Research Report

Exploring the relationships between multiple traumatisation and anger and aggression in South Africa

A dissertation submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the Degree of Bachelor of Arts Masters (Clinical Psychology).

September 2018

By Faatema Dollie (745345)
Supervisor: Dr Esther Price

DECLARARTION PAGE

I declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university.

Sign **Date**

ABSTRACT

South Africa has seen its crime levels continuously rise; hence, South Africans are exposed to more trauma incidences that may cause posttraumatic stress symptoms. In addition, South Africa has been described as an angry nation with retaliatory behaviours such as road rage and xenophobic attacks on the increase. This research study hypothesized that exposure to multiple trauma events is related to the anger and aggression witnessed in South Africa. In a sample of 388 students findings found that as trauma exposure increases so do the posttraumatic symptoms. In particular, gender differences showed that multiple trauma exposure affect males and females differently. Females in particular reported higher intrusion symptoms and more anger than their male counterparts. Conversely, males reported increased propensity for aggressive responding with increased trauma exposure. This study highlights the high trauma exposure rates that South Africans are exposed to with females being particularly vulnerable.

Key Words: Aggression, anger, gender, multiple trauma exposure, posttraumatic stress symptoms

Acknowledgments

First and foremost I am grateful to my Creator for providing me with the opportunity to complete my thesis.

I would like to thank the following people and institutions for providing me with the necessary support:

- My supervisor Dr Esther Price for her helpful feedback
- My family and friends for their invaluable encouragement
- All the participants that responded to the questionnaire and made this study possible

Table of Contents

Page No.

List of Tables

Page No.

Chapter One: Literature Review

1.1 Introduction

South Africans are exposed to one of the highest crime rates in the world. The Institute for Economics and Peace Global Peace Index Report (2017) has ranked South Africa 123 out of 163 in terms of societal safety and security, the 8th most violent country in the world (Economicsandpeace.org, 2017). The report recognises that a combination of increased urbanisation, disproportionate resource allocation and a problematic police force have contributed to an increase in violence. Increasingly, crimes of road rage, gratuitous violence, xenophobic attacks and protests that often turn violent have dominated the news (Sadagorg, 2016). South African crime statistics released for the 2016/2017 period showed a murder rate of 34 per 100000 (Africacheck.org, 2018). As a comparison, the United States for the same time period recorded a murder rate of 5.3 per 100000 (Fbigov, 2018).

These statistics suggest an increase is violent and aggressive perpetration in the South African context and a critical need for this trend to be understood. Recent media reports have sought to make sense of why South Africans are "such an angry nation" (Aislinn laing, 2016; Sabccoza, 2016; Sadagorg, 2016). Explanations that have been offered have ranged from anger at expectations not being met post-apartheid, to talking about a nation that is overburdened with stress that it is not able to process and deal with (Atkinson, 2007).

For example, Williams et al., (2007) posit that increased levels of crime-related violence may be associated with higher levels of stress in the general population. It has also been postulated that perhaps South Africans have become an angry nation due to disparity in resource allocation and this has led to an increase in violence (Atkinson, 2007). One possibility that has not been systematically explored is the

relationship between multiple trauma exposure and each of anger and aggressive behaviour in individuals.

Identifying the effects of multiple trauma exposure is relevant in furthering our understanding of how constant trauma exposure may impact on the South African populace. The present study aimed to explore the relationship between multiple trauma exposure, anger and propensity for aggressive behaviour, in a sample of trauma exposed South Africans. The literature review defines the concepts of multiple trauma exposure, post-traumatic stress, anger and propensity for aggressive response as it pertains to this study.

1.2 Rationale

Acts of aggression are on the increase and South Africans are increasingly more openly hostile to each other (Sadagorg, 2016). Studies in aggression and trauma exposure have previously focused on Post Traumatic Stress Disorder (PTSD) in combat zones (Byrne & Riggs, 1996; Crombach & Elbert, 2014; Weierstall et al., 2011). Weierstall et al., (2013) proposed that this is an adaptive response to a surviving in a violent environment. The SASH study (Williams et al., 2007) reported low levels of PTSD in South Africa, however, recent PTSD studies have focused on clinical populations and reported higher PTSD rates. This study is aimed at a nonclinical sample to better understand the effects that multiple trauma exposure has on the general population. Therefore, this study has implications for understanding how South Africans having been exposed to multiple traumas react.

An increase in aggression and anger are proposed as possible effects and this needs to be recognised with regards to treatment plans. As such PTSD treatment is focused on a singular event in the past and does not take into account present threats and therefore multiple traumatisations needs to be investigated as it has implications for treatment interventions (Nuttman-Shwartz & Shoval-Zuckerman, 2015).

1.3 Multiple Trauma Exposure in the South African Context

Historically, South Africa has been associated with a violent political past and a current social and economic climate that may foster violence and anger. This violence

and anger has partly been attributed to the effects of historical disenfranchisement and to growing inequality. Additionally, research suggests that, on average, most South African nationals would have experienced or witnessed one or more traumatic events in their lifetime (Kaminer & Eagle, 2010). However, South Africa is not unique in this with Green et al (2000) reporting that more than 80% of their sample of female college students at a Washington D.C university had experienced more than one traumatic event. Multiple trauma exposure (MTE) has therefore become the norm and an essential area of research. Considering that South Africans are on average likely to be exposed to violence at a significantly higher rate as evidenced by the crime statistics, it is posited that they are also more likely to be affected by multiple traumatic events particularly in the South African context.

Multiple trauma exposure in this study refers to the exposure to more than one traumatic event that has the potential to cause PTSD including interpersonal (crime-related attacks, physical and sexual assaults) and non-interpersonal trauma events (such as accidents and general disasters). Green at al (2009) reported that interpersonal trauma and multiple traumas leads to greater psychological distress than non-interpersonal trauma alone even going on to suggest that if PTSD symptoms are presenting in the latter then it would most likely be attributed to prior interpersonal trauma exposure. Additionally, the research indicates that subsequent traumas have a higher risk for repetitive traumatisation, especially in those where previous trauma was experienced in early childhood (Cloitre et al., 2009; Green et al., 2000).

Whilst previous literature has established that individuals have experienced multiple traumatic events, there has been limited research aimed at understanding the impact that the effects of MTE have on symptom severity. Trauma studies mostly concentrate on a targeted population after experiencing a discrete traumatic event (Vrana & Lauterbach, 1994). These studies therefore ignore the history of previous trauma experiences that may have cumulative and residual effects on clinical presentation. Previous studies comparing the effects of single trauma to multiple trauma exposure have found that experiencing multiple traumatic events are understandably associated with symptom complexity (Green,et al, 2000; Suliman, et al, 2009). Furthermore, it was noted that multiple trauma exposure tends to be associated with a presentation of more complex distress, and anger may well be a part of its expression. A South

African study on MTE in adolescents found an increase in traumas exposure corresponded to an increase in depression and PTSD symptoms (Suliman, Kaminer, Seedat & Stein, 2005). Generally, research suggests a linear relationship between trauma exposure and levels of post trauma distress. However, cumulative stress attributed to and from living within an environment with an increased trauma exposure risk has not been a widely researched area with regards to a non-clinical population within South Africa.

The South African Stress and Health (SASH) study looked at the lifetime prevalence of trauma in a non-clinical population to understand the impact of multiple traumatic events on mental health (Williams et al., 2007). A comprehensive sample size of 4351 people across various demographic variables (such as gender, age, race, education, marital status, employment status, and income) found that 75% had experienced at least one traumatic event and more than half had experienced multiple traumatic events. The SASH study reported that the trauma of a close other (this refers to the death, illness or trauma of a loved one) was the most traumatic event with 43% of the sample reporting it. Next was being a witness to a trauma (27.9%), being a victim of a crime (25.1%), partner violence or victimisation (24.3%) and life endangerment (24.9%). The study found that increased traumatic experiences lead to a cumulative effect on psychological distress and it emphasized the need to understand the experience of trauma in the "context of other traumas in South Africa" (Williams et al., 2007, p.1). Hence the SASH study not only created a baseline understanding of trauma exposure rates but also highlighted the need for further research into the effects of MTE.

Frans, Rimmo, Åberg and Fredrisckson (2005) found that in a study on the general population whilst most people had experienced a traumatic event, the risk of developing PTSD was higher for those exposed to physical or sexual assault as opposed to motor vehicle accidents. By contrast the SASH study found that the highest risk for developing PTSD was associated with witnessing a traumatic event (Atwoli et al., 2013; Williams et al., 2007). However it must be taken into account that Frans et al. (2005) conducted their study in Sweden where most of the trauma events reported related to motor vehicle accidents and where the exposure to crime has been trending downward (Thelocalse, 2017). Hence, it becomes important to

understand the impact of the environment on trauma exposure to ascertain which types of trauma each population would be at risk of exposure to and consequently the resultant effects of the exposure.

1.4 Post-traumatic Stress Symptoms (PTSS)

As extensive as PTSD research has been, the focus has primarily been on studies of war veterans and combat related PTSD in males, which have highlighted the link between PTSD, anger and aggression (Brewin, Andrews & Valentine, 2000; Taft, Creech & Murphy, 2017). The aforementioned research indicates that "anger may serve as a mechanism through which PTSD is associated with aggression" (Taft, Creech & Murphy, 2017, p.69).

A formal PTSD diagnosis as detailed by the DSM 5 is based on a number of different criteria. At the outset a traumatic event is one in which a person has been exposed to or involved in a death, injury or sexual harm to oneself or others or a threat thereof (American Psychiatric Association, 2013). This encompasses experiencing, witnessing, hearing about a loved one's encounters or repeated exposure to details of traumatic events. Along with the event, a feeling of helplessness and horror accompanied by symptoms ranging from four different criterion clusters need to present (American Psychiatric Association, 2013). Firstly, the intrusion cluster centers on the re-experiencing of the trauma by ruminating on the event, having distressing dreams about it, suffering flashbacks and experiencing distress at reminders of the event. The second cluster focuses on avoidance symptoms that relate to an active avoidance of people, places and activities that are related to the traumatic event. The third cluster of symptoms are related to negative thoughts and feelings such as an inability to feel positive emotions, blaming oneself and withdrawing from pleasurable activities. Finally, the fourth cluster of symptoms are related to hyperarousal, namely, sleep disturbances, irritability or anger outbursts, hypervigilance and concentration difficulties. Due to the extensive criteria that is required to meet a PTSD diagnosis, this study will report on posttraumatic stress symptoms (PTSS) as related to the clusters. In a meta analysis of risk factors for developing PTSD symptoms it was found that the effect sizes between a PTSD diagnosis and PTSD symptomatology to

be marginal creating the opportunity for further research in this field without being constrained by a clinical PTSD diagnosis (Brewin, Andrews & Valentine, 2000).

Recent research has suggested that by the time South Africans are 25 years old, the majority (up to 75%) have been exposed to at least one traumatic event and 56% to more than one (Atwoli et al., 2013). The witnessing of traumatic events was the most reported event and carried the highest association with a PTSD diagnosis and reported symptoms (Williams et al., 2007). Multiple trauma exposure appears to be the norm in this particular context. However, contrary to what would be expected only a small proportion of people actually develop classic PTSD as described in the DSM 5 (American Psychiatric Association, 2013) in spite of these high rates of trauma exposure. Atwoli et al. (2013), found that PTSD occurrence was as low as 2.3% in the South African population; that is considerably lower than the estimated 7.4% European and 6.8% North American rate. Correspondingly, Kuo, Reddy, Operario, Cluver and Stein (2013) report a 1% PTSD rate in the 1599 care-givers of AIDS orphaned children that were assessed. The comprehensive criteria that requires a PTSD diagnosis may be factor in the reported rates and this therefore calls into question the prevalence of post traumatic symptomatology.

PTSD rates based on self-report measures have been called into question, however, the reporting of increased symptomatology irrespective of a formal PTSD diagnosis in South Africa cannot be ignored (Edwards, 2005). Posttraumatic stress is a growing concern as pertains to the impact that it has on the public health sector and therefore a baseline understanding needs to be ascertained to measure this impact (Edwards, 2005; Kaminer & Eagle, 2010). Additionally, self-report measures do not include symptoms related to somatization (physical symptoms related to psychological distress), which is often reported by people exposed to traumatic events (Cloitre et al., 2009). Therefore, the PTSS rates in South Africa may be underestimated as the presentation symptoms are different to those encompassed by the PTSD diagnosis. Furthermore, anger whilst a symptom needs to be explored in more detail as an effect of multiple traumatic events.

1.5 Anger and Aggression

"Anger is an emotion characterized by antagonism toward someone or something you feel has deliberately done you wrong" (Apaorg, 2016). Literature in understanding the cause of anger discusses the various domains of the construct. Novaco (1976) categorizes anger in the domains of cognition, hyperarousal and behavior whilst Averill (1982) talks about the biological, psychological and sociocultural dimensions of anger. "Anger is viewed as a product of (1) the cognitive processing of environmental circumstances" (i.e. the assessment of a threat based on an individual's evaluation of the situation), "(2) conjoint physiological arousal and (3) behavioral reactions" (Chemtob, Novaco, Hamada, Gross & Smith 1997, p. 20). Similarly, Averill's (1982) social constructionist view sees anger as a conflictive emotion arising from a biological need to establish and follow rules and therefore when they are broken, exception is taken causing a psychological need to correct the discrepancy by getting angry and unknowingly maintaining the sociocultural expectation of what is acceptable behaviour.

