

The effect of childhood trauma in the development of alcohol abuse  
and alcohol dependence in individuals with social anxiety disorder

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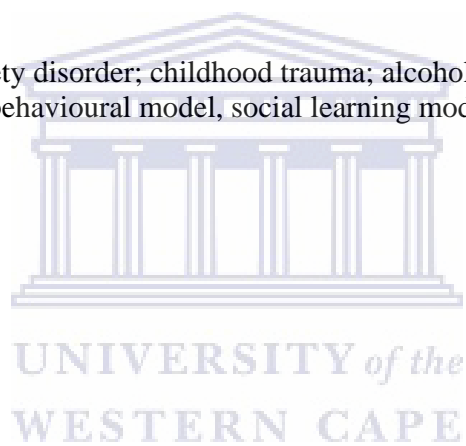
A mini-thesis proposal submitted in partial fulfilment of the requirement for the  
degree of MPsych in the Department of Psychology at the University of the  
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October 2010

**Keywords:** Social anxiety disorder; childhood trauma; alcohol abuse, alcohol dependence,  
quantitative, cognitive-behavioural model, social learning model.



## Declaration

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and that I have not previously, in its entirety or in part, submitted it at any university for a degree.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_



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## **Acknowledgements**

To my supervisors, Mr Umesh Bawa and Prof. Christine Lochner, thank you for your guidance, support and encouragement through the process of my thesis.

Your contributions have been invaluable.

To the Medical Research Council – Unit of Anxiety and Stress Disorders, thank you for the use of secondary data without you this study would not have been possible. To all the staff thank you, your contributions have been invaluable. A special thank you too Mr Martin Kidd for his assistance and support with the statistical analysis of this study.

Thank you to my family for their support and encouragement to succeed in this endeavour during challenging times.



## **Abstract**

Increased rates of alcohol abuse and childhood trauma have been reported in previous studies of anxiety disorders, and social anxiety disorder (SAD) in particular. Yet the exact nature of this relationship remains unclear. This study aimed to assess whether SAD is a risk factor for later development of alcohol use disorders (AUD) and to investigate the association of childhood trauma with the prospective SAD-AUD comorbidity in adults with SAD. Data from fifty seven adult participants (N=57) with a primary diagnosis of SAD (mean age 36.7; 60% male) completed the self-rated Childhood Trauma Questionnaire (CTQ) as well as the Liebowitz Social Anxiety Scale (LSAS), a measure of SAD symptom severity. Alcohol abuse and dependence information were assessed with the Structured Clinical Interview for Axis I Disorders-Patient Version (SCID-I/P). Data from sixty two adult age and gender match controls were used as a comparison group. A Cognitive Behavioural Model and the Social Learning Model are the theoretical frameworks utilised in the conceptualisation of this research. The data is quantitative in nature and will be statistically analysed using descriptive statistics, logistic regression and ANOVA using the Statistical Package for the Social Sciences (SPSS) version 17.0. Informed consent was obtained in writing from all participants. The findings of the study were that 73.7% of the SAD sample met severity criteria for at least one type of childhood abuse or neglect as measured by the CTQ subscales using previously established thresholds. Physical neglect was found to be significantly associated with increased SAD symptom severity. 17.5% of the SAD sample had a comorbid lifetime alcohol use disorder (AUD) and of those 80% reported experiencing childhood trauma. In conclusion there

was a high rate of childhood trauma in individuals with SAD and there is a strong association between childhood trauma and comorbid AUDs in those with SAD. Thus screening for childhood trauma in SAD individuals is clinically prudent.



