals or plans necessary to continue treatment with the parent and group member together.

II. Graduation Ceremony The purpose of this part of the session is to provide closure to the group. If possible, present the group with certificates of completion, bring in food and beverages, or give little gifts to the group members to acknowledge their accomplishments in the group. Summarize the main accomplishment for each group member in some fashion or other and highlight strengths.

Examples:

“When Pavlos started group, it was really hard for him to talk about what happened. In the group, he was able to draw pictures, and now he can probably talk about it to whomever he wants.”

“Cindy has been working hard on the problems with her sister. Now she knows how she wants to handle it.”
PARENT EDUCATION PROGRAM: SESSION 1

AGENDA

I. Introductions and Agenda

II. Education About Common Reactions to Trauma

III. Explanation of CBITS

IV. Teaching Your Child to Measure Fear

V. How to Help Your Child Relax

VI. Wrap-Up

OBJECTIVES

1. Reduce stigma around trauma exposure and reactions.

2. Lay groundwork for improving parent-child communication.

I. Introductions and Agenda

Introduce yourself and the role you have in the program. Briefly describe what the purpose and agenda are for these two sessions:

“Session 1 is to tell you a little bit about how children react to stress, to explain the framework we’ll use in the group your children are in, and to teach you a way to help your children relax.

“Session 2 is to help you learn new ways to help your children feel less afraid or nervous.”

II. Education About Common Reactions to Trauma

This part of the session conveys information about general types of problems that children experience when they have been exposed to traumatic life events. The goal is to normalize symptoms. Explain that the children will learn about these reactions but
that it is really important for parents to understand them too. If parents understand the many problems that can result from traumatic experiences, they might be more understanding and supportive of the children, and less frustrated or worried about them.

Depending on the size of the group, this part of the session can be run as a lecture or as a discussion. Write the main points on a board or overhead transparency, and distribute copies of the “Handout for Parents” so that parents can make notes on it if they wish.

Make the following points during the presentation:

- All of the problems listed are common reactions to severe stress.
- The group for the children is designed to help with these specific problems.
- Parents may notice that they have some of these same problems because of stressful things they themselves have gone through.

**Common Reactions to Stress or Trauma**

(As discussed earlier)

**III. Explanation of CBITS**

This part of the session provides an overview of how thoughts and behaviors influence the feelings. Draw a triangle on the board. Write the phrase “Stress or Trauma” to one side, with an arrow pointing at the triangle.

Start by defining stress, soliciting examples from the group. Try to get a mixture of traumatic events (violence, accidents) and stress (immigration, leaving others behind, living in poverty).

“What do I mean by stress or trauma? Can you give some examples of things that might happen to a child that are stressful?” [Elicit ideas about stressful events, and list under the “Stress or Trauma” line.]
“When something stressful happens [use one of their examples], how does that change what you think? What you do? What you feel?”

Make the point that stress or trauma causes all of these to change and that each then impacts the others, making you feel worse. A possible example:

“Your children are in a car accident. That’s the stress or trauma. Afterwards, they feel shaky, nervous, upset. They think that riding in a car is really dangerous, and they don’t want to go in a car again. When you ask if they want to go shopping with you, they say no and stay home because they don’t want to be in the car.”

Explain how the program is going to help with things like this:

“Your children are all in this program because they had something really stressful happen to them. In this program, we are going to work on all three corners of the triangle. We are going to:

• Teach the children some exercises that will make them FEEL better and less nervous or upset.

• Teach them some ways to THINK about things that will also make them feel better.

• Teach the children some ways to DO things so that they are able to do everything you want them to be able to do, without feeling upset when they do them.”

Explain the importance of practice and those activities will be assigned:

“One very important part of this program is PRACTICE. Learning new skills in this program is like learning to ride a bicycle or to drive a car. At first, the skills feel uncomfortable, and it is hard to figure out how to do them. But if you practice the skills over and over again, eventually it becomes so easy and natural that you don’t even have to think about it—you can ride the bike without thinking about balancing the bike and steering it and putting on the brakes when you need them. We will be practicing the new skills in the group and also asking your children to practice certain
things at home between groups. The more that you can support and encourage the children to practice, the faster they will learn to use these skills to handle stress.”