Anger is not included in the DSM as a disorder, however it does form part of the diagnostic criteria for many disorders in the DSM 5 such as PTSD. The DSM-5 criteria for PTSD are focused around four clusters; intrusion (thoughts, dreams, flashbacks), avoidance (thoughts and external reminders of the trauma), negative mood state and hyperarousal (hypervigilance, anger without provocation) (Kaplan & Sadock, 2015). Anger is part of the hyperarousal cluster of PTSD symptoms yet research in this area is lacking, as trauma victims are portrayed as fearful and helpless not angry and aggressive (McHugh, Forbes, Bates, Hopwood & Creamer, 2012; Orth & Weiland, 2006). In a meta-analysis to understand the relationship between anger and PTSD, Orth and Weiland (2006), found that there is a high correlation between PTSD and anger specifically, 'anger-in', which is the holding on of angry feelings without expressing them verbally or acting on them as opposed to 'anger-out' that refers to expression of anger through aggressive acts on people or objects. Their meta-analysis proves a strong association between anger, hostility and PTSD and suggested that a future area of research determine the causality of the relationship thus investigating whether anger maintains PTSD or if it is an effect of PTSD. McHugh et al., (2012) submit that as PTSD is characterised by intrusive thoughts linked to the

visual imagery of the event, that anger and PTSD are similarly linked. The inability to control these intrusive thoughts leads to angry distress and therefore the development of anger in PTSD is linked to the visual image of the trauma. In addition, anger is related to the nature of the trauma where environmental traumatic events are associated with low anger whilst intentional interpersonal violence has a higher anger association (McHugh, et al., 2012).

Anger is seen as the intrinsic motivation of aggression, recognising that anger does not always cause an aggressive response (Averill, 1983; Chemtob et al., 1997). The role of anger in aggression is seen as twofold, as an inhibitor against aggression by rationalising the aggressive act and by restricting higher-order thinking that would mediate behaviour and secondly anger can sustain aggression by ruminating over events (Ramirez & Andreu, 2005)

The literature on aggression is consistent with there not being a universal definition of the construct (Berkowitz, 1993; Ramirez & Andreu, 2005). However, Anderson and Bushman (2002) give it a basic definition; "Human aggression is any behavior directed toward another individual that is carried out with the proximate (immediate) intent to cause harm" (p. 29). Aggression takes different forms and is context dependent, hence the concept encompasses a variety of behaviours (Caprara & Pastorelli, 1989). For the most part aggression is divided into two subtypes, hostile and instrumental aggression (Berkowitz, 1993). Hostile or emotional aggression refers to an aggressive response that is reactive, defensive and impulsive where the aim is to do harm but there is no premeditation (Ramirez & Andreu, 2005). Instrumental aggression on the other hand is proactive, planned and offensive where harming others is seen as a means to gain something from the encounter e.g. profit or power (Berkowitz, 1993)

Teten et al (2010) conducted a study on male war veterans aimed at better understanding aggression, anger and hostility in PTSD. They separated out the types of aggressive acts and found that impulsive aggression was a predictor of PTSD rather than premeditated aggression. In a nonclinical sample study Jakupcak and Tull (2005) found that men having experienced traumatic events and displaying PTSD symptomatology demonstrated higher levels of internal anger and consequent hostile

aggression. Averill (1983) states that "anger is the subjective experience that accompanies aggressive impulses" and relates anger to hostile aggression (p.1147). It is this form of impulsive or reactive aggression that is the focus of this study.

Buss and Shackleford, (1997) proposed that from the perspective of evolutionary psychology, aggression manifests under different contextual conditions to provide solutions however socially unacceptable it may seem. Thus, aggression is seen as an adaptive response to a set of circumstances that sees this response to be strategic. Trauma exposure in childhood has shown to contribute to callous-unemotional traits in youth that may lead to aggression to reduce tension or distress (Kerig, Bennett, Thompson & Becker, 2012). Weierstall et al (2013) conducted a study in a community in South Africa that experiences high crime and violence rates. They found that youth offenders from this community committed acts of violence and demonstrated aggression in response to living in a compromised community. Furthermore, they presented that aggression was an adaptive response that lowered the risk of developing PTSD. Teten et al. (2010) propose that in cases with continued exposure to trauma it is rather an increased ability to moderate arousal than reduced anger levels that decreased PTSD symptoms. Thus, in violence-exposed communities, arousal levels may be more modulated or flattened due to continuous exposure resulting in reduced PTSD rates. This supports the observation that South Africans may present with lower PTSD rates than expected (Atwoli et al, 2013; Crombach & Elbert, 2014) with a higher hypothesized incidence of anger and aggressive responding.

1.5.1 Theories on Anger and Aggression.

There have been theories proposed regarding anger and its role in PTSD. Foa, Riggs, Massie and Yarczower (1995) submitted the *fear avoidance theory* that anger can distract from the trauma and therefore impede treatment. Their research focused on the repetition of narrating the trauma and the gradual of reduction of the fear associated with it as treatment. However, individuals with a prior trauma history and higher anger levels demonstrated less fear, which the authors report as inhibiting treatment efficacy. Another theory put forth by Chemtob et al. (1997) was the *survival mode theory* to explain anger related to PTSD. It posits individuals with PTSD experience greater anger as they enter "survival mode" when confronted with

reminders of the trauma that may cause them to re-experience it making anger and aggression likely. The association between PTSD and anger and aggression has been established with the implication that anger could be the mediator between PTSD and aggression requiring further research (Taft, Creech & Murphy, 2017).

Early theories on aggression such as the *social learning theory* proposed by Bandura, Ross and Ross (1961) views aggression as a learned behaviour. It explains that aggressive responses are learned through observation or direct experience comparable to other social responses. This theory has been used as a basis of previous research particularly in studies regarding the effects of violence in the home on children and appears to be applicable to the understanding of instrumental aggression (Anderson & Bushman, 2002). According to the *cognitive neoassociation theory* negative affect is caused when unpleasant experiences are encountered (ranging from inclement weather to hostile situations) (Berkowitz, 1993). This negative affect then triggers other systems, including memory, facial and motor function and the 'fight or flight' response that prompts behaviour and is linked in memory for future reference. Hence, events later on that prompt the same negative affect will be evoke similar reactions. *Cognitive neoassociation theory* "is particularly suited to explain hostile aggression, but the same priming and spreading activation processes are also relevant to other types of aggression" (Anderson & Bush, 2002, p.31). Both theories are predicated on previous exposure to aggression creating a response that governs later behavior. Anderson and Bush (2002) conceptualized the *general aggression model* (GAM), which incorporates hostile and instrumental aggression. The GAM is a heuristic model that based on previous research integrates a number of factors to best explain aggressive behavior. GAM looks at inputs (person and situation), routes (affective, cognitive and physiological) and outcomes (decision-making process to act) (Anderson & Bush, 2002). The flexibility of this model allows for the understanding of aggression in different contexts such as in response to a provocation to appetitive aggression as well as the type of aggression exhibited e.g. physical and verbal.

More recent studies have identified the effect of emotional regulation on aggression (Cohn, Jakupcak, Seibert, Hildebrandt and Zeichner, 2010; Roberton, Daffern & Bucks, 2012; Tull, Barrett, McMillan and Roemer 2007). Tull et al. (2007) conducted a study on PTSS severity and emotional regulation adaptability. The results showed that " PTS symptom severity was significantly positively associated with reports of

lack of acceptance of emotional experiences, lack of clarity of emotional responses, limited access to emotion-regulation strategies, and difficulties engaging in goal-directed behavior and refraining from impulsive behavior while upset" (p.309). Hence, exposure to traumatic events that have the potential to cause PTSD may disturb emotional regulation capacity, which in turn results in dysfunctional coping mechanisms to manage the distress. Two such mechanisms were identified as being experiential avoidance and emotional inexpressivity (Tull, Jakucak, Paulson & Gratz, 2007). In a study of male college students exposed to interpersonal violence with PTSS they found that avoidance of their experience and the suppression of outward emotion regarding their trauma alleviated their distress in the short-term. However, their emotional dysregulation increased with physiological arousal escalating the likelihood of them engaging in aggressive behavior to assert their masculinity to decrease their vulnerability (Tull et al., 2007).

The *survival mode theory* and *fear avoidance theory* explain anger coping styles using cognitive processes. However, they are both related to suppression of affect in the case of *fear avoidance theory* and physiological arousal triggering a 'fight or flight' response in *survival mode theory*. Thus, emotional dysregulation appears to provide a link between the theories of anger and aggression with the *general aggression model* best suited to explain the development "over-regulation of uncomfortable emotion through the use of avoidance or suppression can lead to increased negative affect, reduced inhibitions towards aggression, compromised decision making processes, impoverished social networks and increased physical arousal. Each of these factors increases the likelihood that aggressive behavior will occur" (Roberton et al., 2012, p.78). In sum, the link between anger and traumatic experiences appears to be documented and several theories have attempted to explain this link. Researchers have further attempted to theoretically conceptualise the relations between aggressive behaviour and anger, with further theorising about these relations within the context of posttraumatic distress. The theories are very promising however, they are yet to be empirically tested in different contexts of varying degrees of trauma complexity. The role of gender differences has not particularly been explored.

1.6 Gender differences

Gender differences were noted in the literature in PTSD prevalence and in the anger and aggression reports. Studies have found that females have a higher reported PTSD rate than males (Breslau, 2009). In a study on a community in the Western Cape the trauma exposure rate of the women in the study in a year compared to a lifetime exposure to their American counterparts (Dinan, McCall & Gibson, 2004). Interestingly, even when sexual trauma incidences are controlled for, women still have a higher PTSD rate (Stein, Walker & Forde, 2000). Whilst research specifically to account for this difference has not been undertaken, Olff, Langeland, Draijer and Gersons, 2007, reviewed previous studies to understand the greater susceptibility that women have of developing PTSD. They propose a model theorizing that women are socialized at a young age to have more passive coping mechanisms than men. This coupled with a lack of social support, their role in society and culture and poor coping skills could explain their higher PTSD vulnerability rate.

Women are more twice more likely to develop PTSD than men, with women reporting anxiety as a result of the distress and men an increase in aggression (Frans et al, 2005; Ward, Lombard & Gwebushe, 2006). Archer (2004), in a meta-analytic review examining gender differences with regards to aggression, found that whilst there are no differences in experiencing anger, men are more likely to be physically aggressive than women as a result of this anger. In a study of male combat Vietnam veterans, it was found that those suffering from PTSD symptomatology showed "reported greater levels of physically violent behavior against their intimate female partners" (Byrne & Riggs, 1996). Likewise, Fessler, Pillsworth and Flamson (2004) report that anger is more likely to encourage risk-taking behaviour in men. The research is consistent that women experience the same anger intensity however are less likely to have aggressive responses to this anger than men (Archer, 2004; Fessler, 2010). Given these findings, research exploring post-trauma sequelae need to explore the role of gender to better understand how male versus female identified individuals express and experience post-trauma distress as there appears to be important differences.

1.7 Conclusion

South Africans are regarded as being an angry nation where incidents of aggression are on the rise in the general population as is evidenced by media reports (Sadagorg, 2016). Trauma research primarily focuses on targeted population groups that have experienced specific trauma types. Additionally, recent research has reported on emerging awareness of different post-trauma sequalae for people after single as opposed to multiple trauma exposures. South African research suggests that the average person will be exposed to multiple traumatic events by the time they reach the age of 25. Given some of the inferred links between anger, aggression and trauma exposure, the present study aimed to empirically explore some of these links in a South African sample. The main aim is to particularly explore relations between posttraumatic stress symptoms and each of anger and aggression, as well as exploring how anger and aggression manifest in multiple trauma exposures.

1.8 Aims

The present study aimed to investigate whether or not there is a relation between the number of traumas experienced and each of anger and aggression.. A secondary aim of the study is to explore PTSS experiences in a sample of diverse South African participants and to explore the role of gender in predicting anger and propensity for aggression. Whilst the primary aim of this study is to understand if multiple trauma exposure has an effect on anger and aggression, the gender variable will provide useful information in how male and females differ in their presentation of posttraumatic stress symptoms.

1.9 Research Questions

1. Does multiple trauma exposure have an effect on posttraumatic stress symptom complexity by gender?
2. Does multiple trauma exposure have an effect on anger by gender?
3. Does multiple trauma exposure have an effect on the propensity for aggressive responding by gender?

Chapter 2: Methods

2.1 Research Design

In order to achieve the study's aims, a quantitative approach was adopted to explore the specified relationships between the variables. The study posed exploratory research questions aimed at a target population without the use of control groups, manipulation of variables or random assignment. Hence, the description of the relationship between the variables makes this study a non-experimental research design correlating the relationship between the variables using cross-sectional data (Huck, 2009).

2.2 Sample and sampling procedures

According to previous research (Atwoli et al, 2013) by the age of 25, on average, most South Africans would have been witness to or a victim of more than one traumatic event. Therefore, the study targeted participants aged between 18 and 25 years. The student population of the University of the Witwatersrand provided both a convenient as well as an ideal target population for the study. The population is composed of students from varied socio-economic and multicultural backgrounds and typically begin university at 18 years of age. This sample is ideal as it is hoped that the sampled participants would consist of a reasonable mix of people who have been exposed to more than one traumatic event. In order to be able to perform the analyses for this study, it was critical to sample participants who were diverse in terms of gender as well as trauma experiences.

2.2.1 Sample Size.

A power analysis was conducted with G*Power 3 holding α at 0.05 and β at 0.80. The analysis suggested that sample of 85 would be sufficient (at a minimum) to detect moderate effect sizes in this study. The study initially aimed to ideally collect a sample of 200 participants in order to have a highly powered sample for the analyses that would answer the research questions as highlighted above, and possibly detect

even smaller effect sizes. A total of 499 responses were collected and after cleaning the data and deleting responses that were not completely filled in, the sample size was reduced to 388. A large sample size such as this is ideal as it would have more power to detect even modest effect sizes and would allow for generalizations to a similar demographic population (Gravetter & Forzano, 2009). The possibility of a normal distribution, or at least one that approximates the population, is also increased by a larger sample size and this has implications for the inference of the findings to the target population (Huck, 2009). Therefore, as indicated above (Gravetter & Forzano, 2009; Huck, 2009) the sample size increases the representativeness and possible generalisability of the findings to the target population.

2.2.2 Sampling Strategy.

The sample population was urban South African university students aged between 18 and 25. This is based on research stating that most South Africans by the age of 25 would have been exposed to multiple traumatic events (Atwoli et al., 2013). Based on the criteria, students at the University of the Witwatersrand provided an accessible demographically diverse target population. The survey was conducted electronically via a link sent out to psychology students from first year to postgraduate levels of study. Consequently, non-probability convenience sampling was the strategy that was employed. As the researchers and participants were located at the same university, acquiring the sample was convenient. The student body is demographically diverse and is somewhat representative of the South African population. Therefore, it was expected that the sample would be representative of a larger South African urban population and that the results would be generalisable to this population.