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# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

#### 1.1.1 Social anxiety disorder: An overview

Social anxiety disorder (SAD) is characterised by a marked fear of social situations in which the individual fears the possibility of being scrutinised by others and believes that she/he will behave in a way that is embarrassing or humiliating (DSM-IV-TR, American Psychiatric Association, 2000). It is much more than mere shyness. It is one of the most common psychiatric disorders and is associated with significant social and psychological impairment in everyday functioning. This together with its high prevalence, chronic nature and secondary comorbidity suggests that SAD is a major public health concern (Brunello et al., 2000). The lifetime prevalence rates of SAD range from 1.9% to 6.6% (Chou, 2009) and usually surfaces in early childhood or adolescence with a mean age of onset of 15 years (Book, Thomas, Randall & Randall, 2008). A recent epidemiological study found the lifetime prevalence rate of SAD in South Africa to be 2.8% (Stein, Seedat & Herman, 2008). This is consistent with the numbers presented by the South African Depression and Anxiety Group ([www.sadag.co.za](http://www.sadag.co.za), 2010) indicating that SAD affects between 2 to 3 people per hundred of all races and social groups within South Africa.

Two types of social anxiety disorders have been identified, namely the generalised type where the individual fears multiple social and performance situations (e.g.

hosting parties, public speaking, writing or eating in public etc), whereas individuals who have a persistent fear of only one social situation are considered to have the specific or non-generalised type (Book et al., 2008). Both are accompanied by physical symptoms, the most prominent of which tend to be heart palpitations, trembling, sweating and blushing (Carrigan & Randall, 2003). It is also noted that the anticipatory anxiety that the individual experiences may eventually lead to the avoidance of the feared situation (Carrigan & Randall, 2003).

SAD often goes undiagnosed in children for many reasons. Some of which are that some children who prefer to be in the background and are silent; are generally considered as calm and suffering from normal childhood shyness and are often rewarded with approval for their quietness (Aydin, Tekinsav-sutqu & Sorias, 2010). As a result, individuals with social anxiety generally only seek treatment later in life even though they report that their symptoms began in childhood or adolescence. If SAD is not treated early, it may cause serious losses for the individual due to the impairment in social, academic, and psychological functioning which usually start at an early age and becomes chronic, eventually resulting in the inability to develop necessary life skills (Aydin et al., 2010).

### **1.1.2 SAD and Childhood Trauma**

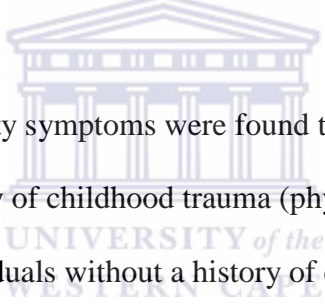
There is growing interest in the role of childhood trauma in the development of SAD (Simon et al., 2009). Childhood abuse is defined as an active and deliberate maltreatment of a child, while neglect is seen as more passive in nature and is

rather any act of omission of care (unmet needs) rather than commission (Dawes, Lang, Alexander & Ward, 2006; Department of Social Development, 2004).

Childhood abuse and neglect have been associated with the later emergence of psychopathology, specifically depressive and anxiety disorders in adulthood (Hovens et al., 2009). In an attempt to address the complex association between childhood trauma and adult psychopathology numerous studies have examined childhood abuse histories among individuals with anxiety disorders.

In SAD specifically, increased rates of childhood trauma have been found (Bandelow et al., 2004; David, Giron & Mellman, 1995; Stein et al., 1996). Prior studies on self-reported childhood physical and sexual abuse in anxiety disorder populations found a rate of 8.7% in individuals with SAD (Safren, Gershunym, Marzol, Otto & Pollack, 2002). David et al (1995) found childhood abuse rates that were much higher (63%) among individuals with panic disorder and social phobia as compared to a non-clinical group (24%). Cogle, Timpano, Sachs-Ericsson, Keough and Riccardi (2010) found elevated rates of self-reported childhood sexual and physical abuse among those with a lifetime history of SAD. In the study conducted by Hovens et al (2009) it was found that emotional abuse was strongly associated with depressive disorders rather than anxiety disorders whereas childhood physical and sexual abuse was equally associated with both anxiety and depressive disorders. This is consistent with that which was found by Gibbs, Chelminski and Zimmerman (2007) in that childhood emotional abuse was significantly related to depressive symptoms and social phobia. In recent studies (Arcaturk et al., 2009; Spinhoven, Elzinga, Hovens et al., 2010) it was found that

