

**THE RELATIONSHIP BETWEEN ATTRIBUTION STYLE, RURAL VS URBAN
STATUS AND TRAUMATIC STRESS SEVERITY IN KIAMBU AND NYERI
COUNTIES, KENYA**

By

JANE NDUNGU

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Supervisor: Mr. Kempie van Rooyen

Co-Supervisor: Prof. David Ndetei

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DECLARATION

I, JANE WAGITHI NDUNGU, student nr 212367005, hereby declare that the dissertation for Magister Artium in Psychology (Research) is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.



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Jane Wagithi Ndungu

19/4/18

.....

19 April 2018

DEDICATION

- To my mum; my superwoman.

ACKNOWLEDGEMENT

- I would like to thank my parents. I could never have done it without you. Thank you for instilling in me all that I am. For your financial and moral support and for making me read countless books as a child, I will forever be in your debt. To my nephew, thank you for lifting my spirits with your laughter and chats when I was at my lowest. I adore you. I would like to express my deepest appreciation to my siblings who have in so many ways proven their love through continued support and by always believing in me. You are and will always be my best friends.
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ABSTRACT

- **Background:** Traumatic exposure and posttraumatic stress in Kenya is a common experience. Despite this prevalence, an investigation of the dynamic influence of variables (such as cultural differences) on posttraumatic stress has received little attention in the country. This means that a relatively narrow understanding of traumatic stress exists in the Kenyan context.
- **Purpose:** This study therefore investigated the relationship between attribution style, rural vs. urban status and posttraumatic stress severity. The exploration and description of these relationships contributed to creating a more nuanced understanding of traumatic stress. Such a nuanced understanding would be useful to a variety of fields of practice.
- **Method:** The study utilised a sample from a rural and urban area of Kenya. A purposive convenience sample of 178 rural and 176 urban individuals was used. The study employed a biographical questionnaire and 2 quantitative measures, namely, the Attribution Style Questionnaire (ASQ) and the PTSD Checklist for DSM-5 (PCL-5). Descriptive and inferential statistics were used to analyse the data.
- **Findings:** Results indicated that posttraumatic stress severity in the urban area was significantly higher than in the rural area. The urban sample was significantly more likely to attribute negative events to internal (rather than external) and specific (rather than global) causes than the rural sample. A regression analysis showed that a negative internal attribution style and educational level had a significant relationship with posttraumatic stress severity.

- **Conclusion:** Mental health practitioners can usually not do much about demographic factors, but the finding of an internal attribution style for traumatic events is useful. The finding is aligned with international findings and suggests that interventions that speak towards this interpretive style may be useful in the Kenyan context.
- **Keywords:** *Culture, Attribution style, Traumatic Stress, Urban vs. Rural, Kenya*

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LIST OF ABBREVIATIONS

AS	Attribution Style
ASQ	Attribution Style Questionnaire
PTSD	Posttraumatic Stress Disorder
PTSS	Posttraumatic Stress Severity
PCL-5	PTSD checklist for DSM-5
SES	Socioeconomic status

CHAPTER 1

INTRODUCTION AND MOTIVATION FOR THE STUDY

1.1 INTRODUCTION

Populations in Africa remain marginalised in terms of the relative number of mental health studies that are completed on them (North et al., 2005). Millions of people in Africa are exposed to traumatic experiences related to food insecurity, disease, sexual/physical abuse and violence (Karsberg & Elklit, 2012; Pokhariyal, Rono, & Munywoki, 2013). The situation of the people of Africa may be such that ‘psychological trauma may be so common as to be considered normal’ (Njenga, 2002). It is concerning that such a vulnerable population would be understudied in terms of mental health research; including posttraumatic stress (Karsberg & Elklit, 2012).

Like on the rest of the continent, traumatic experience is a significant issue in Kenya. The country is faced with many situations that are often traumatic such as food insecurity, sexual violence, road accidents and terrorist attacks (Njenga, 2002). In recent years, especially, Kenya has been exposed to a large number of terrorist attacks. Exposure to traumatic events in the specific Kenyan samples has been reported to be quite high at about 88% (Karsberg & Elklit, 2012) and 85% (Seedat et al., 2004). Despite this, there is a gap in traumatic stress related studies in the country (Karsberg & Elklit, 2012; Njenga, 2002; Pokhariyal, Rono, & Munywoki, 2013). Efforts have been made by a number of researchers (cf. Karsberg & Elklit, 2012; King’ori, Odera, & Oboka, 2011; Ndeti et al., 2007; Njenga, 2002; Njenga, Nicholls, Nyamai, Kigamwa, & Davidson, 2004; Ombok, Obondo, Kangethe, & Atwoli, 2013; Seedat et al., 2004) to bridge this gap, but a lot still needs to be done.

Studies on children (Ndetei et al., 2007; Ombok et al., 2013), torture victims (Pokhariyal et al., 2013), bombing survivors (Njenga, Nicholls, Nyamai, Kigamwa, & Davidson, 2004) and freedom fighters (Atwoli, Kathuku, & Ndetei, 2006) have reported the prevalence of posttraumatic stress rates in these samples in Kenya. From these studies, it is clear that posttraumatic stress in Kenya is high, with rates ranging from 35% (Njenga et al., 2004) to 65.7% (Atwoli et al., 2006). Yet these studies have focused on prevalence, with only one (Harder, Mutiso, Khasakhala, Burke, & Ndetei, 2012) exploring the role of another variable in the maintenance of posttraumatic stress. In order to fully understand posttraumatic stress in specific contexts, it is important to understand how different variables affect its presentation. Cognisant of this gap, this study explored the role of attribution style and an aspect related to culture (urbanisation) on posttraumatic stress severity.

Attribution style (AS) (sometimes referred to as explanatory style) is one of several cognitive variables that may influence individuals' responses to traumatic events and their subsequent traumatic stress severity (Bomyea, Risbrough, & Ariel, 2012; Elswood, Hahn, Olatunji, & Williams, 2009). There are three componential dualities in AS (internal vs. external, stable vs. unstable, global vs. specific). AS was chosen for this study because of its conceptual link to worldview which has origins in cultural belief systems (Marsella, 2010; van Rooyen & Nqweni, 2012). AS is about people's explanations of the positive and negative events that they experience (Weigner, 1989) and it has a reasonably well established link to PTSD in international literature (e.g. Bomyea, Risbrough, & Ariel, 2012; Elswood, Hahn, Olatunji, & Williams, 2009). Despite AS being an adequately validated concept in Western research, the construct has not received much scrutiny in Kenya or with cultural groups outside of those from North America and Europe. This deficit leaves a gap in the understanding of PTSD in the

Kenyan context given that appraisals of traumatic events are central to the dynamics that increase the PTSD symptom severity (Ehlers & Clark, 2000; Van Rooyen & Nqweni, 2012; Rasmussen, Smith, & Keller, 2007).

The experience of traumatic events is influenced by the individual's subjective understanding of them. This subjective understanding relies heavily on the cultural background of the individual, since culture is the lens with which we make sense of the world (Marsella, 2010). The experience of traumatic events and symptoms, is subject to cultural understandings which may lead to differentiated and culturally informed coping strategies (van Rooyen and Nqweni, 2012). Some events (e.g. witnessing violent death of another person) may elicit traumatisation of people from all cultures, because of the universal threat element involved (Buse, Burker, & Bernacchio, 2013; van Rooyen & Nqweni, 2012). Yet this does not mean that specific attributions to the event will be universally the same since they will differ from culture to culture. Because of the cultural differences between Western countries and African countries, we cannot assume that what has been found in Western research, in terms of attributions, will be an accurate reflection of what is happening in Africa. Furthermore, even within a single African ethnic group, perceptions may differ due to distinguishable cultural features in different locales (for example rural vs urban). Such differences, might not be those that are generally associated with ethnoculture, but it remains "cultural" in the sense that they may capture an aspect of the culture of a specific locale.

The above introduction on the nature of culture and its potential influence on traumatic experiences, highlights the aspect of culturally sensitive studies, which is that the definition and operationalisation of culture remains problematic and it is therefore useful to explicitly define it for each study. In this study, culture has been operationalised in terms of a rural vs. urban status.

In the experience of the researcher, within a single region in Kenya, there exists an evident cultural split depending on how urbanised a region is. Differences in exposure to everyday challenges bring about this differentiation. For example, those living in urban areas are frequently exposed to traumatic events such as violent robberies. It is therefore common for an incident's initial shock to dissipate in under a week as new cases are reported. In rural areas however, robberies are not common. A robbery will therefore be dwelt on and serve to scare a neighbourhood for a longer time, sometimes up to a year. The magnitude with which this event is perceived in the two regions is therefore very different. The above is obviously anecdotal, but such experiences led to the formulation of the current investigation.

Various studies have highlighted the potential relevance of an urban and rural split to traumatic stress. For example, there is evidence that the poor health of a community is often related to its remoteness (Duboz, Boëtsch, Gueye, & Macia, 2017; Forbes, Morgan, & Janzen, 2006; Pitblado et al., 1999; Romanow, 2002; Shields & Tremblay, 2002; van der Hoeven, Kruger, & Greeff, 2012). The difficulties in accessing mental healthcare in remote areas may explain some of the variance (Mitura & Bollman, 2003; van der Hoeven et al., 2012). Increased crime in urban areas may also give rise to an increased exposure to traumatic events for urban dwellers (UD). The above are examples of variables that may influence the differential development of posttraumatic stress in rural and urban populations. This issue and its relationship to the concept of culture, is more fully explored in the literature review section.

The urban and rural differentiation is important because of the different cultural contexts that are created due to differences in the physical environment. However, these cultural differences, in terms of PTSD, find a more direct expression in specific psychological constructions. A well-known definition in the PTSD field describes culture as “the psychological

construction of reality [that] acts as a perceptual and experiential template for responding to traumatic stressors by rendering “interpretations” with regards to such concerns, as of the nature and cause of the stressor, and the pattern of responses that it may elicit,” (Marsella, 2010).

Differences in how UD and rural dwellers (RD) construct reality in terms of their attributions for events can therefore reasonably be seen as a cultural difference. UD have been known to practice more independent and autonomous cultures, while RD places more emphasis on interrelatedness (Anderson, 1999). Independent cultures have been reported to use dispositional (internal) attributions more frequently, when compared to people from interdependent cultures who use situational (external) attributions more frequently (Lee, Hallahan, & Herzog, 1996; Miller, 1984; Morris & Peng, 1994). RD and UD may therefore perceive traumatic events differently. One of the objectives of the current study is therefore to see whether this hypothesis holds up to testing and whether a difference in AS accounts for differences in posttraumatic stress severity.

In order to fully understand posttraumatic stress, it is important to understand whether cultural variables, such as attribution style, influence the severity. This study therefore aimed to explore and describe the relationships between attribution style, urban and rural status and the posttraumatic stress severity of a sample of individuals from the two counties in Kenya. Each county represented a different cultural aspect (one rural and the other urban).

1.2 MOTIVATION FOR THE STUDY

The exploration of the above relationships would of course broaden our understanding of the interface between cultural elements and traumatic stress, but it may also be useful to understand the specific dynamics that produce traumatic stress severity for individuals from the

Kiambu and Nyeri counties of Kenya. A greater understanding of context specific dynamics will be useful for the treatment planning and programming in the Kenyan environment.

1.3 THE AIM AND OBJECTIVES OF THE RESEARCH

1.3.1 Aim of the study

The overall aim of the study was to explore and describe the relationship(s) between attribution style, rural vs. urban status and traumatic stress severity in the Kiambu and Nyeri counties of Kenya. This overall aim was achieved by meeting the following individual objectives.

1.3.2 Objectives of the study

- To explore and describe the attribution style and traumatic stress severity of a sample of individuals (total sample description using descriptive statistics).
- To investigate whether there are differences in the attribution style and traumatic stress severity of the urban and rural sample (comparison using inferential statistics).
- To explore and describe the relationship between, attribution style, rural vs. urban status and traumatic stress severity of a sample from Kiambu and Nyeri counties while taking into account the effect of demographic variables such as the level of education and gender (investigation of complex relationships using multivariate correlational techniques).

1.4 BRIEF DESCRIPTION OF METHODOLOGY

This study utilised a descriptive, exploratory research design to achieve its aims and objectives. Two quantitative measures and a biographical questionnaire were used to collect data. The purpose of this methodology was to explore and describe the severity of posttraumatic stress

in the current sample and its relationship to attribution style and urban vs. rural habitation. A sample of 354 individuals was utilised. The methodology is described more comprehensively in Chapter 4 of this dissertation.

1.5 SUMMARY AND OUTLINE OF THE REST OF THE DISSERTATION

Chapter 1 of this report has informed the reader about the general description of the study, the motivation of the study and the aims and objectives of the study.

Chapter 2 of this report will synthesise the relevant existing literature on the topic of this study. To the best of the researcher's knowledge, this research is the first of its kind in Kenya. The literature presented here was therefore drawn from various studies that focus on each of the variables. This information is presented to demonstrate its relevance to the current study.

Chapter 3 will focus on Ehlers and Clark's (2000) cognitive model for PTSD development as a conceptual framework underpinning this study. Its link to the attribution style will be explained.

The complete methodology will be presented in Chapter 4. This chapter will include the research design, sampling method, data collection method, data collection procedure, ethical considerations and data analysis.

The results of this study are presented in Chapter 5. These results will be presented in the form of charts and tables.

Chapter 6 will follow with discussions of the results that were obtained. The discussions will tie together the three variables by drawing on existing literature.

Chapter 7 will contain the conclusion, strengths and limitations of the study as well as the recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

This chapter presents relevant information in order to provide background to the study and to inform the research question. This information includes existing literature around PTSD and some of the variables that will influence its severity. Information is also provided on the Kenyan context (including cultural context) where the data was sampled. Finally, the gap in the literature that led to the study's aim is presented before moving on to the theoretical constructs that framed the understanding of the results.

2.1 POSTTRAUMATIC STRESS DISORDER

The term posttraumatic stress as a disorder was officially introduced into psychiatric literature in 1980 (Pokhariyal et al., 2013) and it has since attracted a great deal of research. Posttraumatic stress disorder is caused by experiencing a traumatic event that is often different from the usual human experiences (American Psychiatric Association (APA), 2013; Pokhariyal et al., 2013) such as witnessing the traumatic event (APA, 2013), hearing that the traumatic event happened to a close relative or friend (APA, 2013) or even working closely with traumatised people (APA, 2013; Dunkley & Whelan, 2006).

When an individual is exposed to a traumatic event, a series of neurobiological and psychological responses are set in motion as the body tries to process the stressor (Baldwin, 2013; Bremner, 2006; Sherin & Nemeroff, 2011). If the brain lacks the capacity to effectively process the traumatic memory, psychological distress arises (APA, 2013), which might lead to disorders such as acute stress disorder and posttraumatic stress disorder (APA, 2013). While the

two disorders (acute stress disorder and posttraumatic stress disorder) present similar symptoms, acute stress disorder can only be diagnosed from three days up to one month after the exposure to the traumatic event, after which the diagnosis changes to posttraumatic stress disorder (APA, 2013).

2.1.1 Clinical diagnosis of PTSD

Table 1: Diagnostic Criteria for PTSD (APA, 2013)

A. Exposure to actual or threatened death, serious injury, or sexual violence, in one (or more) of the following ways:

Directly experiencing the traumatic event(s).

Witnessing, in person, the event(s) as they occurred to others.

Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.

Experiencing repeated or extreme exposure to aversive details of the event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse).

Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related.

B. Presence of one (or more) intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:

Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s). Note: In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.

Recurrent distressing dreams in which the content and/or affect of the dream is related to the event(s).

Note: In children, there may be frightening dreams without recognizable content.

Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.)

Note: In children, trauma-specific re-enactment may occur in play.

Intense or prolonged psychological distress at exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event(s).

Marked physiological reactions to internal or external cues that symbolise or resemble an aspect of the traumatic event(s).

C. Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s), as evidenced by one or both of the following:

Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

D. Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).

Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., “I am bad,” “No one can be trusted,” “The world is completely dangerous,” “My whole nervous system is permanently ruined”).

Persistent distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

Markedly diminished interest or participation in significant activities.

Feelings of detachment or estrangement from others.

Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

E. Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s), as evidenced by two (or more) of the following:

Irritable behaviour and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.