IV. Teaching Your Child to Measure Fear

Briefly introduce the idea of the Fear Thermometer so that parents will understand what it is and how their children will use it.

“The part of what we’ll be teaching your children is how to talk about how nervous or afraid they are. We will do this by teaching them to use a “Fear Thermometer.” Like a thermometer that measures temperature, the Fear Thermometer measures how scared or upset the children feel.”

Show the Fear Thermometers that indicate varying amounts of distress, and make sure that parents understand it. Use a personal example given by someone in the group to show how people feel at different times. Explain that the “10” on the Fear Thermometer is kept for those times when you are completely and utterly scared and upset.

V. How to Help Your Child Relax

The goal of this part of the session is to train parents in progressive muscle relaxation and relaxed breathing. Present the following rationale:

“Stress makes our bodies tense and feeling nervous or upset makes it even worse. But there are ways to relax your body that will make you feel calmer. We are going to be teaching your children one way to relax, and we want to teach it to you also. That way, when your children have trouble sleeping or are feeling very worried, you can use it to help them relax.”

Ask parents to lean back in their chairs, close their eyes, and follow your instructions.
“I’d like you to start by thinking of a place that makes you really comfortable, like
your bed, or the bathtub, or the couch, or the beach. Imagine that you are lying down
there or sitting comfortably. Take a breath in [wait three to four seconds] and out
[wait three to four seconds], in . . . and out . . . in . . . and out. . . . Try to keep
breathing this way as we continue. And keep thinking about your most comfortable
spot.

“Now I’d like you to make a fist and squeeze it really tight. You can open your eyes
and see how I’m doing it if you’re not sure how. Hold it. Now relax it completely;
shake it out. Do it again— make a fist. Now relax it completely. Can you feel the
difference between how it was when it was tight and how it feels when it’s
relaxed? Let’s do the same thing for the rest of your arm. Tighten up your whole arm,
like you are making a muscle, and hold it. Now, relax it completely. Do it again.
Tighten, now relax. Now let’s move to your shoulders. Bring your shoulders up to
your ears and tighten them, hold it. Now relax. Do that again. Bring your shoulders
way up near your ears, hold it, now relax them completely. Make sure your hands,
arms, and shoulders are completely relaxed. Breathe in . . .

and out . . . in . . . and out.

“Let’s work on your face now. Scrunch up your face as tight as you can, close your
eyes tight, scrunch up your mouth, and hold it. Now relax. Try that again. Tighten up
your whole face and hold it. Now relax it. Keep breathing like we did before . . . in . .
. and out . . . in . . . and out.

“Next comes your body. Arch your back as much as you can, put your shoulders way
back like I am doing. Hold it. Now relax that. Next, lean forward onto your knees and
curl your back the other way, and tighten up your stomach as much as you can. Hold
it. Now relax it. Do that again, hold it, and relax it. Keep breathing in . . .
and out . . . in . . . and out.

“Let’s work on your legs and feet. Straighten your legs up in the air in front of you, and bring your toes as close to your face as you can. Tighten up your bottom also. Now hold it. Relax. Do that again, hold it, and now relax. Next, point your toes as far as you can away from your face, and again tighten up your leg muscles. Hold it. Now relax. Do that again, hold it, and relax. Breathe in . . . and out . . . in . . . and out.

“Think about all the parts of your body, and relax any part that is tight now. Let all the tension go out of your body. Breathe in . . . and out . . . in . . . and out. Now begin to open your eyes, sit back up, and be a part of the group again.”

VI. Wrap-Up

Thank parents for coming and encourage them to attend Parent Session 2.