emotional neglect was differentially related to social phobia. Arcaturk et al (2009) posits that it is important to screen for these forms of childhood trauma as they could offer valuable information in identifying individuals that are at high risk of developing SAD. According to Hovens et al (2009) and Suliman et al (2008), adverse childhood occurrences may alter the child's belief system and subsequently contribute to the development of cognitive vulnerability and an external locus of control which may put the individual at risk. For SAD specifically it is possible that physical and/or sexual abuse contributes to feelings of shame, perceptions of inadequacy and negative self-views that are characteristic of SAD (Sachs-Ericsson, Verona, Toner & Preacher, 2006).



In terms of gender, anxiety symptoms were found to be higher among both men and women with a history of childhood trauma (physical and sexual abuse) as compared to those individuals without a history of childhood trauma (Sachs-Ericsson et al., 2006). Scher, Forde, McQuaid and Stein (2004) found prevalence rates of childhood trauma to be over 40% for men and 30% for women. They further found that physical, abuse and neglect and emotional abuse were the most common types of trauma among men and women (Scher et al., 2004). More specifically they found that females were twice as likely to report significant rates of sexual abuse, whereas men reported experiencing more physical abuse (Scher et al., 2004). In a more recent study Cogle et al (2010) found that childhood sexual abuse was uniquely related to SAD in females however physical abuse was not, whereas among males SAD was significantly associated with both physical and sexual abuse. A study conducted by Edwards, Holden, Felitti and Anda

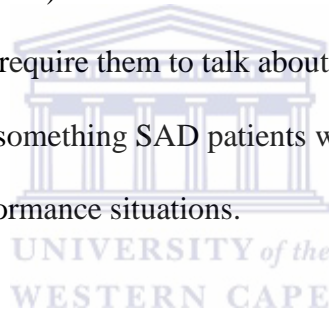
(2003) reported that 25% of the men in their sample reported childhood physical abuse and a quarter of these (6%) also reported exposure to childhood sexual abuse. Although some forms of abuse (physical and sexual) have appeared to be reported more frequently in women than in men, there is still a substantial prevalence of childhood trauma and abuse among males (Edwards et al., 2003).

The majority of available studies seem to have focused on epidemiological data and considered childhood trauma as a risk factor for the later development of a diagnosis of SAD, rather than the prevalence and implication in terms of symptom severity that the trauma may have on individuals with a primary diagnosis of SAD (Simon et al., 2009). Furthermore these studies focussed mainly on physical and sexual abuse however did not assess for emotional abuse and neglect which suggests that there is still a gap in the knowledge and that additional research is needed to better understand the impact of childhood trauma in individuals with SAD. Thus in summary exposure to childhood trauma is an important environmental factor in psychopathology (Hoven et al., 2009) and thus its impact on the relationship between SAD and symptom severity warrants attention.

### **1.1.3 SAD and Comorbidity**

SAD generally presents with comorbid psychiatric conditions. These comorbid disorders may increase the disability and impairment associated with the condition (Brunello et al., 2000). SAD has specifically been associated with elevated rates of alcohol abuse and dependence. For example, almost half of individuals with DSM-IV-TR lifetime SAD meet the criteria for lifetime prevalence of an alcohol

use disorder (i.e. alcohol abuse or dependence) (Buckner, Timpano, Zvolensky, Sachs-Ericsson & Schmidt, 2008). SAD may serve to initiate alcohol use, maintain continued use and, in alcohol-dependent individuals, may contribute to relapse if left untreated (Carrigan & Randall, 2003). A significant number of individuals with SAD use alcohol to “self-medicate”, i.e. they drink alcohol to help them ‘cope’ with the anxiety and tension or to relieve the symptoms they experience (Carrigan & Randall, 2003; Abrams, Kushner, Medina & Voight, 2001). In these cases, rehabilitation may be difficult if the underlying SAD is not addressed first. Indeed, current treatment facilities for alcoholics such as Alcoholics Anonymous (AA) tend to be ineffective for individuals with SAD as these forms of treatment require them to talk about themselves before an audience (Brunello et al., 2000) – something SAD patients would avoid given their extreme discomfort in social performance situations.