2.3 Measures

Students were required to complete a demographic questionnaire, the Trauma History Questionnaire (THQ), Impact of Event Scale-Revised (IES-R), Clinical Anger Scale (CAS) and the Aggressive-Provocation questionnaire (APQ). These measures were all present online using SurveyMonkey.

2.3.1 The demographic questionnaire

The demographic questionnaire (Appendix ?) contained basic information that participants needed to complete pertaining to their age, gender, race, home language, field of study and year of study. This information was necessary for sample description purposes.

2.3.2 The Trauma History Questionnaire (THQ)

The Trauma History Questionnaire (Appendix C) was developed by Green (1996) and contains 24 items. These items are grouped into three categories of crime related events, general disasters and physical and/or sexual experiences. The questionnaire covers criterion A1 events as specified in the DSM 5(American Psychiatric Assocaition, 2013). It was used as a self-report measure requiring the participant to respond 'yes' or 'no' to each item, the age at which they were when the event/s occurred and how many times they have experienced the same event. The scoring of the THQ was done by calculating the number of events in total or under each category to obtain a picture of the type and number of traumas experienced in the sample (Hooper, Stockton, Krupnick & Green, 2011). The test-retest reliability coefficient of this measure ranged from 0.51 – 0.92 depending on the item and 0.7 across administrations (Hooper et al., 2011).

2.3.2 The Impact of Event Scale- Revised (IES-R)

The Impact of Event Scale- Revised (IES-R) modified by Weiss and Marmar (1997) (Appendix D) was modified to include six hyperarousal items that the original IES did not have to accommodate the clusters (Intrusion, Avoidance, Hyperarousal) of PTSD symptomatology (Creamer, Bell & Failla, 2003). The IES-R is a self-report measure consisting of 22 items that address the distress caused by trauma on a Likert scale ranging from 0 (Not at all) to 4 (Extremely). For example, a participant would respond to the item, 'Any reminder brought back feelings' on the scale from 0 to 4. The addition of all the items gives a total score that assesses the likelihood of PTSD occurring. Internal consistency using Cronbach's Alpha co-efficient was reported at 0.96 (Creamer, Bell & Failla, 2003).

2.3.3 The Clinical Anger Scale (CAS)

The Clinical Anger Scale (Appendix E) designed by Snell, Gum, Shuck, Mosely and Hite (1995), is a 21 item self-report measure. Each item is comprised of a group of statements e.g., 2 (A) I am not particularly angry about my future, (B) When I think about my future, I feel angry, (C) I feel angry about what I have to look forward to, (D) I feel intensely angry about my future, since it cannot be improved. The participant is required to selected the item most applicable to them with A to D given a value of 0 to 3 respectively. The scores were added up with a higher score indicating greater clinical anger intensity. The reliability of this measure tested at 0.94 using Cronbach's alpha (Snell et al., 1995). This measure was use to measure anger in this sample of participants.

2.3.4 The Aggressive-Provocation Questionnaire (APQ)

The Aggressive-Provocation Questionnaire (APQ) (Appendix F) is a 12 item self-report measure designed by O' Connor, Archer and Wu (2001). The APQ lists 12 hypothetical scenarios. Table 2.1 shows an example of a scenario in which participants are asked two questions in relation to the scenario. Firstly, they need to respond to how they feel (angry, frustrated or irritated) on a 5-point Likert scale ranging from Not at all (0) to Extremely (4). Secondly, they are asked to select a response on how they would react in that situation. The responses are randomly ordered to reflect different behaviours (avoidance, denial, anger without action, assertiveness and aggression). The internal reliability using Cronbach's alpha of the 3 subscales was reported as 0.94 (anger), 0.93 (frustration) and 0.89 (irritation) (Pahlavan, Amirrezvani & O' Connor, 2012).

Table 2.1 ***Example item from the APQ (Scenario 3)***

3. Imagine yourself in the following situation:

You are in a great hurry and right in front of you a car stops. A man gets out but he carries on talking to the driver, blatantly ignoring your calls for him to move. You cannot get past the car.
How would you feel in this situation?

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

What do you think you would do in this situation?

- Get out of your car, walk over to the man and threaten him. [aggression]
- Reverse the car and take another route. [avoid]
- Sit in the car and fume with anger, but do nothing. [angry]
- Calmly wait until he moved. [no response]
- Go over to him, tell him that he is being unreasonable and ask him to move. [assertive]

2.4 Procedure

Data was collected online using SurveyMonkey. The survey was presented as a continuous document containing a demographic questionnaire, the Trauma History Questionnaire, and Impact of Event Scale-Revised, Clinical Anger Scale and the Aggresssive-Provocation questionnaire. The questionnaires were all prefaced by the Participant Information Sheet (Appendix A), which explained the research, its purpose and all other information required for participants to decide whether or not to participate in this research. Once ethical clearance was obtained, the survey was piloted to test the link ensuring the technological aspects were addressed and that the content was presented in a cohesive manner. Thereafter, permission was obtained from lecturers and course co-ordinators to send out an email to all Psychology students inviting them to participate in the study. The email contained thelink to the online survey.

The study was explained in the Participant Information Sheet (PIS) at the beginning of the questionnaire. Information pertaining to voluntary participation, confidentiality and the researcher's details were included in the PIS. It was also specifically explained that a course credit of 1% was offered to first year psychology student. This was one of several studies that students could participate in to gain the credit and as

such it was clarified that non-participation would not be penalised in any way. For the course credit to be obtained, qualifying students had to provide their student number on a separate screen on completion of the study. Once the relevant information was handed over to the psychology course coordinator, the identifying information was deleted from the data set. Thereafter, the data was coded, cleaned and analysed using SAS v9.4.

2.5 Data Analysis

Once the data had been collected, coded and entered into a spreadsheet, various statistical analyses were performed, the purpose of which was to concisely communicate the findings in a structured format that summarised the data and determined the applicability of the conclusions (Gravetter & Forzano, 2009). SAS v9.4 software was used to perform the relevant data analyses. Descriptive statistics, specifically frequencies and percentages were used to summarise the demographic questionnaire data and describe the sample. Cronbach's Alpha was run to measure the internal consistency of the measures. Before any analyses were conducted, parametric assumptions were tested and hence standard parametric statistics were used. The descriptive analyses will report on means, standard deviations and inter-correlations between variables. Finally, a series covariance analyses (ANCOVA's) were performed to explore whether or not the number of trauma exposures and gender were associated with each of PTSS, anger and propensity for aggressive responding.

2.6 Ethical Considerations

Students were invited to participate in the study by following an online link contained in an email. Hence, regarding the principle of autonomy, all participants could take part in the study at their own discretion. Furthermore, non-participation in the study had no punitive consequences and this was explained in the participant information sheet (PIS). A course credit of 1% was extended to first year psychology students as they are the only study level afforded this opportunity in the Psychology Department. As described in the PIS, this was one of several studies that offer this credit and they were under no obligation to participate in this study.

In order to maintain study anonymity, informed consent to participate in the research was inferred by completing and submitting the questionnaire. This was explained in the PIS. In order for first year psychology students to obtain course credit, their student numbers had to be entered on a separate screen after completing the survey. This information was kept confidential and separate from study participation. Additionally, it was deleted once given to the psychology course co-ordinator for capturing. All information was kept on a password-protected computer that only the researcher had access to, ensuring confidentiality of the information. The PIS formed the introduction to the survey providing information regarding the confidentiality of any details that were submitted. In addition, the contact information of the researchers was listed on the PIS for interested participants to contact the researchers with regards to receiving information to access the study once it was submitted. This provided a link if any participants required debriefing after the study. Furthermore, the participant information sheet contained the numbers of free counselling resources to be used in the event that participation caused distress for any of the participants.

Chapter Three: Results

The study aimed to explore the effect of multiple traumas on anger and aggression moderated by gender in a sample of South African youth aged 18 to 25. This section will report on the descriptive statistics as well as the findings of the main analyses within the hypothesis testing paradigm.

3.1 Descriptive Statistics

3.1.1 Demographic Information.

The demographic characteristics of the collated questionnaire used are listed in Table 3.1. Whilst 499 responses were received, the final sample size consisted of 388 participants after incomplete questionnaires and outliers were deleted. Of those 20.88% were males and 79.12% females. Whilst separately each group has a sample size greater than required by the central limit theorem to assume a normal distribution, the discrepancy is large. According to South Africa's 2011 Census data, 51.4% of South Africans are female (Statistics South Africa, 2011). The SASH study of 2004 explored the effect of multiple traumatic events on psychological distress in a nonclinical sample of 4351 South Africans (Williams et al, 2007). Their sample also had a majority of female representation at 58.6%. In a study of the effects on single versus multiple trauma exposure, Green et al (2000) found that 80 – 85% of 2507 female college students in the Washington, US area had experienced more than one trauma. Whilst the number of females in the sample group is disproportionately larger than the males, the overall trend seems to be that increasingly females are exposed to and experience a greater number of traumatic events than their male counterparts.

Table 3.1 ***Descriptive statistics for the Demographic questionnaire***

DEMOGRAPHIC DATA				
	Frequency *(f)*	Percentage *(%)*	Cum Frequency	Cum Percentage
GENDER				
Males	81	20.88	81	20.88
Females	307	79.12	388	100
Total	**388**	**100**		
AGE				
18-21	303	78,09	303	78,09
22-25	28	7.22	331	85,3
26-30	22	5,7	353	91,0
31-60	35	9,1	388	100,0
Total	**388**	**100,0**		
RACE				
Black	203	52.32	203	52.32
White	107	27.58	310	79.9
Coloured	48	12.37	358	92.27
Indian	26	6.7	384	98.97
Multiple	1	0.26	385	99.23
No Entry	3	0.77	388	100
Total	**388**	**100**		
HOME LANGUAGE				
English	197	50.77	197	50.77
Zulu	68	17.53	265	68.3
Tswana	26	6.7	291	75
Sotho	21	5.41	312	80.41
Sepedi	19	4.9	331	85.31
Xhosa	18	4.64	349	89.95
Afrikaans	10	2.58	359	92.53
Tsonga	7	1.8	366	94.33
Swati	6	1.55	372	95.88
Venda	5	1.29	377	97.17
Ndebele	2	0.52	379	97.69
Other	9	2.32	388	100.0
Total	**388**	**100**		
MULTIPLE TRAUMA				
No	13	3.35	13	3.35
Yes	375	96.65	388	100
Total	**388**	**100**		

The majority (85.3%) of the sample group were between the ages of 18 and 25. Hence, 331 of 388 of the respondents were from the targeted population group of between 18 and 25 years of age. Most participants (50.77%) listed English as their home language and similarly 52% identified themselves as Black. With regards to experiencing multiple traumatic events, 96.65% of the sample group reported experiencing multiple traumas. This is an extremely high rate of trauma exposure, especially given that the sample consists of young South Africans, majority of whom are younger than 25 years of age. This does corroborate recent South African research by Atwoli et al., (2013) that most South Africans would have experienced more than one trauma before the age of 25. Suliman et al. (2009) in a study of the effects of cumulative trauma in adolescents between the ages of 14 and 18 found that 75% of the 922 students had experienced more than one trauma. Therefore, multiple trauma event prevalence seems to be growing with females reporting more trauma exposure.

3.1.2 Trauma Type Exposure

Table 3.2 below details the breakdown of the trauma per type as reported by participants on the Trauma History Questionnaire. The THQ is broken down into three categories of trauma event type.

In the crime related events category, between 36,86% to 63,66% of the sample reported being exposed crimes of theft being perpetrated directly on them. Theft or attempted of personal belongings was experienced by 247 participants with 189 reported being a victim of mugging.

In the general disaster and trauma category, most participants reported on events related to the witnessing of a trauma. Of the 388 respondents, 287 (73,97%) of the sample reported hearing about the death or illness of a loved one whilst 50,26% witnessed the death or injury of someone.

Physical and sexual traumas were the lowest reported type with between 9,28% and 19,85% of the sample reporting events within this category.

In summary, the main types of trauma that the sample reported related to were crimes of theft and the witnessing or hearing of an injury or death of another person. These statistics therefore support the belief that South Africans are exposed to high rate of crime.

The SASH study results showed a similar pattern with 43% of the sample reporting the trauma to a significant other as the dominant event, with criminal victimisation and witnessing of trauma recording high percentages and the least reported trauma was sexual assault (Williams et al., 2007). A study in the Western Cape on females in a township community found that 51% of the 90 participants had witnessed a murder or serious injury and 31% had narrowly escaped danger in the preceding twelve months (Dinan, McCall & Gibson, 2004). Extrapolating from these figures, it appears that exposure to traumatic events has increased since the SASH study with university students reporting the same level of exposure to the same type of trauma as women living in a township known for gang violence in the Western Cape and therefore theoretically at more of a risk than the students. The SASH study also found that males with a low to average education were more likely to witness a traumatic event (Williams, et al, 2007; Atwoli et al, 2013). Whilst most of the respondents in this study were females, witnessing a traumatic event or hearing about the death or injury to a loved one was still the most reported events. Taking into account that the participants are all enrolled at the university, it seems that exposure to violence and crime is not relegated to a particular class or community and may be more widespread than estimated. In particular the multiple trauma event exposure that females in the study have reported, highlight their vulnerability to be targeted victims of crime

Table 3.2 ***Descriptive statistics for the THQ***

Trauma Type	N (No. of respondents)	% (to total sample size)
Crime Related Events		
Taken something from you by force (mugging)	189	48,71
Someone stole or attempted to steal from you	247	63,66
Break-in when not at home	188	48,45
Break-in when at home	143	36,86
General Disaster and Trauma		
Been in a serious accident	112	28,87
Natural disaster	40	10,31
Man-mad disaster	46	11,86
Exposure to dangerous chemicals	39	10,05
Any situation causing serious injury	90	23,20
Any situation fearing death/injury	157	40,46
Seen someone killed/ seriously injured	195	50,26
Seen dead bodies (excl. funeral)	148	38,14
Friend/family member killed by a drunk driver	63	16,24
Death of a spouse/partner/child	30	7,73
Had a serious life threatening illness	47	12,11
Heard that a loved one had an illness/died	287	73,97
Engage in combat in military service	0	
Physical and Sexual Experiences		
Forced sexual relationship	63	16,24
Forced sexual contact	76	19,59
Any other sexual unwanted advances	66	17,01
Attacked with a gun/knife by anyone (incl. family)	60	15,46
Attacked without a weapon by anyone (incl. family)	36	9,28
Beaten/injured by a family member	77	19,85
Any other stressful situation	47	12,11

3.1.3 Descriptive Statistics for the Instruments.

Table 3.3 shows the results of the applicable sample number, the relevant means, medians, standard deviations, skewness co-efficient and Cronbach's alpha of the four instruments (THQ, IES, CAS & APQ). As can be seen in Table 3.3 statistics were run for the subscales of the IES and APQ. This was necessary to better understand the

relationship between multiple trauma exposure and PTSS symptomatology in the case of the IES and to separate the Anger response from the APQ total as per the aim of the study.