HANDOUT FOR PARENTS

PARENT EDUCATION SESSION 2

AGENDA

I. Introductions and Agenda

II. Teaching Children to Look at Their Thoughts

III. Teaching Children to Face Their Fears

IV. Teaching Children to Digest What Happened to Them

V. Teaching Children to Solve Everyday Problems

VI. Wrap-Up

OBJECTIVES

1. Educate parents about techniques used in the program.
2. Enable parents to support children during program.

**SPECIAL SUPPLIES**

1. Copies of the Parent Handouts
2. Copies of the Fear Thermometers
3. Copies of one of the Activity worksheets from a group session

**I. Introductions and Agenda**

Introduce yourself and your role in the program for any parents who missed the first session. Briefly remind parents of what they learned last time and what you will cover this time:

“Session 1 is to tell you a little bit about how children react to stress, to explain the framework we’ll use in the group your children are in, and to teach you a way to help your children relax.

“Session 2 is to help you learn new ways to help your children feel less afraid or nervous.”

**II. Teaching Children to Look at Their Thoughts**

The goal of this part of the session is to tell parents about the cognitive portion of the program. Begin by describing the way that stress can influence thinking:

“When children are under stress, they can have really negative ideas about themselves, about the world in general, or about why the stress happened. For example, after children immigrate to the U.S., they might think things like:

‘My life will never be the same.’

‘I’ll never be happy again.’

‘I will never fit in here in the U.S.’
“After children go through traumatic events, they often think that they are to blame in some way or that what happened is their fault. They also usually think bad things about themselves

(‘I’m no good’) and think that the world is more dangerous than it really is (‘There is no place where I am safe’ or ‘I can’t trust anyone’).

“These kinds of thoughts make children feel even worse. Negative thoughts are often not completely true. For instance, it’s probably not true that the children will never be happy again or that they can’t trust anyone. When negative thoughts aren’t true, they still make us upset unless we realize that they aren’t true.

“We will be teaching the children to pay attention to the way they think about things. If they notice some negative thinking, we’ll teach them some questions to ask themselves to make sure that they aren’t thinking inaccurately.

“Some of the questions your children will start to ask themselves are:

Is there another way to look at this?

Is there another reason why this would happen?

What’s the worst thing that can happen?

What’s the best thing that can happen?

What is the most likely thing to happen?

Is there anything I can do about this?

What is the evidence that this thought is true?

Has something like this happened to me before?

Has this happened with other people?”
Using the “Examples of Thoughts” handout that follows, take a few minutes to go through some of the questions you’ve listed. Show how the questions might help people to realize that their thoughts are not accurate and that there are more accurate ways to look at the situations. Show parents the examples on the handout to indicate how the children will be taught to think more accurately.

Take a few minutes to discuss any concerns and answer any questions that parents have about the process.

III. Teaching Children to Face Their Fears

The goal of this part of the session is to teach parents about the real life exposures that the children will do in the group. Begin by explaining how avoidance builds up and interferes with recovery:

“One way that people deal with stress is to try to avoid it. You have probably all had the experience of NOT wanting to do something that will make you feel nervous or afraid. This usually works for a short time—we can sometimes avoid something that will be hard for us. But over time, it can interfere with your life. For instance, some of you may feel nervous or anxious when you try to speak English. So, you might try to avoid speaking English unless you really have to. But this interferes with learning English, so it makes it harder to speak English for a longer period of time. The same thing happens with children who go through stressful experiences. They avoid the things that make them uncomfortable. They begin to avoid more and more often. For instance, children who feel afraid of school will sometimes skip school, but that just makes it harder to go back to school again.

“In the group, we will be teaching your children to face their fears. What do we mean by facing your fears? We mean trying to do something that you are afraid of over and over again until it becomes normal and easy. [Give an example, such as: “I used to be
nervous speaking in front of groups of people, but the more I did it, the easier it got. Now I just get a little bit nervous, but I know I can do it without having any problems.” {Pass out copies of the “Facing Your Fears” handout.]

“With the children, we will start by making a list of situations that make each of them feel anxious or upset and then rank the situations in terms of how much anxiety each situation causes (using the Fear Thermometer). We will be careful about a couple of things when we do this: 1. The situations on the list must be SAFE. We will not include situations that involve being exposed to violence in person, doing anything dangerous, or being in unsafe environments (e.g., out alone in a deserted area at night). 2. Some situations are designed to make people feel nervous or excited, and are hard to work on. These include watching scary movies, riding roller coasters, etc. We will not work on these kinds of situations either.