Reckless or self-destructive behaviour.

Hypervigilance.

Exaggerated startle response.

Problems with concentration.

Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

F. Duration of the disturbance (Criteria B, C, D and E) is more than one month.

G. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

H. The disturbance is not due to the direct physiological effects of a substance (e.g., medication or alcohol) or another medical condition.

Specify whether:

With dissociative symptoms: The individual's symptoms meet the criteria for posttraumatic stress disorder, and in addition, in response to the stressor, the individual experiences persistent or recurrent symptoms of either of the following:

Depersonalisation: Persistent or recurrent experiences of feeling detached from and as if one were an outside observer of, one's mental processes or body (e.g. feeling as though one were in a dream; feeling a sense of unreality of self or body, or of time moving slowly).

Derealisation: Persistent or recurrent experiences of unreality of surroundings (e.g., the world around the individual is experienced as unreal, dreamlike, distant, or distorted).

Note: To use this subtype, the dissociative symptoms must not be attributable to the physiological effects of a substance (e.g., blackouts, behaviour during alcohol intoxication) or another medical condition (e.g., complex partial seizures).

Specify if:

With delayed expression: If the full diagnostic criteria are not met until at least 6 months after the event (although the onset and expression of some symptoms may be immediate).

In DSM 5, posttraumatic stress disorder symptoms have been sorted into four clusters: hyperarousal, memory intrusion, avoidance, negative changes in cognitions and mood as shown in Table 1 above. To be diagnosed with full PTSD, an individual need present with at least one symptom each in criteria A, B and C; and at least two symptoms each in criteria D and E. The individual must also meet requirements of criteria F, G and H (APA, 2013).

2.1.2 Prevalence of PTSD

The global exposure to traumatic events is estimated to be about 70% (Norris, 1992; Benjet et al., 2016), meaning that any individual has about a 70% chance to be exposed to a potentially traumatizing event. Global lifetime PTSD prevalence is estimated to be between 7.8% (Kessler,

Sonnega, Bromet, Hughes, & Nelson, 1995) and 3.9% (Koenen et al., 2017). Most studies that investigate the traumatic exposure and PTSD prevalence, have been conducted in high-income countries (HICs) with fewer studies of this nature existing in low-and middle-income countries (LMICs) (Karsberg & Elklit, 2012; Patel & Sumathipala, 2001), despite the severe traumatic events probably being more common in the latter populations.

HICs have reported a relatively low (<10%) PTSD prevalence despite the high rates of exposure to traumatic events (>80%) (Breslau, 2009). For example, a 9.2% prevalence rate has been found in Canada with an exposure rate of 76.1% (van Ameringen, Mancini, Patterson, & Boyle, 2008), an 8.3% rate in the United States with an exposure rate of 89.7% (Kilpatrick et al., 2013) and a 1.33% prevalence in Australia with an exposure rate of 84% (Creamer, Burgess, & McFarlane, 2001). This could be as a result of effective treatment plans, availability of treatment (Patel et al., 2007), awareness of the condition and higher SES leading to easy access to treatment (Koenen et al., 2017; Patel et al., 2007). However, the differences in attributions to traumatic events and their influence on the processing of the trauma might also play a role in these differences.

Examples of PTSD prevalence in some post-conflict LMICs include 37.4% in Algeria, 15.8% in Ethiopia and 17.8% in Gaza (de Jong et al., 2001). With trauma exposure rates in Africa being estimated to be 73.8% (Koenen et al., 2017), these prevalent statistics seem much higher than those of HICs. This could be partly due to the reported low treatment rates of mental illness in LMICs (Patel et al., 2007). While this study does not really deal with the difference between LMICs and HICs, it does deal with UD and RD who may experience differences in terms of access to resources and attributions.

The above prevalence rates are based on those who meet the PTSD diagnostic criteria. Subclinical expressions of the disorder should also be considered in studies if we are to get a clear picture of the impact of traumatic exposure. It is possible to experience subthreshold PTSD symptoms, which refers to the presence of symptoms that do not meet the full criteria for a PTSD diagnosis (Marshall et al., 2001). When people are presented with such a symptom set, they are said to experience subclinical PTSD which is discussed next.

2.1.3 Subclinical PTSD

Mental health outcomes are sometimes conceptualized and understood as binary occurrences, which means that one either meets the diagnosis or they do not (Steenkamp et al., 2012). This thinking fails to consider symptoms that were insufficient for a diagnosis, meaning that survivors who are functionally impaired following a traumatic event, but do not meet the diagnosis are not acknowledged. Evidence indicates an increased impairment with increased symptoms, even though the symptoms may not meet the criteria for a formal diagnosis (Marshall et al., 2001; Pietrzak, Goldstein, Malley, Johnson, & Southwick, 2009; Pincus, Davis, & McQueen, 1999; Schnurr et al., 2000; Stein, Walker, Hazen, & Forde, 1997; Zlotnick, Franklin, & Zimmerman, 2002), which highlighted the relevance of recognizing the phenomena of subclinical diagnosis. Subclinical diagnosis, also known as subthreshold symptoms, results from the partial recovery from the disorder or having not met the full criteria for a disorder's diagnosis (Marshall et al., 2001; Pincus et al., 1999). It is relevant to the current study in terms of who was included in the study. The study did not require the participants to meet the full diagnosis for PTSD in order to be included in the study. Relationships between the variables were explored and traumatic stress severity could therefore range from a few minor symptoms to a full blown PTSD case.

2.2 POSTTRAUMATIC STRESS DISORDER IN KENYA

There is a dearth of traumatic stress related studies in Africa (Karsberg & Elklit, 2012; Njenga, 2002; Pokhariyal et al., 2013; Rasmussen, Smith, & Keller, 2007). Like the rest of the continent, not a great deal has been published about mental health phenomena in Kenya (Karsberg & Elklit, 2012; Njenga, 2002) and this includes traumatic stress. A number of studies have been completed in the country (e.g. Karsberg & Elklit, 2012; King'ori, Odera, & Oboka, 2011; Njenga, 2002; Njenga, Nicholls, Nyamai, Kigamwa, & Davidson, 2004; Ombok, Obondo, Kangethe, & Atwoli, 2013; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004) and there seems to be a consensus on the high rates of trauma exposure in the Kenyan population (for example see Jenkins et al., 2015; Karsberg & Elklit, 2012; Seedat et al., 2004), including children (Karsberg & Elklit, 2012; Ndeti et al., 2007). Trauma exposure rates in the specified populations, according to some of these studies, have been estimated at 85% (Seedat et al., 2004) and 88% (Karsberg & Elklit, 2012) which is slightly higher than the global average (see Benjet et al., 2016; Norris, 1992 for global averages).

These studies have however been carried out using subsections of the Kenyan population, thus making it difficult to give the exact PTSD prevalence rates in the entire population. Differences in methodology further cause difficulties in making cogent comparisons. Of the studies reviewed, different PTSD prevalence rates among Kenyans have been reported spanning from 10.6% (Jenkins et al., 2015) in a household survey of mental disorders in one region of Kenya, 56% (Pokhariyal et al., 2013) among tortured victims in Kenya, 35% (Njenga, Nicholls, Nyamai, Kigamwa, & Davidson, 2004) among adult survivors of the 1998 bombing in Kenya, 50.5% among children after post-election violence (Ndeti et al., 2007) and 65.7% (Atwoli et al., 2006) among the Mau Mau freedom fighters.

It is clear that the exposure rates in Kenya are high, which directly results in the high rates of PTSD that have been reported above. Yet it is evident that the PTSD prevalence is lower than the exposure rate, which means that there are some exposed individuals who do not develop PTSD. It is also well documented in other populations that not everyone who is exposed to a traumatic event goes on to develop PTSD (Chung, Preveza, Papandreou, & Prevezas, 2006; van Rooyen & Nqweni, 2012; Zhang, Liu, Jiang, Wu, & Tian, 2014). Factors leading to vulnerabilities and resilience mediate the impact of the exposure. It is therefore important to understand these factors in order to adequately understand the presentation of PTSD in Kenya.

2.3 PERSONAL FACTORS INFLUENCING DEVELOPMENT OF PTSD

Personal characteristics explain, in part, why certain individuals go on to develop PTSD while others return to their normal functioning (Bomyea, Risbrough, & Lang, 2012; Ehlers & Clark, 2000; Elwood, Hahn, Olatunji, & Williams, 2009). These personal characteristics that predispose some individuals to develop PTSD are often referred to as vulnerabilities (Elwood et al., 2009). Vulnerability is defined by (Ingram & Price, 2009) as ‘an enduring, endogenous trait inherent in the individual that serves to increase the likelihood of developing a particular disorder’. These vulnerabilities also, once activated, may play a role in the maintenance of psychological symptoms (Elwood et al., 2009). Because these traits exist in the individuals pre-trauma but only become apparent post-trauma (often only in the sample that develop PTSD), they are difficult to delineate due to scarcity in longitudinal pre-traumatic exposure studies (Bomyea et al., 2012). These traits are however crucial in the understanding of PTSD and they are worthy of continuous investigation.

Biological, social and psychological factors all play a role as either protective or instigating factors that influence the vulnerability to the development of PTSD. Studies for biological factors such as heritability (Koenen, Fu, Ertel, & Lyons, 2008; Sartor et al., 2011), molecular genetics (Kilpatrick et al., 2007; Koenen et al., 2008; Kolassa, Kolassa, Ertl, Papassotiropoulos, & De Quervain, 2010; Sartor et al., 2011; Thakur, Jooper, & Brunet, 2009) and neuroendocrine response (Breedlove, Rosenweig, & Watson, 2007; Mehta & Binder, 2012), inform us of the biological influences to the manner in which we respond to traumatic exposure. These studies primarily focus on the ‘hardware’.

The ‘software’ of our system also impacts our response to traumatic exposure. Neuropsychological factors such as low intelligence have been reported to result in a higher susceptibility to PTSD (see Bomyea, Risbrough, & Lang, 2012 for a review). The current study focused on social (culture) and psychological (attribution style) factors that influence PTSD symptomology.

2.3.1 Social factors

Factors such as low education levels (Brewin, Andrews, & Valentine, 2000) have been found to be predictors of a worse outcome after exposure to a traumatic event. One reason for this could be that a higher educational attainment creates a greater understanding of events which could aid in an individual’s processing of a traumatic event. Another reason could be the awareness that is brought about by increased education levels, which could help an individual to identify symptoms emerging post-trauma as out of the ordinary and therefore increase help-seeking behaviour.

Socioeconomic status is also a risk factor in the prevalence of PTSD since it could influence an individual’s treatment-seeking habits. A lack of treatment after exposure to a

traumatic event, where it is required, could lead to the development of PTSD. Further, access to effective treatment in LMICs has been reported to be problematic (Koenen et al., 2017).

A sense of social support has been found to be a protective factor from the development of PTSD (Brewin et al., 2000; Kilpatrick et al., 2007; Laffaye, Cavella, Drescher, & Rosen, 2008; Ozer, Best, Lipsey, & Weiss, 2003). Negative social reaction from others has been identified as a risk factor to the development of PTSD (Ullman, Filipas, Townsend, & Starzynski, 2007). The manner in which the people in the affected individual's life respond to the individual's experience of a traumatic event, and their social support has an influence on the subsequent development of PTSD. It makes sense then that the people we interact with frequently have an influence on the outcome of exposure to a traumatic event. Their perceptions of the event and the aftermath are crucial. The culture we identify with, in this study operationalised as the rural vs. urban status, is therefore key in the manner that we respond to traumatic events and should be explored and understood.

2.3.1.1 Culture. Culture has been widely and varyingly defined and an exact definition has not been agreed upon. Literature describes culture as shared thoughts, beliefs, attitudes, behaviours and items between two or more people (Eller, 2009; Ferraro, 2002; Nanda & Warms, 2007). Culture can be described in terms of geographical region, ethnicity, organisation, career and race and the concept can become problematic to operationalise if it is defined very broadly. However, we should also be cautious to restricting our understanding of culture to a too narrow 'spectacle' (Eller, 2009) such as ethnicity because this may lead to reducing the fundamental complexity of the construct. For example, a native Indian might be more similar to an American expatriate who lives in India than to a fellow Indian who lives in South Africa. Similarly, a black 20-year-old might share ideas and thought system that are more comparable to a 20-year-old

white counterpart than to an 80-year-old black. This is because culture is not static (Eller, 2009; Ferraro, 2002) and it changes with time and place. Yet what is clear is that, whatever definition is used, culture is socially constructed and socially experienced. In this study, culture has been operationalised in terms of a rural vs. urban status.

This operationalisation may seem like a narrow spectacle, but narrow definitions are sometimes necessary in quantitative studies in order to create measurable outcomes. Certain narrow operationalisations may be quite meaningful in that they represent a number of valuable facets of experience. Socioeconomic status, for example, represents a range of variables that contributes to its robustness as an indicator for mental health outcomes. In this study, the rural vs. urban dichotomy can be construed as a narrow lens of analysis, but as samples in both locations differ in their experiences, it may be a meaningful one. In the current study, it was intended as a meaningful operationalisation of culture and it is therefore also necessary to clarify the concept of culture in this study.

Culture here is not defined as it normally is; as ethnoculturally. The researcher is not comparing the samples in relation to their innate cultural attributes that can usually be ascribed to an ethnic group. Culture here is defined in terms of shared experiences within defined groups, which in this case are the rural and urban groups. The researcher's contention is that, UD, regardless of tribe, will have a different culture from RD and vice versa. These differences will be due to shared experiences among the groups and it is hypothesized that it may differ across the groups. For example, people living in urban parts of Kenya share an increased exposure to western culture, increased crime rates, better education facilities and a fast-paced life while on the other hand, those living in rural areas are less exposed to western culture, have lower crime rates, have poorer education facilities and experiences a generally slower paced lifestyle. These different

sets of experiences may influence how these different populations perceive and evaluate other experiences. The differences in available resources and the motivation to use these resources become part of the culture that may influence how they respond to some traumatic or other negative events.

2.3.1.1.1 A review of differences between Rural and urban culture and the effect on mental health. Religion, acculturation, exposure to other cultural groups' cultural practices, education and other resources levels may cause cultural differences (Ferraro, 2002). These differences will affect not only the perception of illness but also the understanding of the symptoms as discussed in the following sections.

2.3.1.1.1.1 Differences in physical and logistical structures . Including in high income countries, there is evidence that the poor health of a community is often related to its remoteness (Duboz et al., 2017; Forbes et al., 2006; Pitblado et al., 1999; Romanow, 2002; Shields & Tremblay, 2002; van der Hoeven et al., 2012). This means that people living in rural areas are often at an increased risk of poor health compared to their urban counterparts, in part, owing to difficulties in accessing healthcare (Mitura & Bollman, 2003; van der Hoeven et al., 2012). In Africa, differences in employment rates between the rural and urban areas, with urban communities being more likely to be employed, influences the access to treatment because of a lack of treatment fee, transport fares (van der Hoeven et al., 2012) and a medication fee (Duboz et al., 2017).

2.3.1.1.1.2 Differences in awareness. Awareness about a disease facilitates the understanding of the symptoms which is crucial for the healing process. For example, one study found a close correlation between knowledge about disease, the perception and evaluation of the

symptoms and social interactions (Cummings, Becker, & Maile, 1980). Although these researchers did not know the exact reasons behind the linkages, they argued that knowledge about disease is exchanged through social interactions and that this knowledge influences the judgments of symptoms and the threat of the disease (Cummings et al., 1980). The culture that an individual operates in, then becomes significant at the individual and community levels of health and symptom perceptions.

Education levels have been reported to be higher in African urban areas as compared to rural areas (Duboz et al., 2017; Litheko, 2012). This ultimately affects the awareness of illnesses which influences decision making on treatment seeking (Cummings et al., 1980). People living in rural areas are therefore at an increased risk of low awareness which negatively impacts healing.

2.3.1.1.3 Differences in socialisation. Even in Africa, where most cultures are interdependent, the level of independence varies across regions, with UD being more independent than RD who are more interdependent (Cha, 1994; Freeman, 1997; Georgas, 1989; Kashima et al., 2004; Mishra, 1994; Trandis, 1995). This is, in part, due to increased crime in urban areas which promotes mistrust and isolation, which destroys interdependence. Another reason for this could be due to higher employment rates in the urban area which leaves less time for socialisation. These differences in culture have been reported to cause a shift in attribution style (see 2.3.2.1.1 for discussion on this).