The high rate of co-occurrence between SAD and alcohol use disorders is noteworthy because alcohol use is in itself associated with impairments across a number of domains (e.g. occupational, academic and social) which affect the individual’s quality of life (Buckner, Mallott, Schmidt & Taylor, 2006). The possibility that SAD may be a trigger for the later development of comorbid disorders such as AUD advocates the need for early effective treatment as a preventative measure (Bakken, Landheim & Vaglum, 2005). Considerable attention has been given to researching the relationship between SAD and AUD’s. As noted, individuals with SAD are at a heightened risk for problematic alcohol use (Buckner, 2006; Buckner & Turner, 2009; Morris, Stewart & Ham, 2005).

Despite the link between SAD and AUD and the important public health consequences associated with these conditions, there is a striking paucity of research examining the factors underlying or mediating this relationship (Buckner & Turner, 2009).

## **1.2 Rationale**

The present study is part of a larger project at the MRC Unit on Anxiety and Stress Disorders that has been collecting clinical and genetics data on anxiety disorders specifically in a South African context. This secondary study focused on the association between childhood trauma and symptom severity of SAD in adulthood. Furthermore it has focused on the relationship between SAD and comorbid AUD's in those with and without a history of childhood trauma.

The study specifically aimed to investigate the association between different subtypes of childhood trauma and symptom severity of SAD. There is a paucity of literature on the differential effects and impact of emotional and physical *neglect* in those with SAD (Hoven et al., 2009) as most research has focused on the impact of physical and sexual *abuse* (Rodgers et al., 2004).

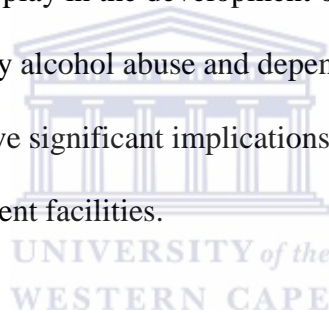
Despite there being epidemiological reports that indicate a strong comorbidity between SAD and AUD's, there remains a dearth of research investigating the mechanisms underlying or mediating this relationship (Morris et al., 2005).

Recently, research has focussed on possible mediating variables that may help to explain why certain individuals with SAD abuse alcohol, while others avoid



excessive consumption of alcohol (e.g. Morris et al., 2005). Childhood trauma has been identified as one potentially important environmental factor or mechanism that may play a role in the relationship between SAD and AUD's (Morris et al., 2005; Simon et al., 2009). In summary, further research on the relationship between SAD and AUD's and the possible mediating influence of childhood trauma is warranted.

Overall, the findings of this study may assist in clinical and research endeavours focused on understanding the impact of childhood trauma in later life, in particular the role it may play in the development of psychopathology specifically SAD as well as secondary alcohol abuse and dependence disorders. This information may also have significant implications for preventative measures used within psychiatric treatment facilities.



### **1.3 Significance of study**

The present study serves as an important step toward a better understanding of the role of childhood trauma in the development of SAD and its severity, and the development of comorbid AUD's in individuals with SAD. This information may have significant implications for prevention measures for alcohol abuse and dependence, as well as the development of more effective treatments in both clinical and non-clinical settings. These findings may have substantial significance within the South African context where childhood trauma as well as alcohol related problems are widespread.

#### **1.4 Aims and Objectives**

The study's primary aim was to investigate the association between childhood trauma and the presence and severity of SAD in adulthood. The second aim was to investigate whether alcohol abuse and dependence are more prevalent in SAD participants with a history of childhood trauma as compared with SAD participants without childhood trauma history.