The skewness co-efficient for the THQ is 1.183, for the IES ranging from 0.070 to 0.669, for the CAS 1.068 and for the APQ ranging from -0.540 to -0.925. As the skewness co-efficient for all the measures are between ± 1.96 indicating a normal distribution and therefore the use of parametric tests is appropriate (Gravetter & Wallnau, 2014). Similarly, the Cronbach Alpha scores are between 0.86 and 0.95, which places them in the good to excellent range for internal consistency reliability.

Table 3.3 ***Descriptive statistics for the instruments and corresponding subscales***

Measure	Mean	Std. Deviation	Median	Skewness Co-efficient	Cronbachs Alpha	No. of Items
THQ	10.99	7.75	9.00	1.18	N/A*	
IES - Total	31.57	20.51	29.50	.293	.95	22
IES-Intrusion	11.39	8.36	10.50	.486	.92	8
IES-Hyparousal	7.17	6.23	6.00	.669	.86	8
IES-Avoidance	13.01	8.10	13.00	.070	.86	6
CAS	10.35	8.30	8.00	1.07	.90	21
APQ Total	84.12	36.04	93.00	-.752	.95	36
APQ- Angry	28.72	10.36	31.00	-.540	.88	12
APQ-Frustrated	28.23	11.57	30.00	-.582	.88	12
APQ-Irritated	32.70	10.74	35.00	-.925	.88	12

*The THQ is a self-report measure of trauma type and frequency hence an internal consistency test would be irrelevant.

3.1.4 Review of the Measures.

The THQ developed by Green (1996) to assess Criterion A1 stressors for PTSD as defined by the DSM IV. The DSM 5 defines Criterion A stressors as "Exposure to actual or threatened death, serious injury, or sexual violence" either by direct experience, witnessing it, learning that it has occurred to a close family member or in the case of first responders for example, the repeated exposure to traumatic events or

details thereof (American Psychiatric Association, 2013, pg. 271). The THQ strives to encompass these criteria over three categories, namely, crime related events (e.g. mugging, burglary), general disaster and trauma (e.g. disasters both natural and man-made, serious accident or injury threat, witnessing death) and physical and sexual violence (e.g. rape, physical assault). Participants (n=388) reported a trauma total with M = 12.57 SD = 9.56. Therefore, on average participants reported that they were exposed to ±12 traumatic events. The aim of this study was to ascertain how increased trauma exposure as measured by the trauma total affected the variables of anger and aggression and therefore a breakdown of the type of trauma experienced was not included. However, as per the specifications of the DSM 5, the THQ covers events that have the potential to cause PTSD (Hooper, Stockton, Krupnick & Green, 2011).

The IES-R was used to measure posttraumatic stress symptoms in the sample. It consists of 22 items across three categories, namely, intrusion, avoidance and hyperarousal. The IES-R as a complete measure obtained a Cronbach α = 0.95. This is consistent with Creamer, Bell and Failla (2003) finding the revised measure to have a Cronbach α of 0.96 and with Beck et al (2008) reporting a Cronbach α = 0.95. Similarly the subscales in this study found high internal consistency with Cronbach α for Intrusion = 0.92, Hyperarousal = 0.86 and Avoidance = 0.86. Creamer, Bell and Failla (2003) found that the IES-R was closely related to the PTSD symptoms as listed in the DSM in terms of construct validity. Beck et al. (2008) in their study on the psychometric properties of the IES-R found that whilst it was not developed as a diagnostic measure of PTSD, it does distinguish those with PTSD and those without. In a study of substance dependent users with and without co-morbid PTSD diagnosis, the IES-R identified three quarters of the users with PTSD (Rash et al., 2008). Therefore, the IES-R questionnaire to measure PTSS in this study was found to be appropriate. The data regarding the reported symptomatology can be interpreted as a high prevalence rate of PTSS symptoms with a population at risk of developing PTSD.

The CAS consists of 21 items and designed by Snell et al. (1995) for use in clinical and nonclinical settings to identify anger intensity that could form part of the diagnostic criteria of psychiatric disorders. Anger forms part of the Hyperarousal cluster in a PTSD diagnosis and therefore the use of this scale was relevant to this

study. The internal consistency tested at Cronbach α = 0.90 for this study, which is slightly lower than Snell et al (2005) of Cronbach α = 0.94 but still within the excellent range.

O'Connor, Archer and Wu (2001) designed the APQ to assess aggressive responses when given a hypothetical situation that would provoke anger. They compared their scenario-based questionnaire to the widely used Aggression Questionnaire by Buss and Perry (1992) and established congruent validity between the two with high correlations between the subscales of each. The APQ was designed to measure aggression in men, however in a later study Pahlavan, Amirrezvani and O'Connor (2012) tested the APQ on females and found that it correlated with scores on Buss and Perry's (1992) Aggression Questionnaire deeming it a reliable measure across genders. The internal consistency for the APQ as a whole in this study was Cronbach α = 0.95 and each of the subscales measuring at Cronbach α = 0.88 (refer to Table 3.1). This is similar to the results of O'Connor, Archer and Wu (2001) and the Pahlavan, Amirrezvani and O'Connor (2012) findings of Anger = 0.94, Frustration = 0.93, Irritation = 0.89 and Anger = 0.79, Frustration = 0.89, Irritation = 0.88 respectively. Therefore, whilst the APQ is a scenario based measure, previous studies have found that it strongly correlates to self-report measures that focus on past acts of aggression. Hence, the APQ was found to be a reliable measure of likely behaviour based on past experiences.

The secondary aim of the paper is to ascertain if there are gender differences with regards to PTSS, anger and aggression when exposed to multiple traumatisations. Hence, table 3.3 below presents relevant data by gender for each instrument. It must be noted that the APQ response subscales (no response, avoid response, assertive response, angry response and aggressive response) were not included in the analyses (Table 3.3) as they are categorical variables.

3.1.5 Intercorrelation Matrix.

In order to test the hypotheses that the total number of trauma exposures would be associated with PTSS, anger and propensity of aggression, a Pearson's Product-Moment correlation analysis was conducted (Table 3.4)

Table 3.4 ***Intercorrelation Matrix for all variables (N=388)***

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. AGE	**1**													
2. TRAUMA TOTAL (THQ)	0,15*	1												
3. IES-R	-0,1	0,26**	1											
4. INTRUSION (IES-R)	-0,06	0,21**	0,93**	1										
5. HYPERAROUSAL (IES-R)	-0,02	0,25**	0,90**	0,86**	1									
6. AVOIDANCE (IES-R)	-0,16*	0,25**	0,86**	0,67**	0,63**	1								
7. ANGER (CAS)	-0,06	0,20*	0,53**	0,48**	0,56**	0,41**	1							
8. ANGRY (APQ)	-0,06	0,11*	0,28**	0,25**	0,28**	0,24**	0,28**	1						
9. FRUSTRATE (APQ)	-0,07	0,15*	0,21**	0,16*	0,20*	0,21**	0,22**	0,73**	1					
10. IRRITATED (APQ)	-0,09	0,11*	0,18*	0,12*	0,15*	0,21**	0,20*	0,63**	0,86**	1				
11. AVOID RESPONS (APQ)	0,03	-0,07	0	-0,02	-0,02	0,02	-0,03	-0,16*	-0,04	-0,01	1			
12. NO RESPONS (APQ)	-0,05	-0,06	-0,01	-0,03	-0,01	0,01	-0,07	-0,34**	-0,24**	-0,25**	0,1	1		
13. ANGER RESPONS (APQ)	0,02	0,04	0,10*	0,11*	0,11*	0,06	0,18*	0,15*	0,06	0,01	-0,06	0	1	
14. ASSERTIVE RESPONS APQ)	0,07	0,06	-0,14*	-0,16*	-0,13*	-0,1	-0,13*	0,07	0,06	0,11*	-0,21**	-0,26**	-0,30**	1
15. AGGRESS RESPONS (APQ)	-0,04	0,17*	0,19*	0,18*	0,17*	0,17*	0,24**	0,33**	0,17*	0,1	-0,13*	-0,19*	0,06	-0,1

* $p < .05$, ** $p < .001$

The Trauma Total indicates multiple trauma exposure and correlates it to the IES-R as a total and its subscales that is an indication of PTSS. It also correlates the Trauma Total to the CAS and APQ and its subscales to understand the relationship between multiple trauma exposure and anger and the propensity for aggressive responding. Hence, multiple trauma exposure is measured by the Trauma Total variable.
As can be seen in Table 3.4, it is evident that there is a positive linear relationship between the number of traumas experienced (Trauma Total) and PTSS (IES-R Total) and the subscales of the IES-R. Correspondingly, the subscales of the IES-R also show a positive linear relationship with multiple traumatisation. The correlation matrix also shows a positive relationship between Trauma Total and reported feelings of anger as measured by the CAS. Additionally, there was a significant positive correlation between Trauma Total and the Anger, Frustration, Irritation, and aggressive response style subscales of the APQ.

Once these relationships were identified, covariance analyses were performed on the variables to ascertain if there were gender differences with regards to MTE as measured by the Trauma Total on PTSS and anger and aggression.

3.2 Main Analyses

The main analyses used the Trauma Total as an independent variable to test its relationship against the dependent variables and their subscales of the IES-R, CAS and APQ scores respectively with Gender as a covariate. The dependent and independent variables were measured on a continuous scale while the covariate of Gender is a categorical variable. The sample of 388 respondents after removing outliers exceeded the power analysis and the central limit theorem. This together with the skewness co-efficient of between ± 1.96 as listed in Table 3.3 allowed the assumption of a normal distribution. Further assumptions of independence of observations, homogeneity of variance and the linear relationship between the covariate and the dependent variable were met. Therefore parametric tests were used to analyse the data and analyses of covariance (ANCOVA) was performed to test the research hypotheses after the requisite assumptions were met.

Table 3.5 ***ANCOVA results table***

				Mean Scores	
	Df	*F*	*p*	Male	Female
IES-R					
Overall	3,384	15.11	< 0.0001*		
Trauma Total*Gender		2.14	0.1415		
Gender		14.28	< 0.0002*	25.75	32.13
Trauma Total		28.88	< 0.0001*		
IES-R Avoidance					
Overall	3,384	12.56	< 0.0001*		
Trauma Total*Gender		0.08	0.7761		
Gender		11.98	0.0006*	10.98	13.31
Trauma Total		25.62	< 0.0001*		
IES-R Intrusion					
Overall	3,384	12.21	< 0.0001*		
Trauma Total*Gender		4.21	0.041*		
IES-R Hyperarousal					
Overall	3,384	12	< 0.0001*		
Trauma Total*Gender		2.8	0.0949		
Gender		7.73	0.0057*	5.89	7.17
Trauma Total		25.47	< 0.0001*		
CAS					
Overall	3,384	9.19	< 0.0001*		
Trauma Total*Gender		4.4	0.0365*		
APQ - Angry	3,384	2.47	0.0613		
APQ - Irritated	3,384	1.92	0.1258		
APQ-Frustrated					
Overall	3,384	3	0.0307*		
Trauma Total*Gender		0.24	0.6254		
Gender		0.6	0.4392		
Trauma Total		8.16	0.0045*		
APQ – Aggressive Response					
Overall	3,384	8.58	< 0.0001*		
Trauma Total*Gender		6.94	0.0088*		

A series of ANCOVA's were run to establish the relationship between the identified correlations in the matrix (Table 3.4). The analyses determined the effect multiple trauma exposure (measured by the Trauma Total) had on the dependent variables of PTSS (measured by IES-R and the corresponding subscales), Anger (measured by the CAS) and Aggression (measured by the APQ and corresponding subscales) with Gender as a covariate. The overall model results are listed in Table 3.5 with the relevant significant interactions and/or main effects that are discussed in more detail below.

3.2.1. Does multiple trauma exposure have an effect on posttraumatic stress symptom complexity by gender?

In order to test this hypothesis, an ANCOVA was run to test the main effects and interactions of Gender and Trauma Total in predicting overall PTSS symptoms in this sample. The overall model was significant, $F_{(3,387)} = 15.11$, $p < 0.0001$. Further analysis shows a non-significant interaction effect, $F_{(1,387)} = 2.17$, $p = 0.14$, suggesting that the relation between Trauma Total and PTSS is not moderated by Gender. Examination of the main effect suggested that Gender was significantly associated with PTSS, $F_{(1,387)} = 14{,}28$, $p = 0{,}0002$ with females (n=307, $M = 32.13$) demonstrating significantly higher levels of PTSS than their male counterparts (n=81, $M = 25.75$). Additionally, a significant main effect for Trauma Total ($F_{(1,387)} = 28{,}88$, $p = <0{,}0001$) suggested that the number of traumatic events reported was significantly associated with PTSS symptoms as predicted.