Some researchers argue that stigma is more common in rural areas than it is urban areas (Rost, Smith, & Taylor, 1993) and others argue the contrary (Mutiso, Musyimi, Loeffen & Burns, 2017). Whatever the case, stigma affects seeking professional help (Rost, Smith, & Taylor, 1993; Topper, van Rooyen, Grobler, van Rooyen, & Andersson, 2015). Because of a lack of anonymity

in rural areas, it is less likely to access healthcare confidentially which makes it more likely for the community know the mental illness of their peers and consequently to label a person suffering from mental illness as ‘crazy’ (Rost et al., 1993). This stigma often leads to people ignoring mental illness symptoms, only acknowledging them and seeking treatment when they become unmanageable. On the other hand, it is asserted that collectivist societies are more likely to care for and support each other in a case of illness (Mutiso, Musyimi, Loeffen & Burns, 2017), which could incline those suffering from mental illness to seek treatment and help in the healing process. Until more evidence is gathered, stigmatisation, by itself cannot help in the prediction of posttraumatic stress severity levels.

Cultural beliefs about mental illness, perceptions about healthcare and awareness about the illness (Cummings et al., 1980) all become key variables in the healing process. Additionally, level of interdependence influences the attribution style.

2.3.1.1.2 Cultural influence on traumatic experience in Kenya. Culture, being the eye with which we view our world (Ferraro, 2002; Marsella, 2010), is the basis from which we draw our perceptions. The way we react following a traumatic event is influenced by culture, because culture is often the perceptual and experiential basis that we use to describe, understand, predict and control the world around us (Marsella, 2010; van Rooyen & Nqwani, 2012). The manner in which we perceive and respond to a threat, may therefore differ from one culture to the other due to reasons such as desensitization, how threatened we feel, sense of control and sense of social support. In this study, culture has been operationalised as a rural vs. urban status. The arguments presented here are therefore based on this dichotomy.

Even though the definition of culture in PTSD research is inherently tied to the belief systems that ‘culture’ creates, it has been argued that the geographical location presents a useful

operationalisation of culture in that it is likely that individuals from the same geographical location will share beliefs (van Rooyen & Nqweni, 2012). Yet it is important to note that even within a geographical location, systemic cultural variations may exist arising from factors such as remoteness among others, as discussed in the section above.

Because education levels in Kenya have been reported to be higher in urban areas (Mulongo, 2013; Onyango, 2013; Sibonje, 2012), it can be argued that people living in urban areas are more aware about illness through not only learning, but also social interactions with knowledgeable others as compared to those living in rural areas. Higher levels of education could therefore lead to less symptom severity due to the person having more resources available to make sense of the traumatic experience. It could also lead to an awareness of the traumatic stress symptoms, due to knowledgeable interactions, making treatment easier. Practitioners have reported that the treatment process is often more successful when the client understands the techniques and/or therapeutic processes (Gray, Elhai, & Frueh, 2004). These clients have also been reported to have higher treatment adherence rates (Gray et al., 2004; Knaevelsrud & Maercker, 2007). Lower stigma levels in urban areas could lead to early acknowledgement and a disclosure of symptoms, hence earlier treatment.

The opposite happens in rural areas where lower educational attainment levels have a negative impact on the well-being of an individual post trauma in terms of understanding of the symptoms, making sense of the trauma and understanding and adhering to treatment plans when they are sought. Stigma in rural areas could also lead to ignoring symptoms to avoid the 'shame'. This action of 'ignoring' symptoms could lead to avoidance which has symptomatic implications. We know, for example, blocking intrusive thoughts makes them more prevalent and persistent (Ehlers & Clark, 2000).

RD and UD are therefore confronted by different circumstances which ultimately differentiates their response to a traumatic event. The differences in education level, social economic status and stigmatization proneness, between the two populations as discussed above, all contribute to this disparity. For this reason, it appeared useful to compare individuals from different cultures (urban and rural) in Kenya.

Cultural influence on the development of posttraumatic stress is a on-going debate (Marsella, 2010), but what is important to note here is that we draw our perceptions from our repertoire of cultural socialization, which in the long run influences our response to traumatic events. Culture and the operationalisation of culture to which an individual ascribes then becomes a factor influencing the development of PTSD and the level of severity of it. Therefore, the manner in which we perceive a threat, and respond, will differ from one culture to the other.

2.3.2 Psychological factors

Psychological factors are stable prior to exposure, endogenous (i.e., inherent to the person), latent and likely to interact with stressful experiences (Ingram & Prince, 2001). They vary between individuals (Ingram & Prince, 2001) which means that they can explain individual differences in traumatic stress responses. Psychological factors can act as both protective and/or risk factors. Deficiencies in neuropsychological performance, for example, has been suggested to be a vulnerability factor for PTSD development (Koenen, 2006; Verwoerd, Wessel, & De Jong, 2009). Cognitive biases, which have also been found to play a role in PTSD symptomology (Bomyea et al., 2012; Brewin et al., 2000; Ehlers & Clark, 2000; Elwood et al., 2009; Nolen-Hoeksema, 1991; Reiss, 1991), have been well documented globally but have received little attention in Kenya.

2.3.2.1 Cognitive biases. Cognitive biases such as lower intelligence (Bomyea et al., 2012; Brewin et al., 2000), anxiety sensitivity (Elwood et al., 2009; Farnsworth & Sewell, 2011; Reiss, 1991), high levels of looming cognitive style (LCS) (Bomyea et al., 2012; Elwood et al., 2009; Reardon & Williams, 2007) and rumination (Nolen-Hoeksema, 1991; Ehlers & Clark, 2000; Kleim, Ehlers, & Glucksman, 2007; Bomyea et al., 2012) have been established to cause susceptibility to PTSD.

Attribution Style (the cognitive bias focused on in this study) has been described as deeply entrenched in every individual and a crucial factor in the development and maintenance of PTSD (Bomyea et al., 2012; Elwood et al., 2009). Initially, the researcher was interested in investigating the differences in Locus of Control (LoC) between the rural population and the urban population and how this would influence posttraumatic stress, because of her own experience and perception of the difference. The hypothesis then was that LoC would differ between the two populations and this difference would influence the individual's perception of traumatic events and their symptom severity. Further reading informed the researcher that the Attribution Style is a more comprehensive formulation of LoC. LoC was then substituted by the more comprehensive Attribution Style.

2.3.2.1.1 Attribution Style. Attribution Style (AS) (sometimes referred to as explanatory style) refers to the kind of explanations people give to events that they experience and these explanations tend to be either positive or negative (Weigner, 1989). There are three components in explanatory style; internality, stability and globality.

Internality (internal vs. external) involves how one understands the cause of an event. People experiencing events may see themselves as the cause, meaning that they have internalised the cause for the event. E.g. "If I had studied harder I would have passed" (internal) as opposed

to “the lecturer set an impossible paper” (external). Stability (stable vs. unstable) involves how one perceives the extent of the cause (Weigner, 1989). People may see a situation as unchangeable (stable), e.g., “I always lose my keys” or changeable (unstable), e.g., “tomorrow might bring better things.” People who view factors as stable (unchangeable) are more likely to have negative appraisals such as, “I will never graduate” as compared to their unstable counterparts, “I could pass this class if I retake it.” Globality (global vs. local/specific) involves how one interprets the extent of the effects (Weigner, 1989). People may see a situation as affecting all aspects of their life (global), e.g., “I can’t do anything right” or attribute the negative result to the particular event (specific), “I failed math.”

It seems obvious that AS would influence PTSD if one considers that negative appraisals about the self, others, and the world after a traumatic event, increases an individual’s risk of developing PTSD (Bryant, Salmon, Sinclair, & Davidson, 2007; Ehring, Ehlers, & Glucksman, 2008; Meiser-Stedman, Dalgleish, Glucksman, Yule, & Smith, 2009). Negative attribution style is described as an individual’s tendency to attribute negative events to internal, stable and global factors (Bomyea et al., 2012; Elwood et al., 2009) which leads to an individual’s perceived lack of control of the event’s sequelae. This acts as a maintaining factor of PTSD symptoms (Elwood et al., 2009) because it leads to hopelessness.

The hopelessness theory explains interpretations of perceived negative events as consequential determinants to the presence of symptomology (Elwood et al., 2009). According to the hopelessness model, (1) interpretation of the event, (2) understanding of the consequences of the event and (3) inferences about the self in response to the event, predict the development of hopelessness (Abramson & Metalsky, 1989). Hopelessness, after experiencing a traumatic event, diminishes a survivors’ perceived greater control over the recovery process, which is reported to

be a risk factor for PTSD (Ullman et al., 2007). The counterbalance of the above information is that an attribution of negative events to external, unstable and specific causes becomes a healthier position from which to make sense of traumatic events.

Attribution style may vary between cultures and might be shared within cultures.

Rasmussen, Smith, and Keller (2007) indicate that the cornerstone of the African explanatory model is often etiological with three implications: (1) the existence of external cause, (2) the intent behind the cause and (3) the possibility of understanding and alleviating through various means. Because of shared perceptions within cultures, it is possible that people sharing a culture might share attribution style. An individual's distinctive response to a traumatic event might be as a result of variation in perception, which results from ascribing to the beliefs of a certain culture. Identifying with a specific culture, therefore, influences a person's attribution style, which might act as a protective or risk factor. Differences in culture (as explored above) between the rural and urban populations may impact the reasons that individuals ascribe to a traumatic event. Seeing as UD (who are more independent) have a tendency of ascribing events to internal causes while the RD (who are more interdependent) ascribe events to external causes (Lee et al., 1996; Miller, 1984; Morris & Peng, 1994), differences in the rural vs. urban status then become a relevant cultural distinguishing factor. While there is no literature on the Kenyan situation specifically, some of the potential relationships involved are hypothetically explored below.

2.3.2.1.1.1 Cultural differences in attribution style. Most UD are more independent than RD. Independent cultures place less emphasis on interrelatedness and more emphasis on autonomy (Anderson, 1999). When it comes to their perceptions, independent cultures have been reported to more frequently use dispositional (internal) attributions as compared to people from interdependent cultures who more frequently use situational (external) attributions (Lee et al.,

1996; Miller, 1984; Morris & Peng, 1994). UD are therefore more likely to attribute negative events to internal causes whereas RD will attribute the same to external causes.

In Kenya, as in most African countries, people are known to seek treatment of identified symptoms from religious healers who often use more external and global spiritual explanations for ills. People are therefore more likely to attribute negative events to external and global causes. While it can be easily assumed that this is unique to RD, Otsyula (1973) asserts that this is very common to the more educated population too, in our case UD. People from developed countries on the other hand are more likely to seek help for identified symptoms, such as traumatic stress symptoms from mental health care professionals (who they have access to) and they may come across the more internal and specific explanations often used in modern PTSD treatment. Due to exposure to other cultures that causes UD to be more westernised therefore, UD are then more likely to attribute the symptoms to internal specific causes. Based on these attributions, UD are more likely, if all other factors are held constant, to experience more severe posttraumatic stress.

To the best of the researcher's knowledge, differences in other facets of AS have not been documented. It was interesting to the researcher, in this study, to see if the attributions would be similar between the two samples or whether they would differ. Differences in Internality (internal vs. external), Stability (stable vs. unstable) and Globality (specific vs. global) between UD and RD were investigated and the findings are presented in chapter 5.

2.4 KENYA AND THE STUDY SITES

Kenya has a population of 38.6 million people as per the latest census (Oparanya, 2009). Located in the East African region, Kenya experiences an equatorial climate. The main economic

activities in Kenya are tourism and agriculture. Since independence in 1963, there has been a continued increase in migration of Kenyans from rural areas to urban areas in search of jobs, with increased industrialisation, which has led to rapid urbanisation (Hope, 2012). Increases in urban populations have led to issues such as unemployment, increased crime and slum snowballing (Obonyo, 2014). This crowding and unemployment (Obonyo, 2014), to some extent, fosters increased crime in urban areas, which is often violent. In rural areas, traumatic experiences may not be well documented formally, but in the experience of the researcher, traumatic events similar to those in urban areas are widely experienced. In addition, as mentioned earlier, Kenya (as a whole), like the rest of Africa is faced with many situations that are often traumatic, such as food insecurity, sexual violence, road accidents and terrorist attacks (Njenga, 2002). In recent years especially, Kenya has been exposed to a number of terrorist attacks. Traumatic experiences are therefore a problem in both the rural and urban Kenya.

This research utilised samples from the Kiambu and Nyeri counties of the Central Region of Kenya. The Central Region has a population of 4.4 million as per the latest statistics (Kenya National Bureau of Statistics, 2013; Oparanya, 2009). The Central Region is well represented in both the rural and urban areas. Located right at the heart of Kenya, the Central Region contains the major urban region of Kenya with Kiambu county being part of the Nairobi Metro and rural areas such as Nyeri county as shown in Figure 1 below.

Kiambu county is 60.8% urban and Nyeri county is 75.5% rural as per the 2009 national census (Virtual Kenya, 2014). This allowed for relatively easy obtainable comparisons within a single geographical region. The researcher is well acquainted with the area which allowed for easy relationship building with the respondents and an ease of operational logistics. The researcher is also fluent in the common language spoken in this region (Kikuyu) which made

making contact with the sample easier. It is however important to note here that no single tribe was being selected. To avoid what might be construed as exclusion, caution was taken not to marginalize any particular population of the region (see the ethical consideration section in chapter 4 for expansion on this issue).



Figure 1: Map of Kenya and the study region; with Kiambu and Nyeri counties indicated (Njoroge & Bussmann, 2006).

2.5 SUMMARY

In this study, the researcher is hypothesising that a rural vs. urban status and attribution style will have an influence on traumatic stress severity. Traumatic stress severity (as opposed to dichotomous presence of the diagnosis) was chosen as an outcome variable because of the ease of assessment, but the researcher is also fully cognizant of the far-reaching impacts of subthreshold PTSD symptoms (Marshall et al., 2001; Pietrzak et al., 2009; Pincus et al., 1999; Schnurr et al., 2000; Stein et al., 1997; Zlotnick et al., 2002).

In terms of the literature that has been reviewed, it appears impossible to isolate biological from psychosocial factors and it might be useful to adopt what van Rooyen and Nqweni (2012) proposes as ‘a middle ground’, where we acknowledge biopsychosocial factors. This means that biopsychosocial factors such as culture and causal attributions play a role in the development of posttraumatic stress symptoms (Aldwin & Yancura, 2004; Safir, Wallach, & Rizzo, 2015). It has been argued that perceptions are greatly influenced by culture (Ferraro, 2002), culture has an influence on PTSD (Herbert & Forman, 2010; Marsella, 2010; Rasmussen et al., 2007; van Rooyen & Nqweni, 2012) and people cope with trauma in different ways (Aldwin & Yancura, 2004; Zhang et al., 2014) partly owing to culture.

It has been contended that not everyone who experiences a traumatic event develops PTSD or other trauma related disorders (van Rooyen & Nqweni, 2012; Zhang et al., 2014). Some survivors portray resilience in the face of adversity and others do not (Chung et al., 2006; van Rooyen & Nqweni, 2012). In addition, the severity of PTSD (in those who develop it) varies owing to factors such as SES.

Because of the increased migration from rural to urban areas in Kenya (Hope, 2012), the city has become a mix of cultures which increases the contact between different cultures. This, in turn, has led to the borrowing of ideologies from each other, inter-marriages and widespread diffusion. City residents have additionally been exposed to more media and international cultures (from expatriates and tourists). There is therefore bound to be some cultural distinction between RD and UD and this might distinguish their perceptions which might ultimately impact on the experiential template that is utilised in responding to traumatic stressors.

This study hypothesises that differences in culture will lead to difference in attribution style which ultimately, will show differences in symptom severity. A comprehensive search for literature did not yield any results on studies investigating these variables together. The arguments presented in this study are therefore drawn from a cross section of studies that investigate each variable independently and its role in the development of PTSD.

CHAPTER 3

THEORETICAL CONCEPTUAL FRAMEWORK

This study employed Ehlers & Clark (2000) cognitive model, so a lot of references have been made to their (2000) paper. This study utilised their model to understand how attribution style (with culture in mind) influences traumatic stress severity in Kenya.