“We will concentrate instead on the answers to the following questions:

• Are there any things that you used to do regularly that you stopped doing after the stress or trauma you went through? Examples: going to places that remind you of what happened, doing things that you were doing when the stress or trauma happened.

• Have you started avoiding things like being alone in certain places, being in the dark, sleeping by yourself?

• Do you avoid talking to people about what happened? Is there anyone that you’d like to be able to talk to about it?

• Do you avoid reading things or watching certain TV programs that remind you about what happened?

• Do you avoid certain objects that make you nervous or upset because they were there when it happened?
“Then children will rate each situation using the Fear Thermometer [show it again], and they will participate in activities. [Describe the typical kind of assignments and read through a sample Activity Worksheet from one of the group sessions.]

“You can help by working with your children to do the assignments. Sometimes your children will need to do something with you first, before being able to do it alone. We also need you to help your children face their fears by facing your own. You might notice that you are nervous about doing certain things too, because of the kinds of stressors you have faced. By helping your children, you may find that you become more comfortable with doing these things.

Take a few minutes to discuss any concerns and answer any questions that parents have about the process.

**IV. Teaching Children to Digest What Happened to Them**

The goal of this part of the session is to prepare parents for the trauma-focused work that their children will do in the group.

“We are going to work with your children on the stresses or traumas that they have gone through.

“Have you ever eaten too much all at once and felt really full and sick afterwards? And you wish you never ate that much? Your stomach feels sick because it’s got too much in it at once. That food feels like its filling up your whole body. Your stomach has more than it can handle.

“The way you think about the stressful event you went through can also feel like that—it’s too much to digest at once, so it bothers you a lot. Just like with the meal, you need to “digest” it sooner or later though. Even though the stress probably seems really overwhelming when you think about it now, eventually, with enough work, you can make it smaller. We’re going to help your children digest what happened.
“By thinking about the stress or trauma where it is safe (with a counselor or in the group), a couple of things will happen: 1. Over time, if your children work on digesting the stresses or traumas, they will feel less upset each time they think about it. By the end of group sessions, your children will be able to think about what happened and feel OK. 2. Your children will learn that thinking about the stresses or traumas won’t make them flip out or go crazy—that it’s a bad memory and it can’t hurt them anymore. 3. Your children will learn that they can take control of the way they feel and do something to make themselves feel better.

“We will work on the traumas by asking your children to imagine them or to draw pictures of them or to talk about them in the group sessions.”

Take a few minutes to discuss any concerns and answer any questions that parents have about the process.

V. Teaching Children to Solve Everyday Problems

The purpose of this part of the session is to briefly introduce the idea that solving problems with other people takes practice and to explain how this process will work in the group. Begin by getting examples from parents of the kinds of problems that their children face. If they do not volunteer any, supply some of the following: o Getting in arguments with friends. o Disagreeing with parents about rules at home. o Disagreeing with brothers and sisters. o Having trouble in a class at school.

Explain that the group will work on the following parts of the problems: o Looking at the thoughts the children have about the problems, to make sure they are seeing problems accurately. o Coming up with a list of possible solutions about how to handle the
problems. o Looking at the possible solutions to see the positives and negatives of each one. o Trying out solutions to see if they work.

Take a few minutes to discuss any concerns and answer any questions that parents have about the process.

VI. Wrap-Up Take a few minutes to praise the parents on taking time to attend the meeting(s), and remind them of how to reach you as the program continues:

“I want to thank you all for coming tonight. I know it takes a lot of effort to get here on a school night, and it really shows your love and concern for your children. I hope you’ve gotten a better idea of what this program is all about, and I want you to know that you can call me with any questions or concerns at any time.”