Specifically, study objectives were:

- i) to identify the prevalence and severity of reported childhood trauma among a group of participants with a primary diagnosis of SAD (generalised or specific type);
- ii) to identify which subtypes of childhood trauma were most prevalent/severe in individuals with a primary diagnosis of SAD;
- iii) to investigate the association between a history of childhood trauma and symptom severity in individuals with a primary diagnosis of SAD;
- iv) to investigate whether gender plays a role in terms of the association between a history of childhood trauma in individuals with a primary diagnosis of SAD; and

- v) to compare the prevalence of alcohol abuse and dependence between SAD participants with a history of childhood trauma and SAD participants without a history of childhood trauma.

### **1.5 Hypotheses**

Consistent with the notion that childhood abuse is a psychological vulnerability for a psychopathology, it was hypothesised that:

- i) The majority of participants with a primary diagnosis of SAD would have experienced increased rates of childhood trauma in general;
- ii) Emotional neglect would have the highest rates compared to other types of trauma in individuals with a primary diagnosis of SAD (Acarturk et al., 2009; Gibb et al., 2007);
- iii) A history of childhood trauma would be significantly associated with greater symptom severity in individuals with a primary diagnosis of SAD (Simon et al., 2009);
- iv) Childhood trauma would be greater in women rather than men with a primary diagnosis of SAD (Scher et al., 2004);

- v) The prevalence of comorbid alcohol use disorders would be significantly higher among individuals with a primary diagnosis of SAD with a history of childhood trauma in comparison to those without.

## **1.6 Chapter Outline**

The introductory chapter presented the context and rationale for the present study. It also provided a detailed description of the aims and objectives of the dissertation, and provided a content outline of each of the subsequent chapters. Chapter Two will focus on a comprehensive review of the literature relevant to the focus of this study, and will provide a broad framework for the understanding of SAD and childhood trauma in adults. In Chapter Three, the measuring instruments and scales, as the method of data collection for the present study will be introduced and explained in-depth. A discussion on the validity and reliability of the scales will be included. Procedures for the data collection and the statistical techniques and analyses used will also be presented. This chapter will also include the ethical considerations for the study. Chapter Four includes the research findings and summary tables. Chapter Five will present the discussion in which the research findings will be discussed in comparison to those findings demonstrated in previous literature. This chapter will also give an account of the implications as well as the limitations of the study in order to provide recommendations for future research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

In this chapter a broad framework for understanding social anxiety disorder (SAD) will be presented. The effect and impact of childhood trauma, such as emotional, physical and sexual abuse as well as emotional and physical neglect will be discussed. Furthermore, the relationship between SAD and co-morbid alcohol use disorders among adults will be discussed.

#### **2.2 Literature Review**

##### **2.2.1 Anxiety Disorders**

Anxiety is a diffuse, unpleasant and vague sense of apprehension which is often accompanied by autonomic physical symptoms such as headaches, perspiration, palpitations, tightness of the chest, stomach discomfort and restlessness (Sadock & Sadock, 2007). A normal reaction to stress, anxiety may help one deal with tense situations such as exams, presentations or an important speech. When anxiety becomes excessive and irrational and begins to significantly impair one's functioning, it is considered to be a disorder. Anxiety disorders are a very serious problem for many individuals and are among the most prevalent psychiatric conditions in most populations. According to Norrholm & Ressler (2009) anxiety disorders often result in significant debilitation and chronic medical problems which affect multiple organ systems and are a great burden in terms of healthcare costs. A recent study (Marks, Wegelin, Bourgeois & Perkin, 2010) reported one

year prevalence estimates of any single anxiety disorder to range from 1% to 8.7% of the population. Around the world millions of people are affected by anxiety disorders and frequently suffer from more than one mental illness (Marks et al., 2010). The present study will be concerned with SAD, a specific type of anxiety disorder.