3.1 EHLERS AND CLARK COGNITIVE MODEL

Ehlers and Clark (2000) suggest that PTSD occurs when individuals process the traumatic event and/or its sequelae in a way that produces a sense of a serious current threat. Differences in the appraisal of the trauma, works to maintain this perception of current threat (Ehlers & Clark, 2000). Ehlers & Clark (2000) further suggest that PTSD is perpetuated by excessively negative appraisals of the trauma and/or its sequelae (e.g. “The world is a dangerous place”). These include experiences during the event (e.g. a woman who interprets her arousal during a protracted rape incident as meaning that she has repulsive desires), the traumatic event itself (e.g. “This happened because I attract disaster”), and/or the emotional response (e.g. a fear response after the event is interpreted as meaning that nowhere is safe). Some examples may illustrate how these appraisals work.

3.1.1 Individual differences in the appraisal of the trauma

3.1.1.1 Understanding of the traumatic event. After a traumatic event, individuals may feel that they attract disaster (attributing events to internal causes) because this happened to them and not to other people (Ehlers & Clark, 2000). Experience with survivors of traumatic events has revealed that most will blame themselves for the event’s occurrence. For example, violence

survivors might blame the incident on their habits (see Miller & Porter, 1983 for more on self-blame). They may also overgeneralise from the event and perceive normal activities as more dangerous (global attribution) than they really are (Ehlers & Clark, 2000). For example, after seeing a child drowning, a mother might react by prohibiting her children from ever swimming. Such appraisals lead to avoidance (which is both a cause and symptom of PTSD), which also maintains the overgeneralised sense of threat and fear (Ehlers & Clark, 2000). If an individual understands a traumatic event (negative event) as global, internal and stable, this is referred to as negative attribution style, and it may contribute to the sense of current threat inherent in worsening PTSD symptoms as shown in Figure 2.

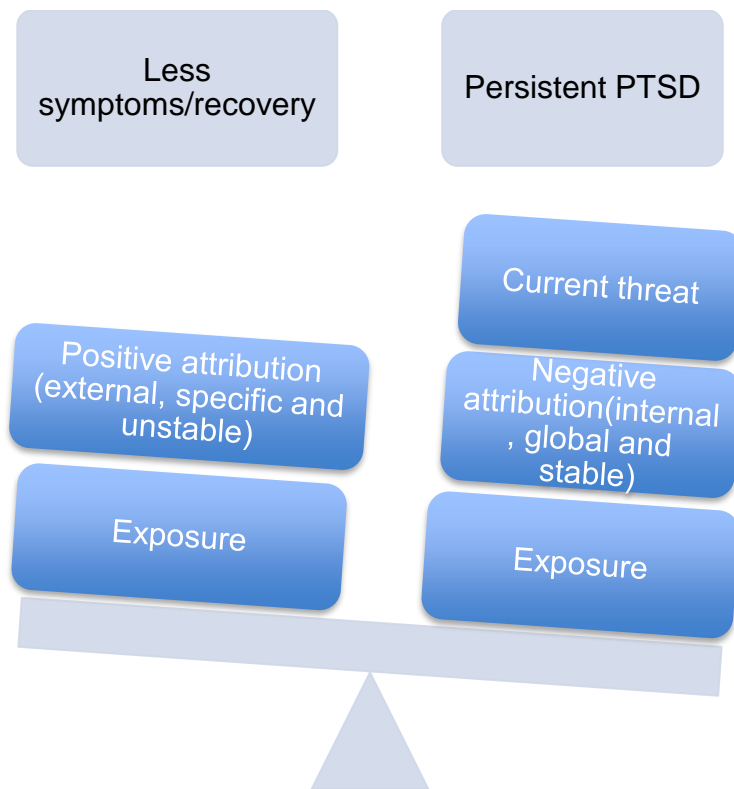


Figure 2: Differential attribution model (author).

Positive attribution of negative events, that is understanding them as external, specific and unstable leads to alleviating of symptoms and/or recovery.

3.1.1.2 *Understanding of the trauma sequelae.* When an individual does not understand the symptoms that ensue from the traumatic exposure as a normal response, they might engage in harmful behavior such as thought suppression (in an effort to stop intrusive thoughts), which in turn could worsen the symptoms (Ehlers & Clark, 2000). This often happens mostly when the survivor does not seek psychological intervention (such as may be the case in most rural areas) or even when they do, do not benefit from the intervention. In addition, those close to the victim could avoid speaking about the event (for reasons such as to avoid upsetting the victim or to helping them forget the event faster) (Ehlers & Clark, 2000). This, in turn, could be interpreted by the victim as:

- “that event might have been so bad that nobody wants to talk about it,”
- “nobody cares” or
- “maybe it was my fault and they are blaming me” (Ehlers & Clark, 2000). This could lead to emotions such as anger and/or guilt (Ehlers & Clark, 2000). If an individual has the tendency (for example) to interpret their responses after a traumatic event (which is a negative event) as internal, global and stable it may lead to an increase in PTSD severity.

3.2 ATTRIBUTION STYLE’S INFLUENCES

Literature has informed us that cultural and perceptual differences cause a variation in the meaning that an individual ascribes to a traumatic event (Herbert & Forman, 2010) and

ultimately differences in individual responses to a traumatic event (Van Rooyen & Nqweni, 2012). Differences in attribution style will therefore lead to differences in appraisals.

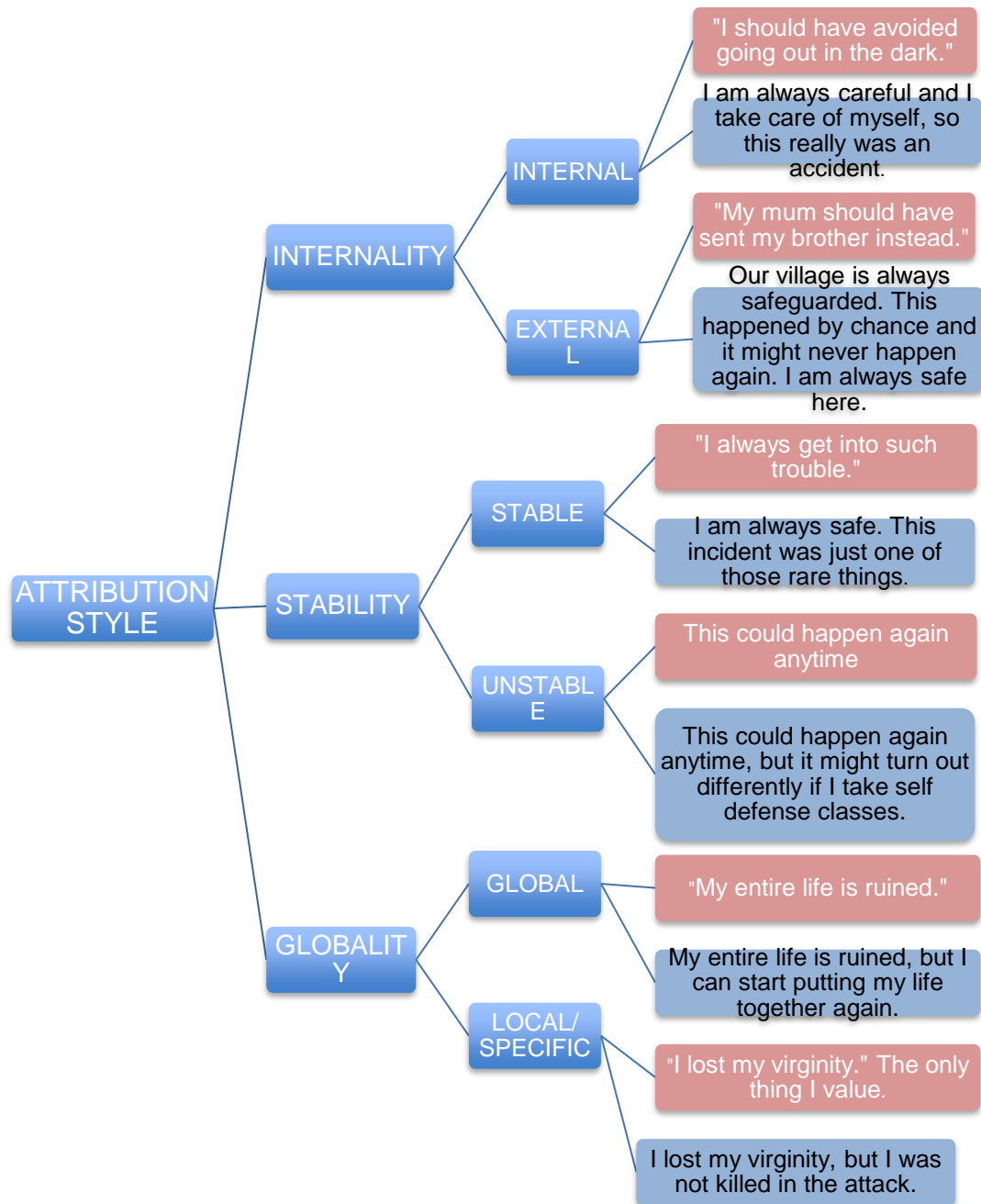


Figure 3: Illustration of individual's Attribution to an event (author).

Figure 3 shows that there is no straightforward explanation to the manner that a specific attribution style may influence the perception of a traumatic event. Each style could either be positive or negative. While the attribution of negative events to external, unstable and specific causes has been reported to be the ideal, Figure 3 shows how each attribution can be both positive or negative. It is also worthy to note that different styles could be promoted differently across cultures. Researchers such as Anderson (1999) have argued that adaptive styles have often been closely linked to the population. For example, in independent cultures where autonomy is promoted, internal attribution might be seen as more adaptive as it is thought to give the person a sense of control. The same internal attribution might be detrimental to a RD, as their survival is more dependent on interdependence.

While we cannot depict exactly what will be influenced, and how, Figure 3 (with the differential attribution model in mind) could be used to portray some scenarios. For example, a trauma-exposed individual with a positive internal attribution style might also have a negative global attribution style. So, while this individual understands his/her symptoms and feels in control of the healing process, the feeling that these symptoms affect their entire life (such as financial, personal, social, psychological) might contribute to maintaining the symptoms. Statements in red indicate negative appraisals and statements in blue indicate positive appraisals.

3.3 SUMMARY

The manner in which an individual understands a traumatic event is crucial in the healing process. Negative appraisals of the event will lead to the development of PTSD symptoms and positive appraisals will lead to an alleviation of the symptoms. In order to understand the dynamic features of traumatic stress across the two geographical regions (rural vs. urban), the

researcher investigated the differences in negative event appraisal using the attribution style questionnaire. This investigation was carried out using the Kiambu and Nyeri counties of Kenya and the process of this research is explained in the following chapter.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter discusses the research design that was used in this study. It explains the research methods, data collection procedures and data analyses that are used as well as the ethical issues considered in the process.

4.2 RESEARCH DESIGN

An exploratory descriptive design using purposive sampling was employed to achieve the aim and objectives of the study. An exploratory study is especially useful when the matter under scrutiny is relatively new. This type of study breaks ground and lays a foundation for other researchers to explore the phenomenon further (Zikmund, 2003). Although PTSD and the attribution style are not new phenomena, an exploration such as the current one has never been undertaken in Kenya. As such, this study can accountably be described as an exploratory one.

This study was also descriptive in nature because it investigated existing phenomena, PTSD and the attribution style, which have been researched previously. According Bless, Higson-Smith, and Sithole (2013), a descriptive study is used to describe an existing phenomenon further. Descriptive here also refers to the fact that the researcher cannot infer causality. For example, even though (after reviewing literature) we assume that a negative

attribution style will influence the PTSD severity, it may also be that an individual's attribution style is different because they have more PTSD symptoms. The researcher can describe the relationships but cannot infer the direction of causality.

This study was quantitative. The quantitative research method utilises statistical, mathematical, or numerical analyses of data that are collected through polls, questionnaires, and/or surveys (Babbie, 2001) and may also achieve its objectives by manipulating pre-existing statistical data using computational techniques (Bless et al., 2013). The questionnaires that were used to gather data for the current study are described later in this chapter.

4.3 PARTICIPANTS AND SAMPLING

4.3.1 Sampling method

A convenience sampling method was used in this study. This is because it utilised a sample from an existing and recurring meeting. The data collection sites were where the administrative chief's meetings are held monthly (sometimes bi-weekly) at various administrative locations throughout the sampling sites. The sampling sites are predominantly, but not exclusively, inhabited by one tribe (Kikuyu). Other tribes live there as well but in smaller numbers. The data that was collected then was mainly from the Kikuyu (72.8%), but the study's focus was not ethnocultural. The researcher was interested in everyone living in the identified study sites regardless of tribal affiliation.

Because the chief's meetings were reported to be reliably attended gatherings, they created a space with ease of logistics in terms of data collection. Yet one of the biases for this is that data

from the sample cannot be generalised to the rest of the population (Tongco, 2007). In this study for example, the data that was collected from those who attended the meetings at the chiefs' camps was mainly from male participants (71.8%). The researcher later learnt that these meetings are attended by mostly men, hence the gender differences seen. For this reason, the study received a disproportionately little amount of data from the female population (27.1%). The aim of this study, however, was not to generalise the findings, nor to make comparisons between genders, but to gain an understanding of the relationships between variables. The bias presented by this sampling method, therefore, does not greatly impact the achievement of the objectives of the study, but it does mean that the findings cannot accountably be generalized to the Kenyan population

The study was also purposive because the sample was obtained from those who attended the chief's meetings in predetermined locations in the sampling sites. For this reason, the sampling strategy was purposive because participants were chosen owing to their predetermined characteristics pertinent to the study's (De Vos, Strydom, & Fouché, 2005) which is geographical location (urban vs rural).

4.3.2 The sample

The focus of the research was on two sites in Kenya (one urban and the other rural). To obtain the necessary sample, potential participants were recruited through attending the existing chief's monthly meetings in both the rural area of Nyeri County and the urban area of Kiambu County. The rural area of Kiambu County and the urban area of Nyeri County were not included

in the study. The study reached a sample of 450 people. Out of the 450 reached, only 384 completed the questionnaires and of those, only 354 completed the consent forms. For this study, therefore, a total of 354 will be reported on. Of the total sample, 50.3% were from the rural area and 49.7% were from the urban area. The sample was comprised of mostly male participants (71.8%) as compared to females (27.1%).

4.4 MEASUREMENT INSTRUMENTS AND STRATEGIES

The researcher utilised two questionnaires for the study. These instruments were translated to Kiswahili and then back-translated to English. Cross cultural studies outside of English speaking regions have increased in the recent years. This has called for translating and adapting the data collection instruments since this is cheaper than developing new measures (Bolaños-Medina & González-Ruiz, 2012). Authors such as Bolaños-Medina and González-Ruiz (2012) and Borsa (2012) have provided guidelines on how this process should be carried out.

When translating instruments there is always a danger of some words being offensive in other languages when it is translated from English. This risk was recognised in the study and representatives from the research area were involved throughout the translation process. Two committees were utilised in this study. Each committee was comprised of five bilingual representatives from the rural area and five bilingual representatives from the urban area. In each committee set, only two committee members from the urban area were familiar with the study's area of research. Unfortunately, the researcher was unable to find a representative from the rural area familiar with PTSD research. Because the instruments were being translated to the national

language, this did not undermine the translation process in any way. Together with the researcher, they looked through the items at each stage to ensure the suitability of the translated instruments.

The translation was done independently by two bilingual individuals and then the researcher synthesised the items. One of the translators was familiar with the PTSD research and the other one was not. After this, the researcher headed the first committee which evaluated the translated instruments. The participants were presented with the questionnaires and encouraged to point out any ambiguous words or sentences. The English versions remained unchanged and were not adapted so as to preserve the integrity of the instruments, but the Kiswahili versions were adjusted to ensure language equivalence and understandability. The instruments were then back translated independently by another set of two bilingual individuals (different from the first two who translated – one familiar with the area of research and the other one not) and then synthesised by the researcher again. The final instrument was then presented to the second committee, which was different from the first one and they looked through the instrument items. Again, the participants were presented with the questionnaires and encouraged to point out any ambiguous words or sentences. There was a general consensus on the suitability of the language used and the congruence of the items with the original English version and it was agreed that no offensive language was contained in the translated version.