EXAMPLES OF THOUGHTS

<table>
<thead>
<tr>
<th>Negative thoughts</th>
<th>Hot seat thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I fall asleep, I’ll have nightmares</td>
<td>• I don’t have nightmares every night, so I might not have them tonight.</td>
</tr>
<tr>
<td></td>
<td>• Nightmares aren’t real, they can’t hurt me.</td>
</tr>
<tr>
<td></td>
<td>• I need to get some sleep for school tomorrow, even if it means I have nightmares.</td>
</tr>
<tr>
<td>If I fall asleep, something bad will happen.</td>
<td>• I’m safe in my house and my bed. My family is here to protect me.</td>
</tr>
<tr>
<td></td>
<td>• If something bad happens, I’ll wake up and be able to deal with it then.</td>
</tr>
<tr>
<td>Lying down in my bed makes me feel nervous.</td>
<td>• I can practice my relaxation if I feel nervous. • I can remind myself that I am safe.</td>
</tr>
</tbody>
</table>
It’s OK to feel nervous for a little while; eventually I’ll fall asleep.

FACING YOUR FEARS
(AS DISCUSSED EARLIER)

TEACHER EDUCATION SESSION
AGENDA
I. Introductions and Agenda
II. Education about Common Reactions to Trauma
III. Explanation of CBITS
IV. Elements of the CBITS Program
V. Tips for Teaching Children Who Have Been Traumatized
VI. Answering Questions

OBJECTIVES
1. Enlist teacher support and understanding.

I. Introductions and Agenda Introduce yourself and the role you have in the program. Briefly describe what the purpose and agenda are for this session: o To describe common reactions to trauma and provide a model for thinking about trauma.

II. Education about Common Reactions to Trauma This part of the session conveys information about general types of problems that children experience when they have been exposed to traumatic life events. If teachers understand that many
problems can result from traumatic experiences, they might be more understanding and supportive of the children and less frustrated or worried about them. Highlight possible classroom manifestations of the problems, and lead a discussion about the way these problems are often attributed to other causes (e.g., ADHD).

Make the following points:

- All of the problems are common reactions to severe stress.
- The group for the children is designed to help with these specific problems.
- Children often have comorbid problems, like depression, disruptive behavior problems, or ADHD. You are not trying to suggest that trauma is the root cause of all the problems that the children have. Rather, trauma-related symptoms are part of the picture.
- Other problems, like ADHD and depression, can sometimes mask trauma-related symptoms. The reverse is also true—trauma-related symptoms can mask other severe problems. Diagnosis and treatment are complex because it is necessary to tease apart the problems in order to implement appropriate treatments.

**Common Reactions to Stress or Trauma**

People cope with trauma in different ways. You may find a student exhibiting one or more of the following symptoms: (as discussed earlier)

**III. Explanation of CBITS**

This part of the session provides an overview of how thoughts and behaviors influence the feelings. Draw a triangle on the board. Write the phrase “Stress or Trauma” to one side, with an arrow pointing at the triangle.
Start by defining stress, soliciting examples from the group. Try to get a mixture of traumatic events (violence, accidents) and stress (immigration, leaving others behind, living in poverty).

“What do I mean by stress or trauma? Can you give some examples of things that might happen to a child that are stressful?” [Elicit ideas about stressful events, and list under the “Stress or Trauma” line.]

“When something stressful happens [use one of their examples], how does that change what you think? What you do? What you feel?”

Make the point that stress or trauma causes all of these to change and that each then impacts the others, making you feel worse. A possible example:

“Marisol is in a car accident. That’s the stress or trauma. Afterwards, she feels shaky, nervous, upset. She thinks that riding in a car is really dangerous, and she doesn’t want to go in the car again. When her mother asks if she wants to go shopping with her, she says no and stays home, because she doesn’t want to be in the car.”

Explain how the program is going to help with things like this:

“In this program, we are going to work on all three corners of the triangle. We are going to:

• Teach the children some exercises that will make them FEEL better and less nervous or upset.
• Teach them some ways to THINK about things that will also make them feel better.
• Teach the children some ways to DO things so that they are able to do everything they want to do without feeling upset when they do them.”

o Elements of the CBITS Program Describe the elements of the CBITS program and the reasons for them:

o Relaxation exercises to combat anxiety.
o Education about common symptoms to normalize them.

o Work on negative, maladaptive thoughts to teach children to generate more positive, accurate, and flexible ways of interpreting problems. This is intended to combat negative ideas that the world is very dangerous or that the self is bad.