### **2.2.2 Social Anxiety Disorder**

The emergence of etiological, diagnostic and treatment-related interest in SAD has progressed rapidly since its inclusion in the Diagnostic and Statistical Manual of Mental Disorders- Third Edition (DSM-III). SAD is the third most common psychological disorder, after major depression and alcohol use disorders (Bacon & Ham, 2010; Kessler et al., 1994; Weiller, Bisserbe, Boyer, Lepine & Lecrubier, 1996). It is characterised by an intense and enduring fear of social performance situations in which one fears being scrutinised or judged negatively by others (American Psychiatric Association., 1996). The individual worries that they will act in an inappropriate way or will experience anxiety symptoms which will result in further humiliation or critical judgment, which invariably leads to avoidance of those situations (American Psychological Association, 1996).

SAD is associated with a number of personal and societal impairments including decreased education attained due to drop out, increased work difficulties and impairments in romantic relationships and social support (Bacon & Ham, 2010).

According to Book et al (2008) from DSM-IV (American Psychological Association, 1996) it has identified two subtypes of SAD namely the generalised

type which is indicated when the individual showed marked fear in multiple social situations (i.e. eating, writing, public speaking) and secondly the non-generalised type where individuals have only one social fear typically public speaking or being in a performance situation.

Ohayon & Schatzberg (2010) reported one month prevalence rates of SAD ranging between 1.6% and 15.6% and twelve month prevalence being between 1.2% and 7.2%. Estimates of lifetime prevalence of SAD range from between 5% and 16% (Bacon & Ham, 2010; Bakken et al., 2005). A study considering prevalence rates among genders (Morris et al., 2005) reported that SAD occurs frequently in the general population, with lifetime prevalence for males at approximately 11% and females at approximately 15%. According to Marks et al., (2010) the prevalence for SAD in the rural areas is 10.4%. The age of onset for SAD is typically early adolescence (i.e. 13-15 years old) (Morris et al., 2005; Book et al., 2008).

### **2.2.3 Social Anxiety Disorder and Childhood Trauma**

According to Kendall et al (2010) data from retrospective studies suggest that more than half of adults with anxiety or mood disorders had a history of a childhood anxiety disorder. Numerous studies have examined the community epidemiology of childhood trauma and its negative sequelae in adulthood. Childhood trauma (e.g. emotional neglect and emotional, physical or sexual abuse) is a common occurrence with prevalence rates between 3% and 32% in the general population (Finkelhor, 1994). A review of studies investigating the

prevalence of sexual abuse, reported a 22.3% prevalence of sexual abuse among women (Gorey & Leslie, 1997) and 8.5% prevalence among men (Scher et al., 2004).

According to Scher et al (2004) prevalence of childhood trauma was over 40% for men and approximately 30% for women. It was also reported that women were nearly twice as likely to present with clinically significant emotional abuse and co-occurring maltreatment and were nearly four times as likely to report clinically significant sexual abuse (Scher et al., 2004) whereas men were almost twice as likely to report physical neglect (Scher et al., 2004). There is evidence that both physical and sexual abuse may be significant risk factors for later psychopathology (Rodgers et al., 2004). In sum research indicates that childhood trauma is a disturbingly common phenomenon with numerous problematic after effects.

Nemeroff (2004) stated that there are certain biological mechanisms that may act as pathways towards increasing the risk of anxiety disorders among people with a history of childhood abuse. The author further hypothesised that early life stress may lead to neuronal changes in the hypothalamic-pituitary-adrenal axis and the generation of elevated neuronal releases of corticotrophin which usually causes an increased responsiveness to the stress (Nemeroff, 2004). This increased responsiveness to stress can make individuals more vulnerable to psychopathology in their adulthood (Nemeroff, 2004). In terms of genetics, family and twin studies it has been found that there are only moderate estimates of



heritability for anxiety disorders which indicates the importance that possible gene-environment interactions and distinct environmental factors may play in the responsibility for anxiety psychopathology (Cougles et al., 2010). This study further stated that there are a number of potential mechanisms by which childhood trauma could contribute to different anxiety disorders and that such experiences may play a role in the development of beliefs that are linked with either the onset or maintenance of anxiety disorders (Cougles et al., 2010).