Judgment on the final versions of the Kiswahili items was made by the researcher and co-supervisor. The final versions of the questionnaires were circulated to knowledgeable individuals in the field of Psychology, linguistics and sociology for qualitative comment on the language

equivalence of items and only after a consensus was reached on the equivalence were the instruments used in the main study. These questionnaires have not been attached as appendices due to copyright considerations, but they are available on request.

4.4.1 Attribution style questionnaire

The Attribution Style Questionnaire (ASQ) was first developed in 1982 (Peterson et al., 1982) and it contains 12 hypothetical events which are presented to the participant in a structured format. There are six positive events and six negative events. In each event, the respondent is required to rate the cause of the event along a seven-point continuum for each of these three causal dimensions. The scores give an indication of the attributions that are given by the respondents for the positive and negative events in their lives. The attributions could either be internal (entirely due to me), or external (because of causes other than myself), stable (it always happens) or unstable (it changes across time and place), global (it affects all the domains in their life) or specific (it affects a part of their lives). The instrument was provided to participants with each set of instructions available in both Kiswahili and English.

The Attribution style questionnaire (ASQ) was used to measure the respondents' attribution style. This questionnaire had been reported to be reliable with Cronbach's alpha of .75 for positive events and .72 for negative events and valid (Peterson et al., 1982). The Cronbach alphas were completed for this study to establish the internal consistency for this study sample as the test has never been used in Kenya in this manner. For the positive events subscale in the ASQ, the reliabilities of the Internality, Stability and Globality measures were .38, .45 and .41 respectively while for negative events, the reliabilities of the Internality, Stability and Globality

measures were .25, .03 and .14 respectively. These Cronbach's alphas are statistically unsatisfactory which is not unique to this study. Other researchers, (for example see Cunningham, 2003; Hjelle, Belongia, & Nesser, 1996; Peterson et al., 1982; Thompson, Kaslow, Weiss, & Nolen - Hoeksema, 1998) have found poor to moderate reliabilities for this test. The forming of composite scores has been reported by Peterson et al. (1982) to yield higher internal consistencies (.75 for positive events and .72 for negative events) than for the individual subscales of the measure. For this study, composite scores were created by summing up the appropriate items and dividing the sum by the number of items in the composite as proposed by Peterson et al. (1982). The composite score reliabilities for this study were found to be $\alpha = .80$ and $\alpha = .64$ for positive and negative events respectively. This is an improvement compared to the reliabilities on the individual items. Yet because all subscales on the measure investigate different aspects which were all critical for this study, using 2 global subscales (negative and positive) in our study did not make sense. 6 subscales were therefore used (see Table 2).

An exploratory factor analysis using a principal axis factoring extraction method was used to determine the validity of the measure. The results indicated the presence of six factors, which is congruent with what other researchers such as Cunningham (2003) and Peterson et al. (1982) have reported.

4.4.1.1 Scoring the measure. The three attributional dimension rating scales associated with each event description are scored in the directions of increasing internality, stability, and globality as shown in Table 2. Respondents were required to rate each of the events (6 positive

and 6 negative) on each of these dimensions. For example (this is not an actual question from the test, it is just an example).

Question: You pass a test with excellent results

Write down the one major cause

Is the cause of your success due to something about you or something about other people or circumstances?	Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
---	--	---------------	-------------------

In the future, when you write another exam, will this cause again be present?	Will never again be present	1 2 3 4 5 6 7	Will always be present
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Is the cause something that just affects your academics, or does it also influence other areas of your life?	Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
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Table 2: Dimension rating scale for Attribution Style Questionnaire (author)

Internality						
External			Internal			
1	2	3	4	5	6	7
Stability						
Stable			Unstable			
1	2	3	4	5	6	7
Globality						
Specific			Global			
1	2	3	4	5	6	7

4.4.2 PTSD checklist for DSM-5 (PCL 5) with Life Events Checklist for DSM-5 (LEC-5) and Criterion A.

The PTSD checklist for DSM-5 is a self-report measure containing 20 items that assesses the 20 symptoms of PTSD. The measure was an existing measure that had been shown to be internally consistent (Wortmann et al., 2016) with Cronbach’s alpha ranging from $\alpha = 0.90$ (Sveen, Bondjers, & Willebrand, 2016), $\alpha = 0.94$ (Blevins, Weathers, Davis, Witte, & Domino, 2015) and $\alpha = 0.96$ (Bovin et al., 2016), test-retest reliability ($r = .82$; $r = .84$) (Blevins et al., 2015; Bovin et al., 2016) and convergent ($r_s = .74$ to $.85$) and discriminant ($r_s = .31$ to $.60$) validity (Blevins et al., 2015; Bovin et al., 2016). In this study, the internal consistency coefficient (Cronbach’s alpha) for the total scale ($N = 20$) was $\alpha = .96$ which is excellent. This

means that the measure was reliable. An exploratory factor analysis using a principal axis factoring extraction method was used to determine the validity of the measure. The results suggested the presence of only one factor. The eigenvalues suggested evidence of two factors but an attempt to extract two factors showed a very strong correlation between the two factors (.675) which strongly suggests only one factor. While it is not a standard diagnostic measure, the PCL 5 can be scored to provide a provisional posttraumatic stress diagnosis.

The Life Events Checklist for DSM-5 (LEC-5) is a self-report measure that was used to screen for potentially traumatic events in a respondent's lifetime. The LEC-5 assesses exposure to 16 events known to potentially result in PTSD or distress and includes one additional item assessing any other extraordinarily stressful event that were not captured in the first 16 items. In this measure, direct and indirect exposure is determined through 4 response options: *happened to me, I witnessed it, I learned about it and it is part of my job.*

4.4.2.1 Scoring the measure. The symptoms on the PCL 5 are scored on a five-point rating scale as shown in Table 3. The scores on each item were added to give a total for the whole measure. Total scores were used in the analysis of posttraumatic stress severity.

Table 3: Rating scale for PCL 5 (author)

Not at all	A little bit	Moderately	Quite a bit	Extremely
0	1	2	3	4

4.5 PROCEDURE

Once all relevant permissions had been obtained from the institutions, the study was discussed with local authorities heading the chief's meetings. The times and dates, for data collection, were agreed upon. The following approach was to be used to achieve the objectives of the study.

The study was comprised of a large sample ($n = 450$). A group of five research assistants had been trained on Tuesday June 13th 2017 at Kahama Hotel in Nairobi. These assistants were proficient in both English and Kiswahili and assisted in data collection throughout the study. In the rural site, the data collection took place in Nyeri County and in the urban site the data collection took place in Kiambu County. The gatekeeper in Nyeri for this study was a local church member. The gatekeeper in Kiambu was a local resident who works in the government and is clear on research protocol in the country.

Participants were issued with the information letter (attached as appendix C) to familiarize themselves with the study. The researcher then explained the study to the participants in both Kiswahili and English. The information, both in the information letter and oral explanation, included the nature of the study, possible risks involved in taking part in the study, measures taken to deal with any possible risks, the importance of the study and the beneficiaries of the study. It was made clear that participation was voluntary and that there would be no repercussions for leaving the data collection process at any point should they wish to do so. The participants were also informed that they could withdraw their consent even after the data collection was complete. The researcher provided the participants with a telephone number that

they could call to withdraw their consent. All participants were also provided with information on where to seek assistance should the study cause them psychological distress in any way (see this in the ethical considerations section below). This information was given in detail to allow the participants to make an informed decision. Translators fluent in both Kiswahili and English were made available during the entire study, although the researcher is fluent in both languages. Participants were allowed to take the information letter home after the study.

After the explanation of the study, those willing to participate in the study were given the research packet which was a booklet containing the consent form and data collection tools. Information contained in the consent form was also orally explained to ensure that the participants were aware of their rights in the process. Informed consent (form attached as appendix D) was then distributed to all participants. Some of these were not fully completed and only those questionnaires for which informed consent was obtained were used in the analyses. All booklets whose consent forms had not been signed were destroyed.

All participants were provided with the data collection instruments which were in both languages. Respondents were encouraged to answer the questionnaire in the language that they best understood. To avoid contamination, all participants were requested to tackle the instruments alone without consulting their peers. The participants were also spaced out to discourage discussions. There was no possibility of contamination from non-participating persons as only those participating were allowed in the data collection area. There was no time limit to answer the items and participants were allowed as much time as they needed. On average, participants used approximately 50 minutes to complete the questionnaire. Some

individuals did complain about the length of the questionnaire (see more on this in the limitations and recommendations chapter).

4.6 QUANTITATIVE DATA ANALYSIS

Not all items were considered for exposure analysis in this study. “It happened to me” and “it is part of my job” options were the only options considered for exposure comparisons in this study. When all subscales (it happened to me, it is a part of my job, I heard about it and it happened to me) were considered for exposure analysis, 100 percent of the population was exposed. The researcher then considered removing indirect exposure and considered only direct exposure in the analysis to make it possible to make comparisons between the two samples.

Total sample ($n = 354$) was used in the posttraumatic stress severity analysis. Both partial and full PTSD symptom criteria were considered in the analysis. Partial-symptom PTSD refers to having at least one symptom in each DSM 5 symptom criterion category (Marshall et al., 2001). This means that even those who presented with one PTSD symptom were considered for the traumatic stress severity analysis. Because only one factor was found in the exploratory factor analysis, the researcher used the total PCL-5 score in the posttraumatic stress severity (PTSS) analysis instead of using the 4 subscales/symptom clusters of the DSM-5. Descriptive statistics were used to describe the PTSS of the total sample. Descriptive statistics are useful where the meaning of a large collection of observations on different cases in a condensed and descriptive way is necessary (McPherson, 2001). The advantage of using this method is that it allows for the measurement of the central tendency of the data, the mean, median, mode and standard deviation

(McPherson, 2001). This analysis assisted in achieving objective one. For objective two, inferential statistics were used to compare PTSS between the two populations.

The total sample from s ($n=354$) was utilised in the attribution style analysis. Descriptive statistics were used to describe the attribution styles of the total sample. Using this, the central tendency of the data, the mean, median and the standard deviation of the scores were calculated. This analysis was useful in achieving objective one. Inferential statistics were used to compare the attribution style between the rural and urban sample, which helped the researchers in meeting objective two. Table 4 presents the analyses used in the study.

Table 4: Analyses used in the study

Aim	Data analysis method
To explore and describe the relationship(s) between attribution style rural vs. urban status and traumatic stress severity in Kiambu and Nyeri counties of Kenya.	Regression analysis
Objective	Data analysis method
1) To explore and describe attribution style and traumatic stress severity (total sample).	Descriptive statistics
2) To investigate whether there are differences in the attribution style and traumatic stress severity of urban and rural sample.	Descriptive statistics Chi-square tests t-tests Cohen's d
3) To explore and describe the relationship between, attribution style, rural vs. urban status and traumatic stress severity of a sample from Kiambu and Nyeri counties taking into account the effect of demographic variables such as level of education and gender (investigation of complex relationships using multivariate correlational techniques).	Multivariate linear regression analysis
Additional Analyses	
Exposure rates	Descriptive statistics Chi-Square tests Cramer's V tests
Demographic characteristics	Descriptive statistics

The investigation of the complex relationships between the variables was done using a multivariate linear regression analysis. In a multivariate linear regression, multiple correlated dependent variables are predicted (Afifi, Clark, & May, 2004). Posttraumatic stress severity was the dependent variable while the level of education, gender, attribution style and rural vs. urban status were the independent variables. Exposure was not included in the regression analysis, as a 100 percent of the sample was either directly or indirectly exposed to traumatic events.

T- tests are used to measure the size of difference relative to the variation in a sample data (Cohen, 1988b; McPherson, 2001; Statistics Solutions, 2017). T-tests were used in this study to find evidence of significant the difference between 2 groups' means, for example, exposure differences between genders. Cohen's d was computed to indicate the standardised difference between means in the study. Cohen's d is an effect size measure used to describe the influence of the independent variables in terms of its effect size on dependent scores (Cohen, 1988a), for example, to determine whether the significant difference between PTSS is large, medium or small.

The Chi-square statistic is an inferential statistical test commonly used for testing relationships between categorical variables (Statistics Solutions, 2017). In this study, this test was used to test the difference in exposure between genders. Pearson's correlation coefficient is used to measure the statistical relationship between two continuous variables. It is known as the best method of measuring the association between variables of interest because it is based on the method of covariance (Statistics Solutions, n.d.). In this study, this test gave the researcher the

magnitude of the association, or correlation, as well as the direction of the relationship.

4.7 ETHICAL CONSIDERATIONS

Permission to carry out the study was first obtained in South Africa from the Nelson Mandela University Research Ethics Committee – Human. Permission was granted, and the clearance letter is attached as appendix A. Permission was thereafter obtained in Kenya from Maseno University Ethics Committee – Human and the clearance letter is attached as appendix B. Only after these permissions had been obtained did data collection commence. In order to obtain ethics clearance in Kenya, the researcher first had to obtain clearance in South Africa. This caused delays in the process partly owing to the ‘fees must fall’ protests in South African Universities.

Research ethical guidelines provided in Chapter 10 of Annexure 12 of the HPCSA (Department of Health, 2007), Kenyan law (National Council for Science and Technology, 2004) and the Belmont report provisions (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978) were adhered to throughout the research process.

4.7.1 Confidentiality and privacy

Confidentiality refers to precaution taken to protect information given by the participant during and after the data collection process (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). It refers to the measures taken to protect audio and written data, the identity of the participant and any other identifiers that could lead to information private to the participant being revealed. Confidentiality was upheld

during the entire study and all participants were treated with the utmost respect. This does not refer to the data only but to the entire data collection process. Anything that transpired with a participant was kept confidential. If, for example, a minor (who was not able to give consent) was present at the data collection site, all efforts were made to explain to them (in privacy) why they cannot legally participate in the study. They were given an information letter; the study was explained to them and they were also invited for the dissemination of the results meeting. No participant was identified by name. Names only appeared on the consent forms and all data was connected to an individual only via an anonymous code.

The data that was collected was stored for data analyses and verification. It was kept confidential at all times. The researcher carried a locked briefcase to each data collection site. At the end of the day, this data was transferred to a larger lockable suitcase. This process was repeated until the data collection was complete. At the end of data collection, the researcher carried the data in a locked briefcase (as carry-on luggage) and transported it to South Africa for data entry and analyses. In South Africa, this data was stored in the supervisor's personal office in a locked cabinet before and after data entry and analyses. During data analyses, only the statistician, the supervisor and the researcher had access to the data. The researcher was responsible for data entry. All electronic data was stored in a password protected folder and stored in a cloud account. Only one copy of each dataset will be kept for 5 years for data verification and auditing purposes. The consent forms were removed from their accompanying datasets before data capturing and were stored separately from the actual data.

4.7.2 Informed consent

The participants' control over their privacy is contained in the informed consent. The informed consent in this study contained a detailed description of the study. This included the nature of the study, the purpose of the study, any anticipated risks and how these risks had been minimised; the length of the data collection instruments, any intrusive questions which might have made the participant uncomfortable, how the data obtained would be protected and kept confidential and any other crucial piece of information that pertained to the study.

Informed consent was obtained for all participation and only those questionnaires for which written informed consent could be verified was used. An information letter, in both English and Kiswahili, was provided to the participants before commencing. Before commencing the study, oral information (identical to that contained in the information letter) was provided by the researcher to ensure clarity of information. These forms are attached as appendices C and D. Only adults comprised the sample and therefore legal issues pertaining to children was not a problem. Research assistants ensured that each participant had the capacity to give informed consent. This means that everyone was able to appreciate the nature of the study and what is required of them and only then could they give *informed* consent. All participants were given the data collection instrument in both languages. Respondents were encouraged to answer the questionnaire in the language they best understood.

4.7.3 Responsibilities to the larger communities

In this study, the researcher was fully cognisant of the fact that human beings were involved in the study. As such, the research was considerate of the participants and strived to protect them.

This included identifying risks appropriately and minimizing risk as much as possible. Even with the minimal risk present, the researcher informed the participants of these possible minimal risks and explained the measures that had been taken to address them (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). Vulnerable populations was protected by all means, even if it meant excluding them from the study to protect them from harm (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). The term “vulnerable” is often understood by most people as solely psychological, underage or elderly. In this research, this term was defined more widely to encompass all facets in which a human being could be termed as “vulnerable”. The National Bioethics Advisory Commission, (2001) defines vulnerable subjects as persons who “have difficulty providing voluntary, informed consent arising from limitations in decision-making capacity... or situational circumstances... or because they are especially at risk for exploitation”.