o Social problem-solving to help children cope with problems with friends and family members. This includes thinking about the problem, brainstorming possible solutions, and evaluating pros and cons of potential solutions.

o Real life exposure to trauma-related events and situations. This is used to combat trauma-related anxiety by gradual and repetitive exposure to trauma reminders and triggers of anxiety while being safe. Situations include things that were actually present during the trauma as well as things like being alone, sleeping alone, feeling vulnerable.

o Exposure to trauma memory in imagination or through drawing or telling others in the group. This is used to process the trauma and reduce anxiety related to thinking about or remembering the trauma.

IV. Tips for Teaching Children Who Have Been Traumatized The goal of this part of the session is to offer suggestions for dealing with children who have undergone trauma. Treat the teachers as experts and guide a discussion of ways in which they might help the children, covering all the following points:

- See children’s behavior through a “trauma lens.” This means taking into account the children’s traumatic life events and trying to understand why they might be acting out. Try to remember that even the most disruptive behaviors can be driven by the fear and anxiety created during trauma exposure.
Give children choices and consistency. Often traumatic events involve loss of control and/or chaos, so you can help children feel safe by providing them with some control and a sense of consistency.

Understand that attempts by children to replay trauma through play or through their interactions with others is a way to cope with trauma. Resist their efforts to draw you into a repetition of the trauma. For instance, some children will provoke teachers in order to replay abusive situations at home.

Understand that children who have experienced trauma have idiosyncratic triggers that make them highly anxious. Triggers may include many kinds of situations. If you are able to identify what they are, you can help the children by preparing them for the situation and making sure that they feel comfortable. For instance, children who don’t like being alone may not want to go to the bathroom alone at school. Consider sending children to the bathrooms in pairs if this is a problem for a child in your classroom. It can also be helpful to warn children if you will be doing something out of the ordinary, such as turning off the lights or making a sudden loud noise.

Seek support and consultation to prevent burn-out. Be aware that you can develop symptoms through “vicarious traumatization” or exposure to traumas through the children you work with.

V. Answering Questions Teachers often have questions about implementation. For example, they might ask, “Can I refer children to the group? Will I know who participates? What if the program conflicts with the timing of a test?” Be prepared to respond to these questions with the details of how CBITS will be implemented in your school.
Some teachers ask questions about specific children who are participating in the program. Be clear about how confidentiality of group participation and group content will be handled. In most school settings it is not possible to protect confidentiality about participation itself, though it is still possible (and important) to keep the content of group participation private and confidential. Thus, it is usually not appropriate to answer questions about content.

Other questions from teachers often center on specific traumatic incidents that have affected them or their schools. These questions or comments can be turned into discussion points and provide an opportunity to reiterate the common reactions to trauma.

**HANDOUTS FOR TEACHERS**

Common reactions to trauma.

<table>
<thead>
<tr>
<th>Case Formulation Worksheet</th>
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<tbody>
<tr>
<td>School ________________________________Child</td>
</tr>
<tr>
<td>Name__________________________</td>
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<tr>
<td>Group ________________________________Group</td>
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<tr>
<td>Leader_________________________</td>
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<table>
<thead>
<tr>
<th>Child’s Stated Goals</th>
<th>Parent’s Stated Goals</th>
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<table>
<thead>
<tr>
<th>Primary Symptoms</th>
<th>Emphasis in Intervention</th>
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</tr>
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</table>
A little bit scared or upset 3

2

1

Not at all scared or Upset 0

289
Appendix K: Ethical Clearance

Daystar University Ethics Review Board

Our Ref: DU-ERB/01/08/2019/0022

Date: 01-03-2019

Principia Akot Onyenwe-Muda

Dear Principia,

COGNITIVE BEHAVIOURAL INTERVENTION FOR TRAUMA IN SCHOOLS TREATING POST-TRAUMATIC STRESS DISORDER AMONG ADOLESCENTS IN SELECTED PUBLIC PRIMARY SCHOOLS IN INFORMAL SETTLEMENTS IN KAJANDO COUNTY, KENYA

Reference is made to your request dated 31-02-2019 for ethical approval of your proposal by Daystar University Ethics Review Board.