Therefore individuals who have experienced child trauma may develop the beliefs that the world is a dangerous place and that they have little control over what happens to them, both of which are important to anxiety disorders (Cougles et al., 2010). Similarly child maltreatment and abuse may sensitise individuals to the effects of subsequent traumatic exposure by leading to the development of beliefs about the effect or meaning of fear reactions (Cougles et al., 2010; Gren-Landell, Aho, Anderson & Svedin, 2010). Consistent with this assumption Ornduff (2000) stated that childhood trauma has been associated with poor social functioning in early and middle childhood. It has thus been hypothesised that when presented with ambiguous social stimuli, maltreated children are more likely than other children to describe interpersonal relationships as threatening and painful and to attribute hostile intentions toward social partners (Cougles et al., 2010; Ornduff, 2000). Therefore childhood trauma may lead to higher rates of social avoidance and withdrawal.

It has further been shown that maltreated children are more aggressive than their non-maltreated peers and they frequently avoid or withdraw from social interactions (Bolger, Patterson, & Kupersmidt, 1998). Moreover Bolger et al (1998) found that maltreated children tended to be less popular with their peers and were less likely than other children to have their self-reported friendships reciprocated by their peers. In an earlier study it was indicated that children with abuse histories experienced more conflict and less intimacy when interacting with close friends (Parker & Herrera, 1996). A later study (Colman & Widom, 2004) found that the intimate relationships of adults whom were maltreated as children differed from those of other adults in stability and quality. Specifically it found that both male and female adults who had been abused and/or neglected in childhood reported significantly higher rates of relationship disruption (i.e. separation and divorce) than those adults without childhood trauma histories (Colman & Widom, 2004).

Evidence in children, adolescents and adults indicates that childhood trauma can have a severe impact on emotional functioning which is supported by associations between self reported childhood abuse and the enhanced risk to develop both depressive and/or anxiety disorders in adulthood. Spertus, Yehuda, Wong, Halligan & Seremetis (2003) demonstrated that childhood sexual and physical abuse was associated with a broad range of behavioural, psychological and physical problems that persisted into adulthood including increased risk for depression, anxiety, substance abuse, personality disorders, and re-victimisation. More recently there have been studies indicating that emotional abuse (i.e.,

psychological maltreatment and non-physical aggression) and emotional neglect (i.e., emotional deprivation or the absence of a nurturing emotional environment) may similarly be associated with adverse outcomes (Spertus et al., 2003).

Consistent with this was the findings of Rodgers et al (2004) which indicated that increased rates of depression, anxiety, PTSD, eating disorders, antisocial behaviour and personality disorders were linked to a history of childhood trauma.

It was reported in Cogle et al., 2010 that a previous epidemiological report had found rates of anxiety symptoms to be greater in individuals with a history of childhood abuse, specifically physical and sexual abuse, as compared to those without an abuse history. Hovens et al (2009) demonstrated that a history of childhood trauma is associated with a higher risk of anxiety disorders in adulthood. In this study, emotional neglect as well as psychological, physical and sexual abuse in childhood were all found to be associated with the presence of anxiety disorders in later life, however childhood life events (e.g. early parental loss, parental divorce and placement in care) were not significantly associated with later development of anxiety disorders (Hoven et al., 2009). A study conducted by (Didie et al., 2006) found that childhood physical abuse appeared to be strongly associated with lifetime anxiety disorders. Another study (David et al., 1995) found that rates of childhood abuse were much higher (63%) among those diagnosed with panic disorder, agoraphobia and specifically SAD compared to a non-clinical group with no psychopathology (24%). Allen (2008) is consistent with this suggesting that childhood exposure to psychologically

stressful events frequently predicts increased anxiety and somatic concerns in adulthood.