In this study, the researcher took extra precaution to ensure that all vulnerabilities were considered and that the appropriate measures were taken to address each one. This meant that there were no incentives given to participants that would have swayed their decision to participate in the study. Incentives such as assured treatment, financial gifts, social status gain and any other incentives were not provided. To avoid cases of undue influence, the chiefs were not present for the data collection process. The research assistants were also adequately trained on types of vulnerabilities and assisted in ensuring that every participant had the capacity to give *informed* consent. All participants were also provided with information on where to seek

assistance should the study cause them psychological discomfort in any way. The co-supervisor is a psychiatrist in Kenya and thus was able to offer directions on these resources. Tumaini Counselling Center is one of the centers that were approached for counselling services.

In terms of benefit to the participants, this study was employed predominantly in two sites of one area and the results that were obtained helped in gaining a better understanding of traumatic stress in this location. This meant that while the results might not necessarily benefit the participants directly, the results that were obtained in this study, informs the scientific community and in the long run, will benefit the community that the participants came from. This means that the participants were not be involved in a study that would offer them no benefit while benefiting another group.

After the study had been completed and the results had been analysed, interested research participants and the community were invited to the point of data collection to be given general oral feedback of the study in a group setting. Feedback will be given in both English and Kiswahili and the researcher will visit the point of feedback dissemination twice to ensure everyone has a fair chance to get feedback. Dates of meeting for feedback will be arranged with the local chief and residents will be informed two months in advance of the intended meeting. The residents will be advised of the two dates that the research team will be present for the feedback session. This is anticipated to happen in April 2018.

4.7.4 Potential risks

Possible risks of harm in research with human subjects, specifically this study, included invasion of privacy, breach of confidentiality and harm incurred owing to study procedures. Measures to

prevent invasion of privacy and breach of confidentiality have been discussed above at length.

This section will discuss measures taken to curtail harm due to the study procedures.

The risk existed, as with any psychological study that asks personal questions, but any discomfort caused in such a manner is ultimately reversible. The questionnaire type format of administration is the least intrusive manner to gather data in traumatic stress research and all respondents were informed of appropriate psychosocial resources should they require any kind of intervention. The researcher is a trained and qualified counsellor in South Africa and has three years of experience in working with trauma survivors (such as rape and xenophobia). The researcher is therefore trained to respond to the subjects' reactions appropriately. Both supervisors are recognised clinical practitioners in the field of PTSD research. Any adverse effect on participants (although none arose) would therefore have been identified by the researcher and the research team and dealt with appropriately.

4.8 SUMMARY

This chapter informed the reader of the research design, methods and data analyses that are used in this study. Ethical considerations were also discussed. The results that were obtained from this process are presented in the following chapter.

CHAPTER 5

RESULTS

This chapter presents the results obtained from this study. It starts off with an analysis on the attribution style of the total sample followed by a comparison of attribution style between the rural and urban sample. The results on posttraumatic stress severity (PTSS) of the total sample are then displayed followed by a comparison of PTSS between the rural and urban sample. The chapter ends off with a regression analysis showing the relationship between posttraumatic stress severity, attribution style and the urban vs. rural status with education and gender as the demographics considered.

5.1 ATTRIBUTION STYLE ANALYSES

5.1.1 Attribution Style analysis of total sample

A t-test was conducted to establish the attribution styles of the total sample. Both the urban and rural sample were considered for this analysis. Table 5 presents these results. All scores were close to the midpoint of the scales (4). The sample seemed to be slightly more internal, unstable and global on the positive scales and external, stable and specific on the negative scales.

Table 5: Attribution Styles of the Total Sample

		Positive Internality	Positive Stability	Positive Globality	Negative Internality	Negative Stability	Negative Globality
<i>n</i>	Valid	354	354	354	354	354	353
	Missing	0	0	0	0	0	1
	Mean	3.76	3.94	3.86	3.63	3.78	3.67
	Median	3.67	4.00	3.83	3.67	3.80	3.67
	Std. Deviation	0.87	0.86	0.80	0.73	0.67	0.63
	Minimum	1.33	1.33	1.00	1.33	1.67	1.67
	Maximum	6.83	7.00	6.33	6.33	5.50	5.83

5.1.2 Attribution Style analysis (comparison between rural and urban sample)

A t-test was conducted to investigate the differences in attribution style between the two samples. Even though no significant differences were found in most items, as shown in the Table 6, meaning that positive internality, positive stability, positive globality and negative stability events were similarly perceived by the two samples, rural and urban, it was useful for the researcher to acknowledge even the slightest of differences, as each subscale was crucial for the study.

For the negative internality subscale, a paired-samples t-test indicated a small significant difference, with the urban sample being more likely to attribute negative events to internal causes ($M = 3.74$, $SD = 0.70$) than the rural sample ($M = 3.53$, $SD = 0.80$), $t(352) = -2.77$, $p = .006$, $d = 0.29$. A paired-samples t-test on the negative globality subscale also indicated a small significant

difference between the rural ($M = 3.80, SD = 0.61$) and urban ($M = 3.55, SD = 0.63$) sample, $t(351) = 3.80, p < .001, d = 0.40$. This means that the rural sample was more likely to perceive negative events as global than the urban sample. No other significant results were found.

Table 6: Attribution style differences between rural and urban sample

Sampling site		Group Statistics			t-tests			Cohen's d	Practical significance
		n	Mean	Std. Dev.	t	df	p		
Positive Internality	Rural	178	3.84	0.87	1.62	352	0.1057		
	Urban	176	3.69	0.87					
Positive Stability	Rural	178	4.01	0.84	1.40	352	0.1627		
	Urban	176	3.88	0.87					
Positive Globality	Rural	178	3.91	0.83	1.14	352	0.2548		
	Urban	176	3.81	0.77					
Negative Internality	Rural	178	3.53	0.76	-2.77	352	0.0059	0.29	Small
	Urban	176	3.74	0.68					
Negative Stability	Rural	178	3.81	0.68	0.87	352	0.3835		
	Urban	176	3.75	0.66					
Negative Globality	Rural	178	3.80	0.61	3.80	351	0.0002	0.40	Small
	Urban	175	3.55	0.63					

5.2 POSTTRAUMATIC STRESS ANALYSES

5.2.1 Exposure rates

In order to comprehensively understand the posttraumatic stress presentation in the study sites, it was important to investigate the exposure rates. Differences in exposure rates between the rural and urban samples were found and are presented in Figure 5.

A Chi-Square test was conducted to investigate the categorical relationship between the two nominal variables (rural vs. urban) (Israel, 2009) and a statistically significant difference was found $X^2 (df = 1, n=354) = 2.9, p < .001$. Because this only informed the researchers that the difference was not by chance, a Cramer's V test was necessary to measure the strength of association between the two variables (Israel, 2009). A small practical significance was found $\phi = .25, p < .001$, which means that people living in urban areas were more likely (only 4% reported not to have been exposed to a traumatic event) to be exposed to traumatic events than those living in rural areas.

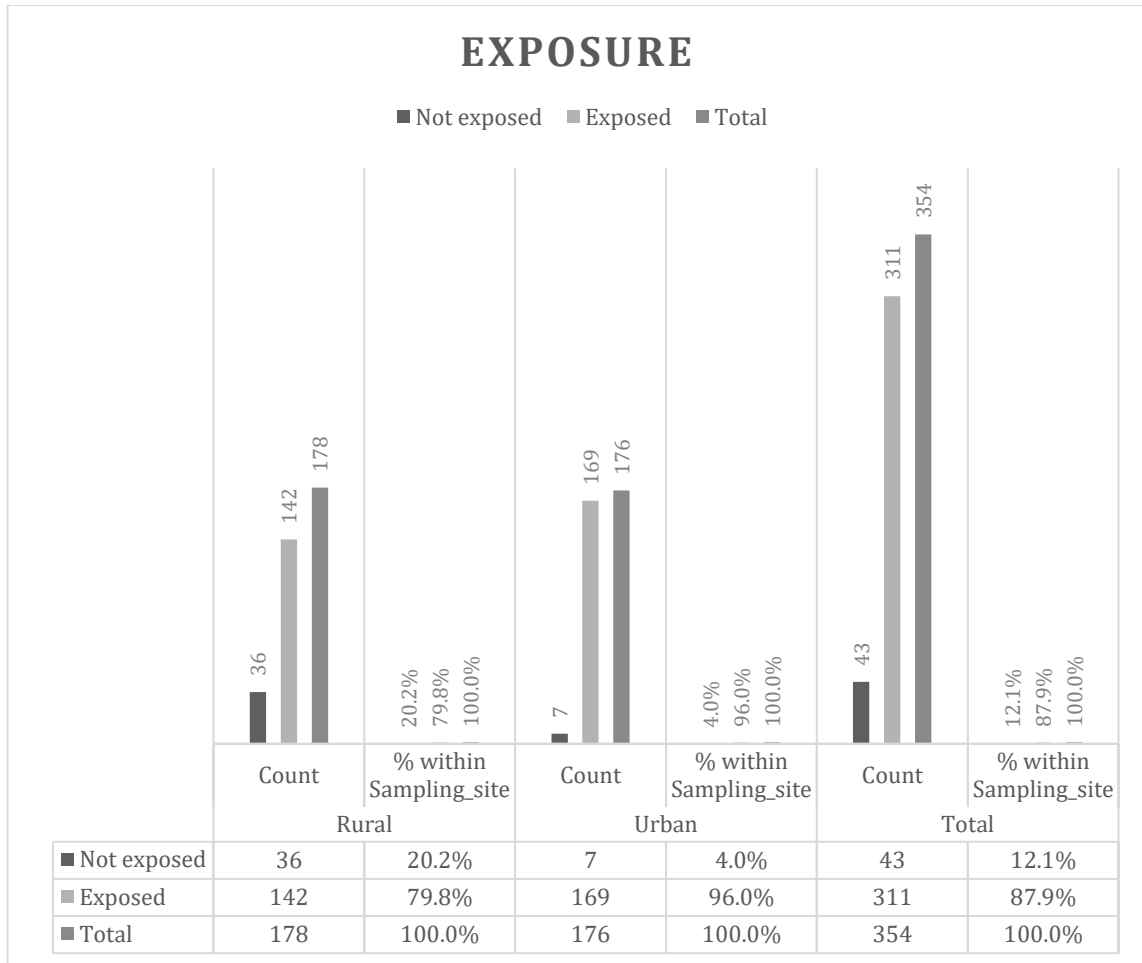


Figure 4: Differences in exposure rates between urban and rural samples

5.2.2 Posttraumatic Stress Severity in total sample

The results of this study (see Table 7) showed low PTSS in the sample ($M = 2.05, SD = 0.85$).

Table 3: Posttraumatic severity in the total sample

<i>n</i>	Valid	353
	Missing	1
Mean		2.05
Std. Deviation		0.85
Minimum		0.00
Maximum		3.45

5.2.3 Posttraumatic Stress Severity (comparison between rural and urban sample)

A paired-samples t-test indicated a small significant difference between the rural ($M = 1.89, SD = 0.96$) and urban ($M = 2.21, SD = 0.68$) sample, $t(351) = -3.62, p < .001., d = 0.38$ (see Table 8). This means that the traumatic stress severity in the urban area was slightly higher than the severity in the rural area. This is not entirely unexpected as exposure rates were also higher in the urban area.

Table 4: Differences in Posttraumatic Severity between Rural and Urban sample

		Group Statistics			t-test				Practical
Sampling site		<i>n</i>	Mean	Std. Dev.	t	df	p	Cohen's d	significance.
Traumatic Stress Severity	Rural	178	1.89	0.96	-3.62	351	0.0003	0.38	Small
	Urban	175	2.21	0.68					

5.3 LEVEL OF EDUCATION IN THE STUDY SITES

For those who filled out the level of education section ($n = 300$), 5.7% had attained a primary level of education, 46.7% had attained secondary education and 47.7% of the total sample reported to have attained tertiary education as shown in Figure 6.

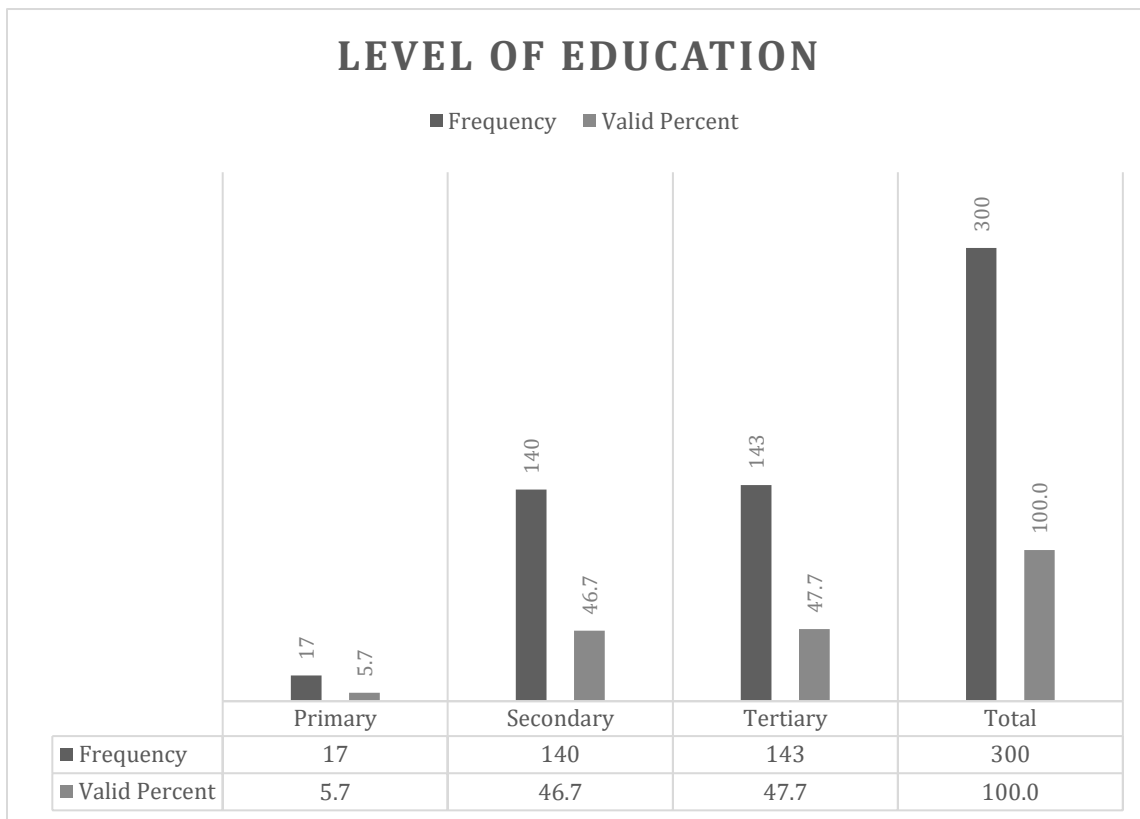


Figure 5: Level of education of the total sample.

5.4 RELATIONSHIP BETWEEN POSTTRAUMATIC STRESS, ATTRIBUTION STYLE, RURAL VS URBAN STATUS, GENDER AND LEVEL OF EDUCATION

A multivariate linear regression was used to derive a formula to predict PTSS based on gender, rural vs. urban status, level of education and attribution style as shown below. The statistical package SPSS was used for this analysis. Missing data were not imputed (estimated). Only cases with data for all variables in a regression model were used, e.g. $n=299$ (from the total $n=354$) for the regression model shown in Table 9.

The dependent variable was PTSS with rural vs. urban status, gender, primary and secondary vs. tertiary level of education and the different kinds of attribution styles as independent predictor variables. The p values and the 95% confidence intervals for the regression coefficients of the explanatory variables are presented in Table 9.