We are pleased to inform you that all due process has been done and approval granted. In line with the research project policy, you will be requested to submit a copy of the final research findings to the board for records.

Before proceeding to the next stage, ensure the following attached comments are addressed in the submission of your report. Note that it is an offence to proceed without addressing the concerns of ERO.

This approval is valid for a period of 03-04-2019

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

Yours sincerely,

Mrs. Prisca Kibonyi
Secretary, Daystar University Ethics Review Board
Appendix L: Research Permit

3rd April 2019

National Commission for Science, Technology and Innovation
P. O. Box 39833-00100
Nairobi
KENYA

Dear Sir/Madam,

**RE: PRESKILLA AKOTH OCHIENG-MUNDU (10-1637)**

The above named is a student in the PhD in Clinical Psychology program at Daystar University, Nairobi Campus.

She has completed her coursework for the doctoral program, defended her PhD proposal and has corrections as recommended by examiners and is now ready to go in the field to collect data.

Her topic of study is: 'Cognitive behavioural intervention for trauma in schools in improving posttraumatic stress disorder among adolescents in selected public primary schools in Kajiado County, Kenya'.

She is hereby authorized by the University to carry out her study by collecting data from the field. She requires your authorization such that she can be able to access and identify her target population.

Thank you in advance for your willing to give this opportunity. We are truly grateful for your partnership in this, and for your organization’s contribution in the education of Daystar University students.

If you have any queries, please do not hesitate to contact me.

Yours faithfully,

[Signature]

[Name]

COORDINATOR, PhD IN CLINICAL PSYCHOLOGY PROGRAM
P. O. Box 39833-00100
Nairobi, KENYA

Daystar University

[Logo]
Appendix M: Researcher’s CV

Preskilla Ochieng-Munda
Email: preskillamunda@gmail.com
Cell: 0722267580

Profile Summary
A dedicated and empathetic Clinical psychologist, trainer and entrepreneur, who aspires to help people find practical solutions to debilitating psychological conditions through psychotherapy, psycho-educating, and training for more purposeful lives.
Over 20 years' work experience across diverse sectors, with over 8 years specific to Public Health and Development sector, providing technical guidance in the design and rollout of programs to improve and strengthen service delivery systems for key private and public health organizations.

Work Experience
Adjunct Lecturer - Pan African Christian University: 2016 to Present
Adjunct Lecturer - Africa International University: 2014 to 2018
Clinical Psychology Intern - Kenyatta National Hospital, Oasis Africa, Family First, Nairobi: 2017 to February 2020
Director - Rich Manna Investments Ltd, Nairobi: 2002 to 2015
Counselor - Melkizedek Hospital, Nairobi: January 2012 to May 2012
Associate Lecturer - Makini College, Nairobi: January 2005 to December 2005
Marketing Representative - Avenue Healthcare, Nairobi: 2000 to 2001
Marketing Intern - Shell Kenya Ltd, Nairobi: March 2000 to June 2000
Medical Representative - Cosmos Pharmaceutical, Nairobi: March 1998 to Dec 1998
Pharmacy Assistant - Kam Pharmacy, Nairobi: 1997 to 1998
Laboratory Assistant - Suna Nursing Home, Migori: May 1994 to Sept 1994

Education
PhD. in Clinical Psychology - Daystar University, NAIROBI: 2017 to 2020
M.A. in Counseling Psychology - Daystar University NAIROBI: 2010 to 2012
Higher Diploma - Counseling Psychology - TEC Institute of Management NAIROBI: 2006
B.Sc. in Biochemistry and Zoology - University of Nairobi: 1990 to 1995

Key Skills
• Psychotherapy (CBT & others), Psychological Assessments, Training & Teaching.
Appendix N: Plagiarism Report

Preskilla Munda dissertation - 14.10.2020

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<tr>
<th>Originality Report</th>
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**Primary Sources**

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3. **Comprehensive Guide to Post-Traumatic Stress Disorders, 2016.**
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