3.2.1.1. Trauma Total and the PTSS symptoms as measured by the subscales of the IES-R.

Additional analyses were conducted to test the main effects and interactions of Trauma Total and Gender on the three components of PTSS, namely, Avoidance, Intrusion and Hyperarousal. For Avoidance, the overall model was significant ($F_{3,387}$) = 12.56, $p <.0001$). The interaction between Trauma Total and Gender in predicting avoidance symptoms was not significant $F_{(1,387)} = 0.08$, $p = 0.78$. In examining the main effects, Gender was significant ($F_{(1,387)} = 11.98$, $p = 0{,}0006$) suggesting that female participants (n=307, $M = 13.31$) evidenced higher avoidance symptoms than their male counterparts (n=81, $M = 10.98$). The main effects of Trauma Total were also significant, ($F_{(1,387)} = 25.62$, $p = < 0{,}0001$) suggesting that higher levels of trauma exposure are related to higher levels of avoidance symptoms.

The next ANCOVA was conducted to test whether the main effects and interactions of Gender and Trauma Total were associated with Intrusion symptoms of PTSS. The overall model was significant $F_{(3,387)} = 12.21$, $p < 0.0001$. Furthermore, the interaction effect between these variables was also significant, $F_{(1,387)} = 4.21$, $p = 0{,}041$, suggesting that the impact that experiencing multiple traumas has on Intrusion

symptoms is dependent on whether the individual is male or female. This interaction is depicted in Figure 3.1 below and suggests that gender differences may be amplified when there is repeated exposure to traumatic events with females evidencing much higher levels of intrusion symptoms.

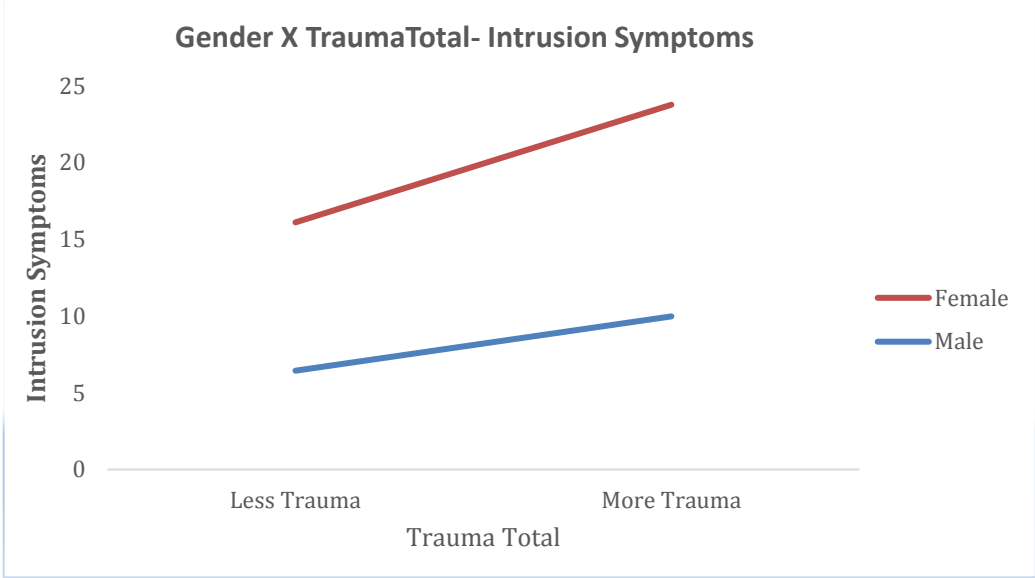


Figure 3.1 ***Graph illustrating increase of Intrusion symptoms by Gender as Trauma exposure increases***

An ANCOVA was conducted to test the main effects and interactions of Gender and Trauma Total in predicting Hyperarousal in this sample. The overall model was significant, $F_{(3,387)} = 12.00$, $p < 0.0001$, as shown above in Table 3.5. However, the interaction between Trauma Total and Gender on Hyperarousal was not significant $F_{(1,387)} = 2.80$, $p = 0.0949$. The main effects of the model show that whilst Trauma Total was significantly associated with Hyperarousal $F_{(1,387)} = 25.47$, $p < 0{,}0001$. It shows that the mean of 5.89 in males and 7.17 in females were significant with females reporting more hyperarousal symptoms too.

3.2.2 Does multiple trauma exposure have an effect on anger by gender?

An ANCOVA was conducted to test whether the main effects and interactions of Gender and Trauma Total were associated with Anger. The overall model was significant $F_{(3,387)} = 9.19$, $p < 0.0001$. In addition, the interaction effect between these variables was also significant with $F_{(1,387)} = 4.40$, $p = 0{,}0365$, indicating that the impact that experiencing multiple traumas has on anger is dependent on whether the

individual is male or female. This interaction is depicted in Figure 3.2 below and suggests that gender differences may be amplified when there is repeated exposure to traumatic events with females evidencing much higher levels of anger.

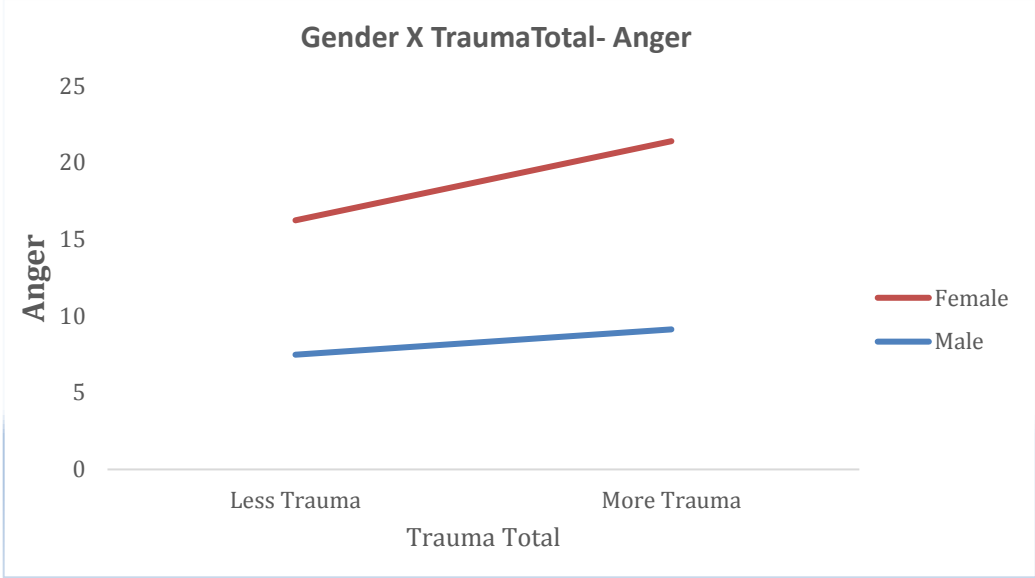


Figure 3.2 ***Graph illustrating increase of reported Anger by Gender as Trauma exposure increases***

3.2.3 Does multiple trauma exposure have an effect on the propensity for aggressive responding by gender?

Analyses on the anger and irritation subscales of the APQ showed a significant relationship in the correlation matrix (Table3.4). However, further investigations using a covariance analysis between Trauma Total and gender on these subscales proved them to be non-significant (Table 3.5)

An ANCOVA was conducted to test whether the main effects and interactions of Gender and Trauma Total were associated with Frustration, The overall model was significant $F_{(3,387)} = 3$, $p = 0.0307$. However, the interaction between Trauma Total and Gender on Frustration was not significant $F_{(1,387)} = 0.24$, $p = 0.6254$. The main effects of the model show that whilst Trauma Total was significantly associated with Frustration $F_{(1,387)} = 8.16$, $p = 0045$, Gender was not $F_{(1,387)} = 0.6$ $p = 0.4392$.

Accordingly, both males and females reported increasing frustration as trauma incidences increased.

An ANCOVA was conducted to test whether the main effects and interactions of Gender and Trauma Total were associated with propensity for Aggressive responding. The overall model was significant $F_{(3,387)} = 8.58$, $p < 0.0001$. In addition, the interaction was noted as being significant $F_{(3,387)} = 6.94$, $p = 0.009$ indicating that the impact of experiencing multiple traumas has on an aggressive response is dependent of whether the individual is male or female. The interaction is shown below in Figure 3.3 that shows males are more likely to have an aggressive response as their exposure to trauma increases than females.

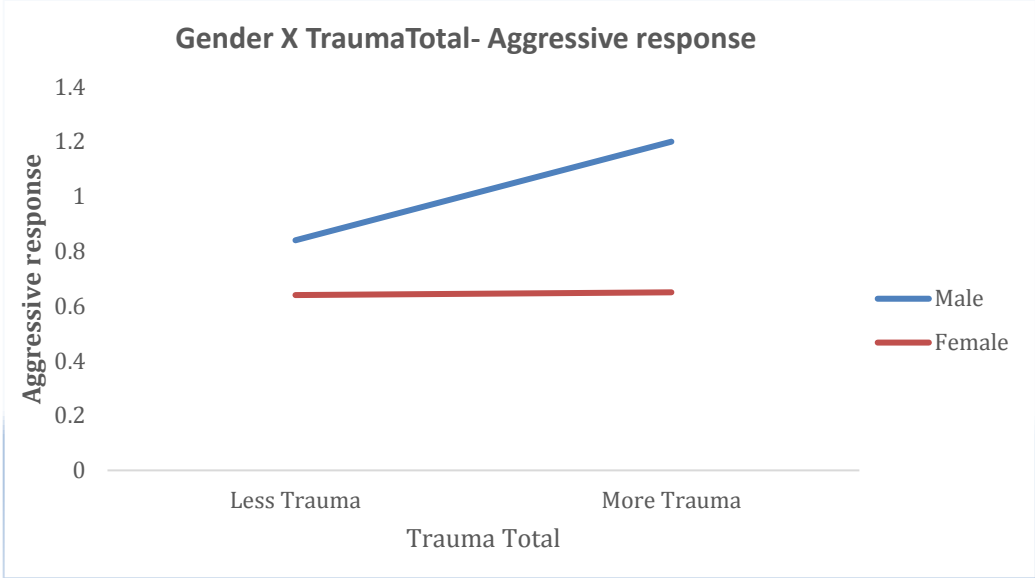


Figure 3.3 ***Graph illustrating increase of reported Aggressive response by Gender as Trauma exposure increases***

3.3 Summary of Results

Demographic data showed that most of the participants fell into the targeted 18 to 25 age range and having experienced more than one trauma. The most reported trauma types reported were hearing about the death or illness of a loved one (74%), being a

victim of theft or attempted theft (64%) and witnessing the death or injury of another person (50%). The correlation matrix showed a linear positive relationship between multiple traumatisations as measured by Trauma Total and PTSS measured by the IES-R and its subscales. Similarly, the matrix showed a relationship between Trauma Total and the CAS and subscales of the APQ. Further analyses to understand these correlations were performed using a series of ANCOVA's. The results showed that multiple trauma events affects PTSS as measured by the Intrusion, Avoidance and Hyperarousal subscales of the IES-R. However, gender was only significant for the Intrusion subscale indicating that females report higher intrusion symptomatology as trauma events increase than males. Likewise, Anger (CAS) and Aggressive responses also increase with a rise in traumatic exposure. Similarly, females report greater anger than their male counterparts as traumatic experiences increase. However, males report a greater propensity to respond aggressively as trauma increases than females. The results will be further discussed in chapter four.

Chapter Four: Discussion

4.1 Introduction

This aim of this study was to explore whether or not exposure to multiple traumatic events is associated with anger and the propensity for aggressive responding and whether of not these relations were moderated by gender. The proposed rationale was that, given the extraordinarily high levels of crime and trauma South Africans have been reported to experience and reports of South Africans being "an angry relation", it is important to explore whether or not these two constructs are related. A quantitative study explored the relations between number of trauma exposures, and a series of constructs including gender, anger and aggressive responding propensity in a sample of South African youth. The results are discussed below.

4.2 Does multiple trauma exposure have an effect on posttraumatic stress symptom complexity by gender?

The present study found a significant linear relation between number of traumatic events reported and levels of PTSS in this sample suggesting that post-trauma distress increase as a person is exposed to more traumatic events. This finding was found to be true for all three symptom clusters for PTSD, namely for hyperarousal, avoidance and intrusions symptoms. This is consistent with Williams et al.'s (2007) findings that cumulative traumas increases psychological distress in the South African population which in turn places individuals at risk of developing a clinical disorder. A study conducted in the United States on multiple trauma exposure and symptom complexity found that whilst there was a relationship between the two, this relationship increased significantly with childhood trauma being the precursor (Breslau, Chilcoat, Kessler & Davis, 1999; Cloitre et al., 2009). This is supported by a study on adolescents in the Western Cape that found that increased multiple trauma exposure led to greater PTSD symptoms and depression (Suliman et al., 2009). Looking at gender, the present study found that, overall, women reported higher PTSS than men across the three symptom clusters of PTSS, indicating than women may be at greater risk of experiencing post-traumatic stress reactions than their male counterparts. This is consistent with previous studies that found a higher PTSD rate in women (American Psychiatric

Association, 2013; Breslau, et al., 1999; Breslau, 2009). Correspondingly, Dinan, McCall and Gibson (2004) study on community violence and PTSD rates on women in a Western Cape township, which found that 96% experienced intrusion symptoms, 75% hyperarousal symptoms and 55% avoidance symptoms with more than half of the women meeting the criteria for PTSD. Further analyses found that, in the present study, gender moderated the relationship between intrusion symptoms and higher levels of trauma exposure; specifically, women had significantly amplified symptoms of intrusion when levels of trauma exposure were higher. Olff et al. (2007) propose that women use more avoidance coping strategies that has been linked to PTSD symptom severity. Consequently, as trauma exposure increases, symptom severity will increase as women are not effectively coping with previous traumatic experiences.