Table 5: Regression analysis of posttraumatic stress, attribution style, rural vs urban status, gender and level of education of the sample

Parameter	Parameter Estimates					
	B	Std. Error	t	p	95% Confidence Interval	
					Lower Bound	Upper Bound
Dependent Variable: posttraumatic stress severity						
Intercept	2.091	0.446	4.693	0.000	1.214	2.968
[Rural]	-0.139	0.102	-1.354	0.177	-0.340	0.063
[Urban]	0 ^a					
[Gender=1 = Male]	0.069	0.110	0.623	0.534	-0.149	0.286
[Gender=2 = Female]	0 ^a					
[Educ= Primary + Secondary 1]	-0.272	0.090	-3.009	0.003	-0.450	-0.094
[Educ= Tertiary 2]	0 ^a					
Positive Internality	-0.080	0.063	-1.269	0.206	-0.205	0.044
Positive Stability	-0.059	0.068	-0.879	0.380	-0.193	0.074
Positive Globality	-0.054	0.065	-0.833	0.406	-0.181	0.073
Negative Internality	0.218	0.069	3.177	0.002	0.083	0.354
Negative Stability	0.077	0.071	1.092	0.276	-0.062	0.217
Negative Globality	-0.052	0.076	-0.683	0.495	-0.201	0.097

a. This parameter is set to zero because it is redundant.

r-square = 0.145

The overall model fit was relatively weak with a coefficient of determination $R^2 = 0.145$ which means that 14.5% of the variation in PTSS can be ascribed to a variation in the predictor variables that are listed in Table 10. This is a weak relationship, but predictions from the regression equation should not be regarded as meaningless. When there are many uncontrollable, undeterminable and unknown factors influencing the response, such low values are not uncommon (Moksony, 1990; Reisinger, 1997). This is the case in studies that, for example, try to explain human behaviour such as Psychology. Most Psychology studies report values below 50% owing to the unpredictability seen in human behaviour. When we test existing theory, low R^2 values mean that the dependent variable is affected by a lot of other factors beside the one(s) being reported on (Moksony, 1990). This could be the reason that studies with a large sample size and a smaller number of regressors have been reported to yield a lower R^2 (Reisinger, 1997). Cross-sectional studies have also been reported to obtain a lower R^2 than time-series studies (Reisinger, 1997).

The R^2 for this study indicates a weak relationship between gender, attribution style, level of education, rural vs. urban status and posttraumatic stress severity. It also means that 85.5% of the variation is still unexplained. Other variables should be considered for the PTSS prediction, or other variables should be added to the model.

When PTSS was predicted, it was found that the level of education ($B = -0.272, p = .003$) and negative internality ($B = 0.218, p = .002$) were the only significant predictors. These scores mean that people with a lower level of education are at an increased risk of higher PTSS and for a unit increase in negative internality, the PTSS score is expected to increase by 0.22. In essence,

this means that individuals with a tertiary education had lower traumatic stress severity scores than those that had primary or secondary level of education and that individuals that had greater internal attributions for negative events, had greater traumatic stress severity scores.

5.5 SUMMARY

The results of the study showed that the total sample was highly exposed to traumatic events (only direct exposure was considered) with the urban sample being significantly more exposed than the rural sample. Significant differences were found on the globality and internality scale between the rural and urban sample. The urban sample showed a significantly higher posttraumatic stress severity than the rural sample. The relationships between all the variables were investigated using a multivariate regression model, where negative internality and education were found to be significant predictors of PTSS. Discussions on these findings are presented in the following chapter.

CHAPTER 6

DISCUSSIONS

This chapter organises the discourse on the results of this study. To the best of the researcher's knowledge, this is the first study to investigate the relationship between PTSS, attribution style and rural vs. urban status in Kenya and a literature search showed no evidence of such a study globally. Research has been conducted on attribution style and posttraumatic stress in other ways, but investigations on the comparisons presented in this study have never been done before. Some of the discussions presented here are therefore drawn from other studies that are investigating other variables independently, as the researcher had no studies with which to make direct comparisons to this study.

6.1 ATTRIBUTION STYLE

The results of the study indicated trends in the sample where negative events were more attributed to external, stable and specific causes. It is important to note here that the researcher is not referring to significant relationships, but trends in the results that were observed and that made sense. We know that the negative attribution style described as an individual's tendency to attribute negative events to internal, stable and global factors (Bomyea et al., 2012; Elwood et al., 2009), acts as a risk factor for the development and maintenance of posttraumatic stress. In this population therefore, the researcher expected to see low PTSS which was congruent with the findings.

For the negative internality subscale, a small significant difference was found (see Table 6), with the urban sample being more likely to attribute negative events to internal causes, than the rural sample. Based on the literature, the researcher expected to find participants from urban areas more likely to attribute negative events to internal causes whereas rural populations would attribute the same to external causes. This is because urban populations have been reported to be more independent and hence place less emphasis on interrelatedness and more on autonomy (Anderson, 1999). Independent cultures more frequently use dispositional (internal) attributions as compared to people from interdependent cultures who more frequently use situational (external) attributions (Lee et al., 1996; Miller, 1984; Morris & Peng, 1994). Attributing negative events to internal causes has been reported to be a risk factor for developing PTSD (Bomyea et al., 2012; Elwood et al., 2009), which is perhaps the reason why higher rates of PTSS were observed in the urban areas.

A small significant difference (see Table 6) was also found on the negative globality subscale with the urban sample being more likely to perceive negative events as specific than the rural sample. The attribution of negative events to specific causes has been reported to be a protective factor (Ehlers & Clark, 2000). No significant differences were found for the positive internality, stability and globality and negative stability, which explained the lack of medium to large differences in the PTSS between the two samples.

6.2 POSTTRAUMATIC STRESS SEVERITY

The results of the study showed that traumatic exposure (direct exposure) rates for the total sample to be 87.9%. These rates were similar to what other researchers (88% (Karsberg & Elklit, 2012)) and (85% (Seedat et al., 2004)) had found in Kenya and slightly higher than the estimated 70% global estimates (Benjet et al., 2016; Norris, 1992), but the researcher cannot explicitly draw this comparison owing to methodology differences between the studies. It is often difficult to directly compare prevalence rates in one study to findings of other studies because of methodology differences. For example, this study did not exclude those who did not meet the criteria for PTSD. Instead, it looked at severity in terms of the total score of the symptoms on the PCL-5 measure. The study could also not be compared to other studies that looked at prevalence, because PTSD rates were not calculated.

With such high exposure, it was expected that PTSS would be relatively high as well. The opposite was found, and the results showed low PTSS in the total the sample ($M = 2.05$, $SD = 0.85$). People living in urban areas were more likely (only 4% reported not to have been exposed to a traumatic event) to be exposed to traumatic events than those living in rural areas. As expected from such high exposure, the posttraumatic stress severity in the urban area was slightly higher (refer to Table 8) than the severity in the rural area.

Results from the regression model (see Table 9) indicated that people with a lower level of education were at an increased risk of higher PTSS. People living in urban areas are reported to be more educated (Mulongo, 2013; Onyango, 2013; Sibonje, 2012) which could translate to lower levels of posttraumatic stress owing to an increased understanding of the event, increased

likelihood of knowledge of the disorder, understanding of the treatment process (Gray, Elhai, & Frueh, 2004) and higher treatment adherence rates (Gray et al., 2004; Knaevelsrud & Maercker, 2007) all which translate to increased treatment success and lower levels of PTSS. The researcher then expected to see a lower PTSS in the sample that had higher education level regardless of their rural vs. urban status, which was confirmed. The findings of the study showed that an increase in education was negatively correlated with the increase in PTSS which is congruent with existing literature. This could perhaps be due to an increased awareness in the educated population which leads to their identification of the symptoms and treatment seeking. These are however just speculations as this study was not designed to explore such reasons. Studies investigating this relationship further would be useful in giving clarity on this.

In this highly exposed total sample, the researcher expected to see a significantly higher PTSS than was reported (refer to Table 8 and Figure 6). Similar findings were found in another study (Seedat et al., 2004) that compared a trauma exposed sample from Kenya and a trauma exposed sample from South Africa. Despite the Kenyan group being more exposed to traumatic events, they showed a significantly lower PTSD rates compared to the South African sample. In their findings, the researchers indicated that cultural variables might have been at play. One reason for this could be that PTSD may need a somewhat different cultural formulation and so the phenomenon may look somewhat different in different contexts. A qualitative study investigating this variance in the country might be useful in understanding this.

6.3 POSTTRAUMATIC STRESS SEVERITY, RURAL VS. URBAN STATUS AND ATTRIBUTION STYLE

It was expected that significant differences would be seen between the rural and urban sample in terms of both attribution style and posttraumatic stress severity. People living in the rural areas showed a lower exposure rate and lower PTSS than their urban counterparts who showed higher exposure and higher PTSS. It makes sense therefore, that insignificant relationships were found between the rural vs. urban status and PTSS. This finding is congruent with other studies that have found an increased PTSS with increased exposure to traumatic events (for example see Breslau, Chilcoat, Kessler, & Davis, 1999; Brewin et al., 2000). We know that cultural beliefs about mental illness, perceptions about healthcare and awareness about the illness (Cummings et al., 1980) are instrumental in treatment seeking decision making. It could also have an impact on self-disclosure about mental illness (Rost et al., 1993), in this study's case, responding to the items on the questionnaire. The similarity in patterns between exposure and PTSS could therefore be cautiously explained by the similarity in both treatment seeking habits and the stigmatisation between the two groups. The researcher cannot however explicitly confirm that this was the case, especially because the low PTSS rates could also be explained by the attribution style and the study design was not geared towards measuring stigmatisation or treatment seeking.

Cultural variation between the two samples could also explain the differences in both traumatic exposure and PTSS. People living in rural areas are high on interrelatedness (Cha,

1994; Freeman, 1997; Georgas, 1989; Kashima et al., 2004; Mishra, 1994; Trandis, 1995) and this translates to a decreased anonymity which leads to less violent behaviour towards each other. Increased interrelatedness in the rural areas also causes increased social support which leads to a more supportive environment and thus reducing the risk for PTSD (Brewin et al., 2000; Kilpatrick et al., 2007; Laffaye et al., 2008; Ozer et al., 2003). The opposite is true of the UD. UD are high on independence (Cha, 1994; Freeman, 1997; Georgas, 1989; Kashima et al., 2004; Mishra, 1994; Trandis, 1995), creating a more isolated environment which is both unsupportive for the healing process and a risk factor for increased anonymity which could lead to increased violent behaviour.

PTSS has been linked to specific maladaptive beliefs about the self and the world (Ehlers & Clark, 2000). Investigation of the attribution that an individual makes to either, the self, the event or the event sequelae has for this reason been highlighted by Ehlers and Clark (2000). One limitation in this discussion is that attribution styles were assessed only post trauma. This means that the researcher could not explicitly delineate them as pre-existing attributions. The attributional style may have been influenced by exposure. For this discussion therefore, the issue of causality was only discussed in terms of post trauma.

Differences in two out of six ASQ subscales between the two samples, UD and RD were found. The study's main focus was on trauma exposure (negative event) so the findings in the negative subscales were key. There were small significant differences between the two samples (UD and RD) in two out of three subscales for the negative events (see Table 6). One of these negative subscales (negative internality) held up as a predictor of PTSS in the regression model

(see Table 9). With an increase in negative internality, an increase in PTSS was found. This finding is congruent with what other researchers have found (Ehlers & Clark, 2000; Bryant, Salmon, Sinclair, & Davidson, 2007; Ehring, Ehlers, & Glucksman, 2008; Meiser-Stedman, Dalgleish, Glucksman, Yule, & Smith, 2009; Bomyea et al., 2012; Elwood et al., 2009). When people have a negative internal attribution to traumatic events, they are more likely to blame themselves for the event. This is often the case when an individual is trying to get some answers as to why the event occurred. For example, when a woman thinks she could have prevented a rape incident had she worn less revealing clothes, she could start seeing herself as the cause of the event and hence blame herself. This is a risk factor for the development of PTSD.

6.4 SUMMARY

The rural vs. urban status on its own was not found to be a predictor of PTSS, but it was still a useful variable in the relationship. This is because the differences in AS between the two samples meant that UD interpret negative events differently than RD. The negative internal attribution (which was found to be a significant predictor of PTSS) differed between RD and UD which could be the reason that higher rates of PTSS were seen in the urban sample. This evidence confirms the study's hypothesis which was that there exist differences in AS between UD and RD which differentiate PTSS between the two samples.

CHAPTER 7

CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

This chapter reinforces the arguments supported by findings and literature in this study. Future recommendations for research, implications for practice and final impressions are presented here.

7.1 CONCLUSION

There is a consensus among researchers on the high rates of trauma exposure in the African population (including Kenya). Yet this is not enough understanding. We need to see the specifics of what is affected, by what and how. This study aimed to address this by looking at the influence that the attribution style and the rural vs. urban status have on posttraumatic stress severity. Relationships between AS, PTSS and rural vs. urban status were also investigated. Exposure to traumatic events was found to be high which is consistent with what other studies in the country (and Africa) have found. The urban area was more exposed to traumatic events than the rural area. This finding highlights an increased need for research in this field to comprehensively understand the effects of this exposure.

The meaning that an individual ascribes to and their understanding of, a traumatic event is critical in the recovery process. We should refrain from generalizing AS of one population to other populations or from one context to another. This calls for continued investigations in the

African contexts, to avoid ‘copy and pasting’ findings from other populations. Additionally, it should not be assumed that populations from one cultural group within Africa (or any other population) will attribute similarly to negative events such as traumatic events. It is important to be cognisant of variables that differentiate AS to avoid such assumptions. The evidence of this study has illustrated differences in attribution between the rural and urban populations. These differences in attribution style, in part, explain the differences seen in PTSS where UD showed a higher PTSS than RD. The differences in AS between UD and RD found here, point to differentiated interventions tailored with these differences in mind for the two samples – this again speaks towards refraining from generalising approaches from one sample to the other.

Although weak, there seems to be a relationship between PTSS and the nine predictors. An understanding of exactly how these variables affect PTSS could be useful in intervention planning. While the treatment of psychiatric disorders happens on an individual level, it may be useful to understand the specific dynamics that produce greater PTSS for individuals in Kenya. This information could be used to produce focused educational programmes that target specific common vulnerabilities. This can also give practitioners a clearer picture which can assist in development of contextualised healthcare. A need for culturally sensitive healthcare has been highlighted by researchers such as Campinha-Bacote, Transcultural, and Associates (2002) and Tucker et al. (2007). This is because of significant links between patient-perceived provider cultural sensitivity and an adherence to provider treatment regimen recommendations that have been found (Tucker, Marsiske, Rice, Nielson, & Herman, 2011). Competent health models which are culturally sensitive should therefore be developed for all populations.

In high income countries such as Canada, initiatives are underway to develop a set of health indicators specifically for rural communities (Mitura & Bollman, 2003). This could also be useful in Kenya as rural communities are often forgotten in terms of treatment, with treatments being more focused on the urban sample (Ndetei et al., 2011; Ndetei & Muhangi, 1979). This same treatment is then delivered to rural areas, which do not always work because of contextual differences. For example, in rural areas, cultural beliefs on home remedies, beliefs about health providers and perception of one's control over illness (Chia, Schlenk, & Dunbar-Jacob, 2006) should be addressed in the treatment models. These treatment models should also include educational material that creates awareness in the population regarding mental illness. This will combat stigmatisation which will increase self-disclosure and treatment seeking.

There is an evident need for continued and resolute attention from all disciplines, including mental health researchers, to aid in the understanding of trauma and its effects in Africa. The R^2 for this study indicates a weak relationship between AS, rural vs. urban status and PTSS as variables. The gender and rural vs. urban status were found to be insignificant variables predicting posttraumatic stress severity. Most scales on the attribution style measure were also found to be insignificant, with only one variable (negative internality) being significant. Other variables should therefore be considered for the PTSS prediction, or other variables should be added to the regression model. Demographic variables such as socioeconomic status or comorbidity with other mental illnesses could be useful additions to the model. Further investigation into these variables could be useful in demystifying the causes of this PTSS variance, making it easier to offer more accurate results. A fore step in this direction would be a

replication of this study in the same or different population, using the same or different methodology, to compare severity. More studies in this discipline will offer a more accurate understanding, allowing more appropriate recommendations. Contextualised culturally sensitive interventions could also arise from such investigations.

7.2 STRENGTHS OF THE STUDY

Measures in this study were translated which allowed for good response rates to the measure, with most participants answering more than 93% of the items. A large sample size allowed for more robust analyses, therefore producing greater confidence in the findings.