4.3 Does multiple trauma exposure have an effect on anger by gender?

An important finding yielded from this research was the finding that not only was anger associated with trauma exposure, it was linearly associated with the number of trauma exposures in this sample. However, even more interesting was the finding that gender moderated the relation between number of traumas reported and anger in this sample suggesting that females reported more anger with increased trauma exposure than males. Studies into the relationship of anger and PTSD have been gaining traction in recent years. Orth and Weiland (2006) looked at the relationship between anger, hostility and PTSD. Their findings showed a strong correlation between PTSD and 'anger-in' referring to the tendency to withdraw and suppress outward expression of anger. Olatunji, Ciesielski and Tolin (2010) conducted a meta- analysis on anger and PTSD. They found across 28 studies that whilst anger is a common factor in anxiety disorders with the exclusion of social and specific phobia, patients with a PTSD diagnosis had a much greater effect size than all other anxiety disorders. In a study looking at posttraumatic psychopathology, it was found that women exhibit internalizing behaviour patterns (characterised by negative affect and comorbid depressive symptoms) whilst men have externalizing behaviour patterns (with profiles of impulsivity and aggression) (Miller & Resick, 2007). Based on Orth and Weiland's (2006) findings that 'anger-in' is strongly correlated with PTSD and taking into account that this encompasses anger rumination, the significant relationship between

intrusion symptomatology, internalising behaviours and anger in females with PTSD is consistent with this study. However, this contrasts with Archer's (2004) findings that there are no gender differences with regards to anger. It must be noted that his review was based on articles of sex differences and aggression without trauma exposure as a variable and he went on to suggest that "there may be sex differences in reactions to provocation" (p.312).

4.4 Does multiple trauma exposure have an effect on the propensity for aggressive responding by gender?

The present study found a significant relationship between increased trauma exposure and likelihood for aggressive response. Additionally, this relation was found to be moderated by gender. Specifically, for females, levels of propensity for aggressive responding remained the same, even in the face of higher levels of trauma exposure. For males, they evidenced a significant increase in propensity of aggression as trauma exposure increased. Propensity for aggressive responding was measured using the APQ, which is a scenario-based measure yet has showed strong congruent validity with measures of aggression that reported on past aggressive behaviours (O'Connor, Archer & Wu, 2001). Previous studies on aggression and PTSD have focused on military samples and established a strong link between the two variables (Byrne & Riggs, 1996; Chemtob et al., 1997; Teten et al., 2010; Weierstall et al., 2011). In comparing the association between PTSD and intimate partner violence in military versus civilian groups, Taft, Watkins, Stafford, Street and Monson (2011) found that whilst physical aggression in the military group was high, the association between the civilian group was significant too and warranted further investigation. Interestingly, this study also compared clinical and nonclinical PTSD samples and found a higher association for physical aggression in the nonclinical sample. Hecker, Fetz, Ainamani and Elbert (2015) studied community violence in civilian Congolese refugees. The results from this study showed that exposure to war -related trauma was related to their current aggression presentation; PTSD symptom severity was strongly correlated to reactive aggression. This is consistent with previous research linking PTSD to reactive aggression (Jakupcak & Tull, 2005; Teten et al., 2010). Therefore the research suggests that previous exposure to aggression both in combat (Byrnes & Riggs, 1996; Hecker et al., 2015) and in nonclinical samples (Jakupcak & Tull, 2005)

has fostered an aggressive culture. Jakupcak and Tull (2005) carried out a study regarding trauma exposure on aggression, anger and violent behaviour in a nonclinical sample of male college students. Their results showed that trauma exposed men with PTSD symptoms reported higher levels of anger and acts of aggression than men without PTSD symptoms. Furthermore, the college students reported twice as many aggressive acts of violence in their intimate partner relationships than their comparison group of war veterans diagnosed with PTSD. This has implications for investigating the causes of intimate partner violence rates in university students. A review of PTSD and intimate partner relationships showed that males exhibiting severe PTSD symptomatology showed a high association with physical aggression (Taft et al., 2011). In this study males did not report significantly higher anger levels but rather increased aggressive responses. This could be attributed to deficits in emotional regulation with males suppressing their emotions and rather acting aggressively in what they deem to be a more acceptable expression (Cohn et al. 2010).

Taken together, the present study found support for the hypothesis that anger and aggression may be associated with the high levels of trauma exposure seen in the South African population. Anger may be defined more as an "emotional state elicited by provocation, perceived injustice, or frustration and rages in intensity from annoyance to rage" (Teten et al, p.405, 2010). Aggression tends to be more overt and a physical expression of anger. From an evolutionary perspective, women may be more at risk if they externalize their anger whilst men have used aggression as a response to social change (Buss & Shackleford, 1997). Hence, women are more likely to get angry as an instrumental coping mechanism. It is clear that in this sample, the multiple trauma exposure landscape likely accounts for why women seem angrier and men more aggressive.

4.5 Implications

This study like Williams et al (2007) shows that multiple trauma exposure and increasing psychological distress is prevalent in the South African population. Hearing about the death or illness of a loved one and witnessing a death or injury to another person accounted for almost a third of the traumatic events reported with more than half of the respondents reporting these events. Atwoli et al. (2013)

similarly reported that the witnessing a traumatic event was the most common reported trauma and it was highly associated with PTSD. In a follow-up study focussed on the witnessing of trauma using the SASH study results, Atwoli et al (2015) found that half of the respondents that witnessed a trauma were more likely to develop a mood or anxiety disorder.

Taft, Creech and Murphy (2017) recognise the link between PTSD, anger and aggression but notes a gap in the research in identifying the risk factors that can increase the probability of violence amongst those with PTSD. In their meta-analysis of risk factors that affect PTSD, Brewin, Andrews and Valentine (2000) looked at fourteen risk factors including gender, childhood trauma, psychiatric family history etc., and concluded that identifying no set of common factors could affect various groups equally. Therefore, it must be taken into account that the risk of multiple trauma exposure in South Africa is more likely due to a high crime rate that may not be applicable to other contexts. As such this study highlights the effect that multiple trauma exposure has a cumulative effect on post-traumatic stress symptoms that increase anger and aggression.

In addition, cumulative trauma from childhood needs to be differentiated from cumulative trauma in adulthood as this could have implications on the mental health of individuals that would require more extensive treatment. Cloitre et al (2009), stated that trauma in childhood paired with multiple traumatisations later on may influence self-regulatory mechanisms that a PTSD diagnosis or investigation would not account for. The study showed that females tend to get have higher levels of anger whilst males have a greater propensity for aggressive behaviour after multiple trauma exposure and exhibiting PTSS. Based on Jakupcak and Tull (2005), there is an opportunity in the research to explore intimate partner violence on university campuses taking into account that traumatised men may be more prone to violence than non-traumatised male students. Therefore, the victims of the trauma become the perpetrators that leads to an ever-increasing level of aggression with South Africans exhibiting the abuse cycle and being labelled as a an ‘angry nation’. Thus, it appears that as South Africans are exposed to more traumatic events in the form of violence and crime that increasingly it is becoming an angry nation that may react aggressively as a defense mechanism. The study highlights the need for awareness and intervention as this could be a growing mental health problem. Adding to this it must be taken into account that PTSD therapy needs to include previous trauma experiences as they have

cumulative effects. Especially in light of the recent studies highlighting the cycle of aggression that is perpetuated by an inability to regulate emotions (Tull et al., 2007; Cohn et al., 2010, Roberton, et al., 2012)

4.6 Limitations

Most of the respondents in this study were female and previous studies (Williams et al, 2007) found a gender difference in the reporting of different types of trauma that was not seen in this study. For instance, the SASH study found that males were more likely to report witnessing traumatic events than females. Whilst third-party traumas were the most reported event type in this study, due to the large female representation gender difference for event type was not significant. The over-representation of females in the sample may be related to the survey being sent out to the Psychology students only within the Humanities faculty. There is a larger enrolment of female students within this subject at the University of the Witwatersrand that have affected the representativity of the sample. Furthermore, the survey was administered via an online link sent to student email addresses. Not all students have continuous access to a computer and this may have influenced the response rate. Whilst the Clinical Anger Scale was found to be a valid instrument and applicable to this study, it was found to be limited as it does not lend itself to the different domains of anger. For instance, the literature around anger speaks to ‘anger-in’ versus ‘anger-out’, which the CAS does not accommodate.

4.7 Recommendations

This study collected data on the number of traumas participants were exposed by category. The THQ allowed participants to respond to traumas of crime, general disaster, physical and sexual assault. Further analysis could be explored to determine the relationship if any between type of trauma on PTSS, anger and aggression. Whilst it was not in the scope of this study, the collected data does provide for a more in-depth analysis regarding a breakdown the category of trauma to see if there are gender differences between them. Similarly, as some studies (Cloitre et al., 2009) established a link between childhood trauma leading to more severe posttraumatic stress

symptoms when exposed to trauma in adulthood, research in this area would be valuable. Emotional regulation and coping strategies was highlighted as a recurrent theme and area of future study to ascertain if it is a precursor to PTSS or if it maintains it. Trauma studies that have been conducted on the South African population including this one have used different measures to ascertain PTSD prevalence and severity. In addition, South Africans may report different symptoms exclusive of the PTSD DSM 5 criteria. To fully understand the magnitude of the problem perhaps one standard measure could be used to have comparable data. Follow up qualitative interviews are also recommended to ascertain contributing factors by gender of PTSD.

4.8 Conclusion

The aim of this study was to investigate multiple trauma exposure and its effects on PTSS, anger and propensity of aggressive responding in a nonclinical South African sample. Building on from the SASH study, it appears that South Africans are being exposed to and experiencing increasing levels of traumatic events with multiple traumatisations a norm. The trauma exposure rate is not isolated to a particular community, class, race or gender. However, the findings have highlighted the vulnerability of females in South African society being witness to and victims of crimes. Consequently, females in the study reported more posttraumatic stress symptomatology as their exposure to trauma increased. In particular they reported more intrusive symptoms such as flashbacks and nightmares and therefore an increased risk for developing PTSD. Similarly, the study found a significant relationship between multiple trauma exposure and anger in females. Conversely, findings show that males have a greater propensity for aggressive responding as multiple trauma exposure increases. This supports the theory that females will internalise their angry feelings and males externalise them by acting out aggressively. The repercussions for the public health sector needs to be investigated with an overburdening of individuals seeking treatment for trauma symptoms that could be a result of emotional regulating difficulties. As such, it appears that PTSD treatment focusing on a discrete event may be limited in its efficacy. If emotional dysregulation is linked to anger and aggression in multiple trauma exposure then perhaps PTSD counselling needs to identify it as a contributing factor and treat for it. The over-

representation of females in this study was a limitation and whilst it revealed the vulnerability of women in South Africa future research would benefit from having a more representative sample. Moreover, whilst females were identified in this study and previous literature as being more at risk for developing PTSD, the cause for this can only be hypothesized in the absence of any targeted study.

Reference List

Africacheckorg. (2018). *Africa Check*. Retrieved 10 February, 2018, from https://africacheck.org/factsheets/south-africas-crime-statistics-201617/

Aislinn laing. (2016). Telegraphcouk. Retrieved 4 April, 2016, from http://www.telegraph.co.uk/news/worldnews/africaandindianocean/southafrica/9916310/South-Africa-is-an-angry-nation-on-the-brink-warns-Nelson-Mandelas-wife.html

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual review of psychology*, *53*.

Apaorg. (2016). Apaorg. Retrieved 4 April, 2016, from http://www.apa.org/topics/anger/

Archer, J. (2004). Sex differences in aggression in real-world settings: a meta-analytic review. *Review of general Psychology*, *8*(4), 291.

Atkinson, D. (2007). Taking to the streets: Has developmental local government failed in South Africa. *State of the nation: South Africa, 2007*, 53-77.

Atwoli, L., Stein, D. J., Williams, D. R., Mclaughlin, K. A., Petukhova, M., Kessler, R. C., & Koenen, K. C. (2013). Trauma and posttraumatic stress disorder in South Africa: analysis from the South African Stress and Health Study. *BMC psychiatry*, *13*(1), 1.

Averill, J. R. (1983). Studies on anger and aggression: Implications for theories of emotion. *American psychologist*, *38*(11), 1145.

Beck, J. G., Grant, D. M., Read, J. P., Clapp, J. D., Coffey, S. F., Miller, L. M., & Palyo, S. A. (2008). The Impact of Event Scale-Revised: Psychometric properties in a sample of motor vehicle accident survivors. *Journal of anxiety disorders*, *22*(2), 187-198.

Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control*. Mcgraw-Hill Book Company.

Breslau, N., Chilcoat, H. D., Kessler, R. C., & Davis, G. C. (1999). Previous exposure to trauma and PTSD effects of subsequent trauma: results from the Detroit Area Survey of Trauma. *American journal of Psychiatry*, *156*(6), 902-907.

Breslau, N. (2009). The epidemiology of trauma, PTSD, and other posttrauma disorders. *Trauma, Violence, & Abuse*, *10*(3), 198-210.

Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of consulting and clinical psychology*, *68*(5), 748.

Buss, D. M., & Shackelford, T. K. (1997). Human aggression in evolutionary psychological perspective. *Clinical psychology review*, *17*(6), 605-619.

Byrne, C. A., & Riggs, D. S. (1996). The cycle of trauma: Relationship aggression in male Vietnam veterans with symptoms of posttraumatic stress disorder. *Violence and victims*, *11*(3), 213-225.

Chemtob, C. M., Novaco, R. W., Hamada, R. S., Gross, D. M., & Smith, G. (1997). Anger regulation deficits in combat- related posttraumatic stress disorder. *Journal of traumatic stress*, *10*(1), 17-36.

Choi, K. W., Sikkema, K. J., Velloza, J., Marais, A., Jose, C., Stein, D. J., ... & Joska, J. A. (2015). Maladaptive coping mediates the influence of childhood trauma on depression and PTSD among pregnant women in South Africa. *Archives of women's mental health*, *18*(5), 731-738.

Cloitre, M., Stolbach, B. C., Herman, J. L., Kolk, B. V. D., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of traumatic stress*, *22*(5), 399-408.

Cohn, A. M., Jakupcak, M., Seibert, L. A., Hildebrandt, T. B., & Zeichner, A. (2010). The role of emotion dysregulation in the association between men's restrictive emotionality and use of physical aggression. *Psychology of Men & Masculinity*, *11*(1), 53.

Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the impact of event scale—revised. *Behaviour research and therapy*, *41*(12), 1489-1496.

Crombach, A., & Elbert, T. (2014). The benefits of aggressive traits: A study with current and former street children in Burundi. *Child abuse & neglect*, *38*(6), 1041-1050.