7.3 LIMITATIONS OF THE STUDY

- Data was collected from chief's meetings which are mostly, in Kenya, attended by men. This gave disproportionate data, which means the female population was not well represented.
- The participants complained about the length of the questionnaire. Both questionnaires, administered together (50 minutes in total), proved to be subjectively lengthy for the sample - especially in the rural areas. Phase one would have consisted of a pilot study that would have measured the reliability of the data collection tools (which were provided in English and Kiswahili) after translation. Because of unforeseen delays, the pilot study did not take place and instead the suitability of the translated items was evaluated in a

discussion with a fraction of the sample (ten from the rural area and ten from the urban area).

7.4 RECOMMENDATIONS FOR FUTURE RESEARCH

- Both questionnaires (PCL-5 and ASQ) were significant in meeting the study's objectives. Because the respondents complained of the length of the items, development of a shorter questionnaire measuring both variables (together) would be useful seeing as further investigation, similar the nature of this study, is still needed in Kenya.
- Other variables should be considered for PTSS prediction, or other variables should be added to the regression model that is presented in this study, for example, socioeconomic status and comorbidity with other mental illnesses.
- This study found negative internality to be a predictor for posttraumatic stress severity and that people in urban areas are more likely to use more internal attributions for negative events. Qualitative studies exploring how attribution style influences PTSS should be conducted, as they will be useful in providing greater understanding in this area. For example, exploring the content of attributions and how these align with cultural norms in urban and rural areas.
- Future studies could explore whether the relationships that are presented in this study are clinically significant in practice by focusing on the formal diagnosis.

7.5 SUMMARY

This study aimed to investigate the relationships between attribution style, rural vs. urban status and posttraumatic stress severity. All the objectives of the study were met, where the findings indicated differences in two out of three subscales in the negative events of the ASQ. Negative internality was found to be higher in UD than RD and it was also shown to be a significant predictor of PTSS potentially causing the higher rates of PTSS seen in UD. Differences in AS and PTSS were found between UD and RD which confirmed the study's hypothesis. These differences necessitate differentiated interventions between the two samples. This study has also found existing gaps in this field which have been recommended for future research.

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APPENDIX A

Ethics Clearance Letter (South Africa)



• PO Box 77000 • Nelson Mandela Metropolitan University
• Port Elizabeth • 6031 • South Africa • www.nmmu.ac.za

Chairperson: Research Ethics Committee (Human)
Tel: +27 (0)41 504-2235

Ref: [H16-HEA-PSY-010/Approval]

Contact person: Mrs U Spies

15 November 2016

Mr K van Rooyen
Faculty: Health Sciences
South Campus

Dear Mr Van Rooyen

**THE RELATIONSHIP BETWEEN GEOGRAPHICAL LOCATION, ATTRIBUTION STYLE
AND TRAUMATIC STRESS SEVERITY AMONGST THE KIKUYU OF KENYA**

PRP: Mr K van Rooyen
PI: Ms J Ndungu

Your above-entitled application served at Research Ethics Committee (Human) for approval.

The ethics clearance reference number is **H16-HEA-PSY-010** and is valid for three years. Please inform the REC-H, via your faculty representative, if any changes (particularly in the methodology) occur during this time. An annual affirmation to the effect that the protocols in use are still those for which approval was granted, will be required from you. You will be reminded timeously of this responsibility, and will receive the necessary documentation well in advance of any deadline.

We wish you well with the project. Please inform your co-investigators of the outcome, and convey our best wishes.

Yours sincerely

Prof C Cilliers
Chairperson: Research Ethics Committee (Human)

cc: Department of Research Capacity Development
Faculty Officer: Health Sciences

APPENDIX B

Ethics Clearance (Kenya)

**MASENO UNIVERSITY ETHICS REVIEW COMMITTEE**

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

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

FROM: Secretary - MUERC**DATE:** 25th June, 2017**TO:** Jane Wagithi Ndungu
Department of Psychology
School of Behavioural Sciences
Faculty of Health Sciences
Nelson Mandela Metropolitan University
P.O. Box77000, Port Elizabeth 6031, South Africa**REF:**MSU/DRPI/MUERC/00422/17

RE: The Relationship between Geographical Location, Attribution Style and Traumatic Stress Severity in the Kiambu and Nyeri Counties, Kenya. Proposal Reference Number MSU/DRPI/MUERC/00422/17

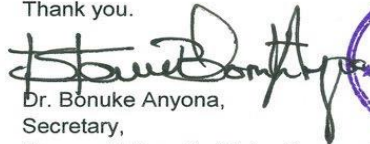
This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 25th day of June, 2017 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 24th June, 2018. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 15th April, 2018.

Approval for continuation on the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 15th April, 2018.

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

Thank you.


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



Cc: Chairman,
Maseno University Ethics Review Committee.



APPENDIX C

Participant's Information Letter - *Barua ya Habari kuhusu mshiriki*

Faculty of Health Sciences - Kitivo cha Sayansi ya Afya

NMMU

Tel. - Simu: +27 (0)41 504-2121 Fax - Faksi: +27 (0)41-504-9463

E-mail Faculty Chairperson: nouwaal.isaacs@nmmu.ac.za

Anwani ya Barua pepe ya Mwenyekiti wa Kitivo

Date 28th June 2017 - Tarehe 28, Juni 2017

Ref: H16-HEA-PSY-010

Contact person - Mtu wa kuwasiliana naye: Dr. - Dkt. L. Ndimurwimo

Dear potential participant,

Mpendwa mhusika,

You are being asked to participate in a research study that is aimed at gaining a better understanding of how (if at all) attribution style influence traumatic stress severity.

Unaombwa kuhusika katika utafiti unaolenga kutafuta uelewa mzuri wa jinsi mtindo wa kupeana sifa huathiri (iwapo huathiri) viwango vya mfadhaiko wa kiakili.

To participate, it will be required of you to provide a written consent that will include your signature, date and initials to verify that you understand what will be asked of you and are happy to take part voluntarily.

Ili kushiriki, utahitajika kuwa na kibali kilichoandikwa ambacho kitajumuisha sahihi yako, tarehe na vitangulizi vitakavyothibitisha kuwa unaelewa yale utakayoulizwa na unafurahia kushiriki kwa hiari.

Questions in this study will be about an event that happened in your past that may have caused you symptoms such as nightmares. Before starting the questionnaires, you will have the opportunity to ask the researcher any questions you may have about the study. You are welcome to ask for assistance from available research assistants for items that may not be clear to you.

Maswali katika utafiti huu yatahusu tukio lilitokea maishani mwako hapo awali na ambalo lilikusababishia dalili kama vile jinamizi. Kabla ya kuanza kujibu hojaji hizi utakuwa na fursa ya kumuuliza mtafiti maswali yoyote uliyo nayo kuhusiana na utafiti huu. Unakaribishwa kuuliza usaidizi kutoka kwa wasaidizi wa utafiti kuhusu chochote ambacho hukielewi vizuri.

Furthermore, it is important that you are aware of the fact that the study has been approved by the Research Ethics Committee (Human) of the Nelson Mandela Metropolitan University (South Africa) and Maseno university ethics committee (Kenya). Queries with regard to your rights as a research subject can be directed to the Research Ethics Committee (Human), Department of Research Capacity Development, PO Box 77000, Nelson Mandela Metropolitan University, Port Elizabeth, 6031.

Zaidi ya hayo, ni muhimu kutambua ukweli kuwa utafiti huu umeidhinishwa na Kamati ya Maadili ya Utafiti (Human) kutoka Chuo Kikuu cha Nelson Mandela Metropolitan (Africa Kusini) na Kamati ya maadili ya Chuo Kikuu cha Maseno (Kenya) Maswali yanayohusiana na

haki zako kama mhusika kwenye utafiti yanaweza kuelekezwa kwa Kamati ya Maadili ya Utafiti (Human), Idara ya Kuimarisha Uwezo wa Kiutafiti, Sanduku La Posta 77000, Chuo Kikuu cha Nelson Mandela Metropolitan, Port Elizabeth, 6031.

If no one could assist you, you may write to: The Chairperson of the Research, Technology and Innovation Committee, PO Box 77000, Nelson Mandela Metropolitan University, Port Elizabeth, 6031.

Ikiwa hutapokea usaidizi, unaweza kumwandikia: Mwenyekiti wa Kamati ya Utafiti, Teknolojia na Uvumbuzi, Sanduku la Posta 77000, Chuo kikuu cha Nelson Mandela Metropolitan, Port Elizabeth, 6031.

Participation in research is completely voluntary. You are not obliged to take part in any research. If you choose not to participate this research, your present and/or future medical care will not be affected in any way and you will incur no penalty and/or loss of benefits to which you may otherwise be entitled.

Kushiriki katika utafiti ni kwa hiari. Hujashurutishwa kushiriki katika utafiti wowote. Ikiwa utaamua kutoshiriki katika utafiti huu, mpango wako wa kiafya wa sasa au wa siku za usoni hautaathirika kwa namna yoyote ile wala hutapokea adhabu na/ au kupoteza manufaa ambayo unaweza kuwa na haki ya kupata.

If you do partake, you have the right to withdraw at any given time, during the study without penalty or loss of benefits.

Ikiwa utashiriki, una haki ya kujiondoa wakati wowote ule, katika kipindi cha kutekelezwa utafiti bila kuadhibiwa au kupoteza manufaa.

Although your identity will at all times remain confidential, the results of the research study may be presented at scientific conferences or in specialist publications.

Hata ingawa utambulisho wako utabanwa wakati wote, matokeo ya utafiti huu yanaweza kuwasilishwa katika kongamano za kisayansi au katika machapisho maalum.

In the event that you experience relived trauma, we have made arrangements for consultation with Tumaini counselling centre, to assist with counselling. Also, one of the undersigned – Prof. David Ndeti is a psychiatrist in Kenya and will be more than happy to refer you to another facility, should Tumaini counselling centre not be an option for you.

Ikiwa utakumbwa na usongo tena, tumeweka mpango wa mashauriano na kituo cha Tumaini Counselling Centre, ili kusaidia kutoa ushauri nasaha. Isitoshe, mmoja wa waliotia sahihi zao hapa - Prof. David Ndeti ni mtaalamu wa magonjwa ya akili nchini Kenya na atafurahi sana kukuelekeza kwa kituo kingine, ikiwa kituo cha Tumaini Counselling Centre hakitakufaa.

Yours sincerely,

Wako mwaminifu,

Jane Ndungu

Mr. - Bw. Kempie van Rooyen

Primary Investigator

Primary Responsible Person and Supervisor

Mtafiti wa Kimsingi

Mtu wa Kuwajibika Kimsingi na pia Msimamizi

Prof. David Ndeti

Kenyan Ethics Patron and Co-supervisor

Mwelekezi wa Maadili na Msimamizi-Mwenzana nchini Kenya

APPENDIX D

Participant's Consent Form - *Fomu ya Kibali cha Mhusika*

I, _____, hereby give consent to participate in a study that is aimed at investigating if attribution style has an influence on traumatic stress severity. I understand that a researcher will provide me with a questionnaire in English and Kiswahili. I understand that I can use the language I am most comfortable with. I understand the questions in the questionnaire(s) will be about how I see different events and about symptoms that I may be experiencing. I understand that there is no time limit to tackle the items and I will be allowed as much time as I need. I have however been explained to and understand that it will take an approximate of and 45 minutes to tackle the attribution style questionnaire; 45 minutes to tackle the PCL-5 questionnaire and 30 minutes to tackle the trauma research biographical questionnaire. This will be a total of 2 hours of my time to tackle all the items.

Mimi, _____, ninakubali kuhusika katika utafiti unaolenga kuchunguza ikiwa mtindo wa kuvipa vitu sifa huwa na athari kwenye viwango vya usongo wa kiakili. Ninaelewa kuwa mtafiti atanipa hojaji iliyoandikwa kwa Kiingereza na Kiswahili. Ninaelewa kuwa ninaweza kutumia lugha ambayo ninafahamu zaidi. Ninaelewa kuwa maswali yaliyomo kwenye hojaji hii (hizi) yatakuwa yanahusu jinsi ninavyotazama matukio tofauti tofauti na kuhusu dalili zozote ninazoona. Ninaelewa kuwa hakuna makataa ya wakati wa kujibu maswali na nitapewa muda kadri ninavyotaka. Hata hivyo nimeelezwa na nikaelewa kuwa nitachukua muda wa takriban dakika 45 kujibu hojaji kuhusu mtindo wa kupeana sifa; dakika 45 kujibu hojaji ya PCL-5 na dakika 30 kujibu hojaji ya utafiti juu ya usongo wa kiakili. Hii itachukua jumla ya saa 2 kujibu kila swali.

The following points have been explained to me - *Nimeelezwa hoja zifuatazo:*

1. Participation is entirely voluntary and I can choose to stop at any time. There will be absolutely no penalty whatsoever if I do choose to stop. - *Kushiriki ni kwa hiari yangu na ninaweza kuamua kuacha wakati wowote. Sitaadhibiwa kwa namna yoyote ile ikiwa nitaamua kuacha.*
2. My answers will be recorded, but I will not be identified by name in any publications that may arise from this study. - *Majibu yangu yatarekodiwa ila sitatambulishwa kwa jina katika chapisho lolote linaloweza kutokana na utafiti huu.*

3. Participation in this research is entirely confidential and information will not be released to anyone that is not a part of this research project specifically. - *Ushiriki katika utafiti huu ni wa siri na taarifa zozote hazitatolewa kwa mtu yeyote ambaye si mshiriki katika mradi wa utafiti mahususi.*

4. I understand that should I refuse to participate, that this would have no influence on the current position that I hold at my organisation, clan, tribe or family. - *Ninaelewa kuwa iwapo nitakataa kushiriki, kwamba hili halitaathiri nafasi niliyo nayo kwa sasa katika shirika ninalofanyia kazi, ukoo, kabila au familia.*

5. I have had a chance to ask all the questions that I would like about this study. - *Nimekuwa na fursa ya kuuliza maswali yote niliyokuwa nayo kuhusu utafiti huu.*

Yes - *Ndiyo*

No - *La*

6. I would like feedback on the results of this study - *Ningependa kupata majibu ya matokeo ya utafiti huu:*

Yes - *Ndiyo*

No - *La*

Participant code - *Kodi ya mhusika:*

Name - *Jina:* _____ Telephone number - *Nambari ya simu:* _____

E-mail address - *Barua pepe:* _____

(These details are only to be used by the researcher in order to make contact with those who require feedback. It will not be used for any other purpose.) - (Anwani hii inapaswa kutumiwa tu na mtafiti ili kuwafikia wale wanaohitaji majibu. Haitatumika kwa madhumuni yoyote mengine.)

Signature of participant - *Sahihi ya mhusika*

Date - *Tarehe*

Signature of researcher - *Sahihi ya mtafiti*

Date - *Tarehe*

APPENDIX E

Biographical Questionnaire - *Hojaji ya Utafiti kuhusu*

Checklist: Orodha:	Study explained <i>Utafiti ulifafanuliwa</i>	Questions answered <i>Maswali yaliyojibiwa</i>	Consent signed <i>Kibali kilichotiwa saina</i>	Referral information given <i>Taarifa ya kiurejelezi iliyotolewa</i>
---------------------------	---	---	---	---

Date:
 Tarehe:

Start time:
 Wakati wa kuanza:

Sampling site - *Sehemu ya kufanyia uteuzi:*

Contact information (Optional) - Taarifa za mawasiliano (Si lazima ujaze)

Name - *Jina:* Date of Birth:
 Tarehe ya kuzaliwa:

Postal address - *Sanduku la barua:*

Contact number(s) - *Nambari ya/za simu:*

Significant other contact number - *Nambari nyingine Muhimu:*

Email - *Barua pepe:*.....

Best time to contact telephonically - *Wakati mwafaka wa kuwasiliana kwa simu:*.....

Demographic information - Taarifa kuhusu demografia

Own ethnic identity - kabila lako:

Gender:
 Jinsia:

Home language(s): Kiswahili English Other (specify)

Lugha ya/za nyumbani Kiswahili Kiingereza Nyingine(fafanua)

Education: Primary Secondary Tertiary

Elimu: Msingi 1-8 Sekondari 1-4 Elimu ya juu