Dinan, B. A., McCall, G. J., & Gibson, D. (2004). Community violence and PTSD in selected South African townships. *Journal of interpersonal violence*, *19*(6), 727-742.

Economicsandpeaceorg. (2017). *Economicsandpeaceorg*. Retrieved 31 March, 2018, from http://visionofhumanity.org/app/uploads/2017/06/GPI17-Report.pdf

Fbigov. (2018). *FBI*. Retrieved 10 March, 2018, from https://ucr.fbi.gov/crime-in-the-u.s/2016/crime-in-the-u.s.-2016/tables/table-1

Frans, Ö., Rimmö, P. A., Åberg, L., & Fredrikson, M. (2005). Trauma exposure and post- traumatic stress disorder in the general population. *Acta Psychiatrica Scandinavica*, *111*(4), 291-290.

Fessler, D. M. (2010). Madmen: An evolutionary perspective on anger and men's violent responses to transgression. In *International handbook of anger* (pp. 361-381). Springer New York.

Fessler, D. M., Pillsworth, E. G., & Flamson, T. J. (2004). Angry men and disgusted women: An evolutionary approach to the influence of emotions on risk taking. *Organizational Behavior and Human Decision Processes*, *95*(1), 107-123.

Gravetter, F., & Forzano, L.-A. (2008). *Research Methods for the Behavioral Sciences*. Cengage Learning.

Green, B. L. (1996). Trauma history questionnaire. *Measurement of stress, trauma, and adaptation*, *1*, 366-369.

Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton, P., & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of traumatic stress*, *13*(2), 271-286.

Hecker, T., Fetz, S., Ainamani, H., & Elbert, T. (2015). The cycle of violence: Associations between exposure to violence, trauma- related symptoms and aggression—Findings from Congolese refugees in Uganda. *Journal of traumatic stress*, *28*(5), 448-455.

Hooper, L. M., Stockton, P., Krupnick, J. L., & Green, B. L. (2011). Development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma*, *16*(3), 258-283.

Huck, S.W. (2009). *Reading statistics and research* (5th Ed.). Boston: Pearson

Jakupcak, M., & Tull, M. T. (2005). Effects of trauma exposure on anger, aggression, and violence in a nonclinical sample of men. *Violence and victims*, *20*(5), 589.

Kaminer, D., & Eagle, G. (2010). *Traumatic stress in South Africa*. Wits University Press.

Kerig, P. K., Bennett, D. C., Thompson, M., & Becker, S. P. (2012). "Nothing really matters": Emotional numbing as a link between trauma exposure and callousness in delinquent youth. *Journal of traumatic stress*, *25*(3), 272-279.

Kuo, C., Reddy, M. K., Operario, D., Cluver, L., & Stein, D. J. (2013). Posttraumatic stress symptoms among adults caring for orphaned children in HIV-endemic South Africa. *AIDS and Behavior*, *17*(5), 1755-1763.

McHugh, T., Forbes, D., Bates, G., Hopwood, M., & Creamer, M. (2012). Anger in PTSD: is there a need for a concept of PTSD-related posttraumatic anger?. *Clinical psychology review*, *32*(2), 93-104.

Miller, M. W., & Resick, P. A. (2007). Internalizing and externalizing subtypes in female sexual assault survivors: Implications for the understanding of complex PTSD. *Behavior therapy*, *38*(1), 58-71.

Nuttman-Shwartz, O., & Shoval-Zuckerman, Y. (2015). Continuous Traumatic Situations in the Face of Ongoing Political Violence The Relationship Between CTS and PTSD. *Trauma, Violence, & Abuse*, 1524838015585316.

O'Connor, D. B., Archer, J., & Wu, F. W. (2001). Measuring aggression: Self-reports, partner reports, and responses to provoking scenarios. *Aggressive Behavior*, *27*(2), 79-101.

Olff, M., Langeland, W., Draijer, N., & Gersons, B. P. (2007). Gender differences in posttraumatic stress disorder. *Psychological bulletin*, *133*(2), 183.

Orth, U., & Wieland, E. (2006). Anger, hostility, and posttraumatic stress disorder in trauma-exposed adults: a meta-analysis. *Journal of consulting and clinical psychology*, *74*(4), 698.

Pahlavan, F., Amirrezvani, A., & O'Connor, D. B. (2012). Validation and application of the French version of the Aggressive Provocation Questionnaire: Gender and age differences in aggression. *Psychology*, *3*(12), 1035.

Ramirez, J. M., & Andreu, J. M. (2006). Aggression, and some related psychological constructs (anger, hostility, and impulsivity) Some comments from a research project. *Neuroscience & Biobehavioral Reviews*, *30*(3), 276-291.

Rash, C. J., Coffey, S. F., Baschnagel, J. S., Drobes, D. J., & Saladin, M. E. (2008). Psychometric Properties of the IES-R in Traumatized Substance Dependent Individuals with and without PTSD. *Addictive Behaviors*, *33*(8), 1039–1047. http://doi.org/10.1016/j.addbeh.2008.04.006

Roberton, T., Daffern, M., & Bucks, R. S. (2012). Emotion regulation and aggression. *Aggression and violent behavior*, *17*(1), 72-82.

Sadagorg. (2016). Sadagorg. Retrieved 1 April, 2016, from http://www.sadag.org/index.php?option=com_content

Sabccoza. (2016). Sabccoza. Retrieved 4 April, 2016, from http://www.sabc.co.za/wps/portal/SABC/SABCARTICLE?id=f2c1bf004ab35839b25cb77363da4fa3

Snell, W. E., Gum, S., Shuck, R. L., Mosley, J. A., & Kite, T. L. (1995). The clinical anger scale: preliminary reliability and validity. *Journal of Clinical Psychology*, *51*(2), 215-226.

Stevens, G., Eagle, G., Kaminer, D., & Higson-Smith, C. (2013). Continuous traumatic stress: Conceptual conversations in contexts of global conflict, violence and trauma. *Peace and Conflict: Journal of Peace Psychology*, *19*(2), 75.

Straker, G. (2013). Continuous traumatic stress: Personal reflections 25 years on. *Peace and Conflict: Journal of Peace Psychology*, *19*(2), 209.

Suliman, S., Mkabile, S. G., Fincham, D. S., Ahmed, R., Stein, D. J., & Seedat, S. (2009). Cumulative effect of multiple trauma on symptoms of posttraumatic stress disorder, anxiety, and depression in adolescents. *Comprehensive psychiatry*, *50*(2), 121-127.

Taft, C. T., Watkins, L. E., Stafford, J., Street, A. E., & Monson, C. M. (2011). Posttraumatic stress disorder and intimate relationship problems: a meta-analysis. *Journal of consulting and clinical psychology*, *79*(1), 22.

Taft, C. T., Creech, S. K., & Murphy, C. M. (2017). Anger and aggression in PTSD. *Current opinion in psychology*, *14*, 67-71

Teten, A. L., Miller, L. A., Stanford, M. S., Petersen, N. J., Bailey, S. D., Collins, R. L., ... & Kent, T. A. (2010). Characterizing aggression and its association to anger and hostility among male veterans with post-traumatic stress disorder. *Military medicine*, *175*(6), 405-410.

Tull, M. T., Jakupcak, M., Paulson, A., & Gratz, K. L. (2007). The role of emotional inexpressivity and experiential avoidance in the relationship between posttraumatic stress disorder symptom severity and aggressive behavior among men exposed to interpersonal violence. *Anxiety, stress, and coping*, *20*(4), 337-351.

Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior Therapy*, *38*(3), 303-313.

Ward, C. L., Lombard, C. J., & Gwebushe, N. (2006). Critical incident exposure in South African emergency services personnel: prevalence and associated mental health issues. *Emergency Medicine Journal*, *23*(3), 226-231.

Weierstall, R., Hinsberger, M., Kaminer, D., Holtzhausen, L., Madikane, S., & Elbert, T. (2013). Appetitive aggression and adaptation to a violent environment among youth offenders. *Peace and Conflict: Journal of Peace Psychology*, *19*(2), 138.

Weierstall, R., Schaal, S., Schalinski, I., Dusingizemungu, J. P., & Elbert, T. (2011). The thrill of being violent as an antidote to posttraumatic stress disorder in Rwandese genocide perpetrators. *European journal of psychotraumatology*, *2*.

Williams, S. L., Williams, D. R., Stein, D. J., Seedat, S., Jackson, P. B., & Moomal, H. (2007). Multiple traumatic events and psychological distress: the South Africa stress and health study. *Journal of traumatic stress*, *20*(5), 845-855

Multiple Trauma Effects

Dear Participant

My name is Faatema Dollie and I am currently conducting a research study for the purposes of obtaining my degree of Masters of Arts in Clinical Psychology at the University of the Witwatersrand. My research explores the ways in which being exposed to trauma affects individuals. I am interested in the number of traumas that South Africans experience and how it affects our emotional states. I would like to invite you to participate in this study.

The questionnaire should take between 10 and 15 minutes to complete and participation is entirely voluntary. If at any point you would like to leave the survey, there will be no penalty to you whatsoever. By completing and submitting the survey, you are giving your informed consent for your responses to be used in the study. This study will be reported using group trends and not individual responses, therefore your anonymity will be guaranteed. All data will be stored in a password-protected computer and accessed only by the researchers ensuring complete confidentiality.

While every one is invited to participate, First year Psychology students at the University of the Witwatersrand are offered a 1% credit for completing the survey. However this is one of several studies that offer this incentive and there is no obligation to partake in this study to gain the credit. Should you wish to obtain this course credit for your first year psychology course, please note that at the end of the questionnaire there is a separate screen to enter your student number. Please enter your student number here to ensure that your credit gets applied. This will be extracted and kept separate from your answers and therefore your responses cannot be linked to your identity.

Thank you for taking the time to read this and for considering partaking in the study.

Kind regards,

Faatema Dollie (faatema@gmail.com)

Dr Esther Price (Supervisor) (esther.price@gmail.com)

N.B If the subject matter was found to be distressing, and you would like counselling regarding this, please call the Emthonjeni Centre on 011 717 4513 or the CCDU on 011 717 9140

Multiple Trauma Effects

Demographic Questionnaire

Please select the most appropriate option

* 1. What is your age?

* 2. What is your gender?

- Female
- Male

3. Which race/ethnicity best describes you? (Please choose only one.)

- Black
- White
- Coloured
- Indian
- Multiple ethnicity / Other (please specify)

4. What language do you mainly speak at home?

- ◯ English
- ◯ Afrikaans
- ◯ Ndebele
- ◯ Sepedi
- ◯ Swati
- ◯ Sotho
- ◯ Tswana
- ◯ Tsonga
- ◯ Venda
- ◯ Xhosa
- ◯ Zulu
- ◯ Some other language

5. Are you currently enrolled as a student?

- ◯ Yes
- ◯ No

6. Which faculty are you currently registered in?

- ◯ Commerce and Law
- ◯ Engineering
- ◯ Humanities
- ◯ Health Sciences
- ◯ Science

7. What year of study in your current degree are you registered in?

- ◯ First year
- ◯ Second year
- ◯ Third year
- ◯ Honours
- ◯ Masters
- ◯ PhD
- ◯ Diploma/Certificate
- ◯ Other (please specify)

Multiple Trauma Effects

Trauma History Questionnaire

The following is a series of questions about serious or traumatic life events. These types of events actually occur with some regularity, although we would like to believe they are rare, and they affect how people feel about, react to, and/or think about things subsequently. Knowing about the occurrence of such events, and reactions to them, will help us to develop programs for prevention, education, and other services. The questionnaire is divided into questions covering crime experiences, general disaster and trauma questions, and questions about physical and sexual experiences.

For each event, please indicate whether it happened to you and, if it did, the number of times and your approximate age when it happened (give your best guess if you are not sure).

8. Crime Related Events

	Indicate YES or NO	If you answered YES please indicate the NUMBER of times this event has occurred	Approximate age the Approximate age this happened the FIRST time (if applicable)	LAST time this happened
Has anyone ever tried to take something directly from you by using force or the threat of force, such as a hold-up or mugging?				
Has anyone ever attempted to rob you or actually robbed you (i.e., stolen your personal belongings)?				
Has anyone ever attempted to or succeeded in breaking into your home when you were not there?				
Has anyone ever attempted to or succeed in breaking into your home while you were there?				

9. General Disaster and Trauma

	Indicate YES or NO	If you answered YES please indicate the NUMBER of times this event has occurred	Approximate age the Approximate age this LAST time this happened happened the FIRST time (if applicable)	
Have you ever had a serious accident at work, in a car, or somewhere else?				
Have you ever experienced a natural disaster such as a flood or major earthquake, etc., where you felt you or your loved ones were in danger?				
Have you ever experienced a “man-made” disaster such as a train crash, building collapse, fire, etc., where you felt you or your loved ones were in danger?				
Have you ever been exposed to dangerous chemicals or radioactivity that might threaten your health?				
Have you ever been in any other situation in which you were seriously injured?				
Have you ever been in any other situation in which you feared you might be killed or seriously injured?				
Have you ever seen someone seriously injured or killed?				
Have you ever seen dead bodies (other than at a funeral) or had to handle dead bodies for any reason?				
Have you ever had a close friend or family member murdered, or killed by a drunk driver?				
Have you ever had a spouse, romantic partner, or child die?				
Have you ever had a serious or life-threatening illness?				

	Indicate YES or NO	If you answered YES please indicate the NUMBER of times this event has occurred	Approximate age the Approximate age this happened the FIRST time (if applicable)	LAST time this happened
Have you ever received news of a serious injury, life-threatening illness, or unexpected death of someone close to you?				
Have you ever had to engage in combat while in military service in an official or unofficial war zone?				

10. Physical and Sexual Experiences

	Indicate YES or NO	Has this occurred repeatedly?	Approximate age this happened the FIRST time	Approximate age the LAST time this happened (if applicable)
Has anyone ever made you have intercourse or oral or anal sex against your will?				
Has anyone ever touched private parts of your body, or made you touch theirs, under force or threat?				
Other than incidents mentioned above, have there been any other situations in which another person tried to force you to have an unwanted sexual contact?				
Has anyone, including family members or friends, ever attacked you with a gun, knife, or some other weapon?				
Has anyone, including family members or friends, ever attacked you without a weapon and seriously injured you?				
Has anyone in your family ever beaten, spanked, or pushed you hard enough to cause injury?				
Have you experienced any other extraordinarily stressful situation or event that is not covered above? Please specify below				

Any other stressful situation that you have experienced

Multiple Trauma Effects

Impact of Events

11. Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you IN THE LAST MONTH with respect to the trauma/s you have experienced. How much have you been distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Any reminder brought back feelings about it	○	○	○	○	○
I had trouble staying asleep	○	○	○	○	○
Other things kept making me think about it	○	○	○	○	○
I felt irritable and angry	○	○	○	○	○
I avoided letting myself get upset when I thought about it or was reminded of it	○	○	○	○	○
I thought about it when I didn't mean to	○	○	○	○	○
I felt as if it hadn't happened or wasn't real	○	○	○	○	○
I stayed away from reminders of it.	○	○	○	○	○
Pictures about it popped into my mind.	○	○	○	○	○
I was jumpy and easily startled.	○	○	○	○	○
I tried not to think about it.	○	○	○	○	○

	Not at all	A little bit	Moderately	Quite a bit	Extremely
I was aware that I still had a lot of feelings about it, but I didn't deal with them.	○	○	○	○	○
My feelings about it were kind of numb.	○	○	○	○	○
I found myself acting or feeling like I was back at that time.	○	○	○	○	○
I had trouble falling asleep.	○	○	○	○	○
I had waves of strong feelings about it.	○	○	○	○	○
I tried to remove it from my memory.	○	○	○	○	○
I had trouble concentrating.	○	○	○	○	○
Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.	○	○	○	○	○
I had dreams about it.	○	○	○	○	○
I felt watchful and on-guard.	○	○	○	○	○
I tried not to talk about it	○	○	○	○	○

Multiple Trauma Effects

CAS

The group of items below inquire about the types of feelings you have. Each of the 21 groups of items has four options. For example,

ITEM ..... A. I feel fine.

B. I don't feel all that well.

C. I feel somewhat miserable.

D. I feel completely miserable.

For each cluster of items, read and identify the statement that best reflects how you feel.

Make sure you select only one statement from each of the 21 clusters of statements.

PLEASE BE HONEST IN RESPONDING TO THE STATEMENTS

12. Please select one statement from the cluster of options below

- ◯ I do not feel angry.
- ◯ I feel angry.
- ◯ I am angry most of the time now.
- ◯ I am so angry and hostile all the time that I can't stand it.

13. Please select one statement from the cluster of options below

- ◯ I am not particularly angry about my future.
- ◯ When I think about my future, I feel angry.
- ◯ I feel angry about what I have to look forward to.
- ◯ I feel intensely angry about my future, since it cannot be improved.

14. Please select one statement from the cluster of options below

- It makes me angry that I feel like such a failure.
- It makes me angry that I have failed more than the average person.
- As I look back on my life, I feel angry about my failures.
- It makes me angry to feel like a complete failure as a person.

15. Please select one statement from the cluster of options below

- I am not all that angry about things.
- I am becoming more hostile about things than I used to be.
- I am pretty angry about things these days.
- I am angry and hostile about everything.

16. Please select one statement from the cluster of options below

- I don't feel particularly hostile at others.
- I feel hostile a good deal of the time.
- I feel quite hostile most of the time.
- I feel hostile all of the time.

17. Please select one statement from the cluster of options below

- I don't feel that others are trying to annoy me.
- At times I think people are trying to annoy me.
- More people than usual are beginning to make me feel angry.
- I feel that others are constantly and intentionally making me angry.

18. Please select one statement from the cluster of options below

- I don't feel angry when I think about myself.
- I feel more angry about myself these days than I used to.
- I feel angry about myself a good deal of the time.
- When I think about myself, I feel intense anger.

19. Please select one statement from the cluster of options below

- I don't have angry feelings about others having screwed up my life.
- It's beginning to make me angry that others are screwing up my life.
- I feel angry that others prevent me from having a good life.
- I am constantly angry because others have made my life totally miserable.

20. Please select one statement from the cluster of options below

- I don't feel angry enough to hurt someone.
- Sometimes I am so angry that I feel like hurting others, but I would not really do it.
- My anger is so intense that I sometimes feel like hurting others.
- I'm so angry that I would like to hurt someone.

21. Please select one statement from the cluster of options below

- I don't shout at people any more than usual.
- I shout at others more now than I used to.
- I shout at people all the time now.
- I shout at others so often that sometimes I just can't stop.

22. Please select one statement from the cluster of options below

- Things are not more irritating to me now than usual.
- I feel slightly more irritated now than usual.
- I feel irritated a good deal of the time.
- I'm irritated all the time now.

23. Please select one statement from the cluster of options below

- My anger does not interfere with my interest in other people.
- My anger sometimes interferes with my interest in others.
- I am becoming so angry that I don't want to be around others.
- I'm so angry that I can't stand being around people.

24. Please select one statement from the cluster of options below

- I don't have any persistent angry feelings that influence my ability to make decisions.
- My feelings of anger occasionally undermine my ability to make decisions.
- I am angry to the extent that it interferes with my making good decisions.
- I'm so angry that I can't make good decisions anymore.

25. Please select one statement from the cluster of options below

- I'm not so angry and hostile that others dislike me.
- People sometimes dislike being around me since I become angry.
- More often than not, people stay away from me because I'm so hostile and angry.
- People don't like me anymore because I'm constantly angry all the time.

26. Please select one statement from the cluster of options below

- My feelings of anger do not interfere with my work.
- From time to time my feelings of anger interfere with my work.
- I feel so angry that it interferes with my capacity to work.
- My feelings of anger prevent me from doing any work at all.

27. Please select one statement from the cluster of options below

- My anger does not interfere with my sleep.
- Sometimes I don't sleep very well because I'm feeling angry.
- My anger is so great that I stay awake 1— 2 hours later than usual.
- I am so intensely angry that I can't get much sleep during the night.

28. Please select one statement from the cluster of options below

- My anger does not make me feel anymore tired than usual.
- My feelings of anger are beginning to tire me out.
- My anger is intense enough that it makes me feel very tired.
- My feelings of anger leave me too tired to do anything.

29. Please select one statement from the cluster of options below

- My appetite does not suffer because of my feelings of anger.
- My feelings of anger are beginning to affect my appetite.
- My feelings of anger leave me without much of an appetite.
- My anger is so intense that it has taken away my appetite.

30. Please select one statement from the cluster of options below

- My feelings of anger don't interfere with my health.
- My feelings of anger are beginning to interfere with my health.
- My anger prevents me from devoting much time and attention to my health.
- I'm so angry at everything these days that I pay no attention to my health and wellbeing.

31. Please select one statement from the cluster of options below

- My ability to think clearly is unaffected by my feelings of anger.
- Sometimes my feelings of anger prevent me from thinking in a clear-headed way.
- My anger makes it hard for me to think of anything else.
- I'm so intensely angry and hostile that it completely interferes with my thinking.

32. Please select one statement from the cluster of options below

- I don't feel so angry that it interferes with my interest in sex.
- My feelings of anger leave me less interested in sex than I used to be.
- My current feelings of anger undermine my interest in sex.
- I'm so angry about my life that I've completely lost interest in sex

Multiple Trauma Effects

APQ

The following questions are based on scenarios that you may have been in or need to imagine yourself in. There are two questions for each scenario. Please select the most appropriate response based on how you would FEEL and what you would DO in each situation.

33. Imagine yourself in the following situation:

It is Saturday evening and you are queuing to buy a movie ticket. It's very busy and the movie is about to start. You have already been waiting for 10 minutes. Just when it's your turn, someone else pushes in front of you.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	○	○	○	○	○
Frustrated	○	○	○	○	○
Irritated	○	○	○	○	○

34. What do you think you would do in the situation above?

- ○ Feel angry but do nothing.
- ○ Push him and shout "wait your turn."
- ○ Wait patiently until he had been served.
- ○ Say "I'm sorry but it was my turn."
- ○ Leave the queue.

35. Imagine yourself in the following situation:

You arrive home from university, it has been a long day. There are kids screaming and running around the living room whilst you are trying to relax and watch the television.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

36. What do you think you would do in the situation above?

- ◯ Feel angry but do nothing at the time.
- ◯ Say “Children, please sit down and be quiet”.
- ◯ Shout at the kids to be quiet.
- ◯ Sit patiently and ignore the children.
- ◯ Get up and go into another room.

37. Imagine yourself in the following situation:

You have gone out to have a couple of drinks with your partner. Whilst you are at the bar, a stranger approaches your partner and acts inappropriately with him/her. On your return, your partner tells you.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

38. What do you think you would do in the situation above?

- ◯ Leave and go somewhere else.
- ◯ Do nothing.
- ◯ Threaten the stranger and swear at him/her.
- ◯ Tell him/her that such behavior is unacceptable and out of order.
- ◯ Feel angry but do nothing at the time.

39. Imagine yourself in the following situation:

You are in a great hurry and right in front of the car that you are travelling in a car/taxi stops. A man gets out and he carries on talking to the driver, blatantly ignoring calls for him to move. Your car cannot get past the stopped car.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

40. What do you think you would do in the situation above?

- ◯ Get out of your car, walk over to the man and threaten him.
- ◯ Reverse the car and take another route.
- ◯ Sit in the car and fume with anger, but do nothing.
- ◯ Calmly wait until he moved.
- ◯ Go over to him, tell him that he is being unreasonable and ask him to move.

41. Imagine yourself in the following situation:

Your boss believes you have made a minor mistake at work. In the presence of all your workmates, he embarrasses you by calling you an incompetent imbecile.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

42. What do you think you would do in the situation above?

- ◯ Shout back to him that it wasn't your fault.
- ◯ Tell him that this is not the right way to talk to his employees.
- ◯ Feel angry, but do not do anything.
- ◯ Shrug it off, and go back to work.
- ◯ Walk away from him.

43. Imagine yourself in the following situation:

You are in the cinema watching a movie. Behind you two guys are talking, laughing loudly and kicking the back of your seat all the time.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

44. What do you think you would do in the situation above?

- ◯ Turn around and ask them to be quiet or to leave.
- ◯ Feel angry, and do nothing.
- ◯ Move to another seat.
- ◯ Try to ignore them.
- ◯ Turn around and threaten to hit them if they do not keep quiet.

45. Imagine yourself in the following situation:

You are in a car driving down the motorway. As you/or the driver are in the process of changing to a slower lane, a reckless driver speeds out from the inside lane, cutting your car off, causing you/or the driver to slam on the brakes, swerve, and nearly lose control of the car.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

46. What do you think you would do in the situation above?

- ◯ Blast your horn several times at them.
- ◯ Feel angry but do nothing.
- ◯ Try to move away from that driver
- ◯ Chase after the other car and try to do the same to them.
- ◯ Just carry on driving.

47. Imagine yourself in the following situation:

You are out with a group of friends and there is one guy who is continually ridiculing you and generally insulting your family.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

48. What do you think you would do in the situation above?

- ◯ Tell him to shut his mouth and threaten him if he doesn't.
- ◯ Leave and go home.
- ◯ Feel angry but do nothing.
- ◯ Tell him that he is not funny and should stop.
- ◯ Laugh it off and try not to let it get to you.

49. Imagine yourself in the following situation:

You find out from a friend that your partner has been unfaithful to you on one occasion, after a year-end event.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

50. What do you think you would do in the situation above?

- ◯ Confront your partner about it next time you see her/him.
- ◯ Get angry creating a big scene when you next see her/him.
- ◯ Be inclined not to believe what I had heard.
- ◯ Just not bother about it.
- ◯ Feel very angry but do not do anything.

51. Imagine yourself in the following situation:

You are walking down the street on your way to an interview for a new job. As you turn the corner, a window cleaner nearby, accidentally spills soapy, hot water on your newly dry-cleaned suit.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

52. What do you think you would do in the situation above?

- ◯ Move away from the scene as quickly as possible.
- ◯ Feel angry but don't do anything.
- ◯ Attract his attention, shout and swear at him.
- ◯ Attract his attention and point out what he had done.
- ◯ Just walk on and think that you were unlucky today.

53. Imagine yourself in the following situation:

You're watching a soccer game at the stadium. A couple of soccer supporters are sitting a few seats in front shouting, swearing and generally being obnoxious. Suddenly, one of them throws an empty beer can in the air and it accidentally hits you.

How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

54. What do you think you would do in the situation above?

- ◯ Sit there feeling angry.
- ◯ Try to ignore them.
- ◯ Find somewhere else to sit.
- ◯ Attract their attention and ask them to be more careful.
- ◯ Go over to them and threaten them.

55. Imagine yourself in the following situation:

It is Saturday afternoon and you are looking for a parking space at the shopping center. You drive into a car park and just as you are about to reverse into one of the few remaining spaces another car speeds into your space.

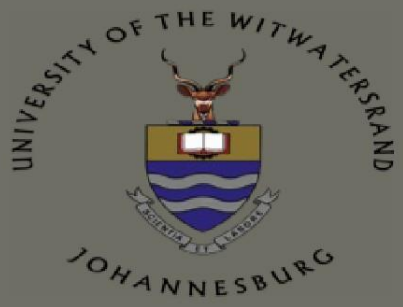
How would you feel in this situation?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Angry	◯	◯	◯	◯	◯
Frustrated	◯	◯	◯	◯	◯
Irritated	◯	◯	◯	◯	◯

56. What do you think you would do in the situation above?

- ◯ Drive away to look for another space.
- ◯ Get out of the car, go over to the other driver and shout and swear at him.
- ◯ Do nothing.
- ◯ Go over to the other driver and tell him that this was your space.
- ◯ Feel angry but do nothing.

Appendix G



Multiple Trauma Effects

Psychology I students course credit

57. First year Psychology students only: Please fill in your student number to obtain a 1% course credit for participating in this study. This sheet will be detached from the completed questionnaire before any data can be captured. We will not be able to match your student number to the questionnaire and you will remain anonymous to the researchers. Your student number will be forwarded to the course coordinator and thereafter this sheet will be destroyed.