Other investigations (Stein et al., 1996) also revealed higher rates of childhood abuse histories among individuals with anxiety disorders (i.e. panic disorder, social anxiety disorder and obsessive compulsive disorder) as compared to a control group. An earlier study emphasised the specificity of various types of trauma to different psychiatric diagnoses and found that emotional abuse was more strongly related to depressive disorders, whereas childhood physical and sexual abuse was shown to be associated equally with anxiety and depressive disorders (Gibb et al., 2007).



#### **2.2.4 Social Anxiety Disorder and Childhood Trauma and Gender**

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A more recent study (Chartier, Walker & Stein, 2010) found that individuals with a range of aversive experiences including severe childhood sexual and physical abuse were at increased risk of SAD. Acarturk et al (2009) found that emotional neglect in adults was a significant predictor of incidences of SAD. In Scher et al (2004) it was found that 35.1% of the participants met the criteria for at least one form of childhood trauma of which 5% met criteria for sexual abuse and 18.9% met the criteria for physical abuse. Furthermore 41.3% of the men had experienced at least one form of childhood trauma, of which 2.2% met the criteria for sexual abuse and 22.1% met the criteria for physical abuse (Scher et al., 2004). Whereas 29.8% of the women met the criteria for at least one form of trauma, of

which 5.3% met the criteria for emotional neglect and 17.1% met the criteria for physical abuse (Scher et al., 2004). The association of depression with SAD, alcohol abuse and dependence as well as childhood trauma is relevant. It has been found that depression may play a role in the development of alcohol related problems (Brunello et al., 2000). Similarly, many individuals with SAD also present with comorbid depression (Brunello et al., 2000). A history of childhood traumatic experiences may also be linked with the development of depression in later life (Hoven et al., 2009; Gibb et al., 2007; Suliman et al., 2008). This study will statistically control for the possible impact of depression.

### **2.2.5 Social Anxiety Disorder and Alcohol Use Disorders**

SAD is often complicated by an additional Axis I disorder most commonly another anxiety disorder, affective disorders and/or substance use disorders (Book et al., 2008). Epidemiological studies have demonstrated a significant relationship between SAD and alcohol abuse and dependence (Buckner et al., 2008; Kessler et al., 1994; Morris et al., 2005). The co-occurrence of SAD and alcohol use disorders is especially important due to the increased impairment in peer social support, greater stress in peer and relative relationships, more use of health care facilities and an increased likelihood of additional mental health diagnoses (Buckner et al., 2008).

In South Africa alcohol abuse and dependence disorders are exceedingly prevalent and compared with 14 other countries in the World Health Organisation's World

Mental Health Survey (2008), South Africa has the second highest prevalence rate for alcohol use disorders (Kessler & Ustun 2008). AUD's include alcohol dependence and alcohol abuse, with the former referring to a physiological and/or psychological dependence on alcohol where the individual persists to consume alcohol irrespective of negative physiological and psychological consequences (American Psychological Association, 2000). Alcohol abuse is normally less severe, and refers to an individual that uses alcohol in hazardous situations and continues to use alcohol despite problems in social, interpersonal, occupational or family settings related to their alcohol use (American Psychological Association., 2000). The lifetime prevalence rates for alcohol use disorders ranges from 8.3% to 30.3% (Schneier et al., 2010). Nearly half (48.2%) of individuals diagnosed with lifetime SAD also met the criteria for alcohol use disorders based on epidemiological data, which is far greater than the lifetime prevalence rates for either alcohol abuse (12.2%) or alcohol dependence (5%) (Bacon & Ham, 2010). According to Kessler et al (1997) the lifetime prevalence rates for alcohol abuse among males are 12.5% and 6.4% in females, whereas for alcohol dependence the rates increase to 20.1% for males and 8.2% for females.

A number of studies (Buckner et al., 2008; Kessler et al., 1997) have suggested that SAD serves as a risk factor for adult alcohol abuse and dependence.

According to Schneier et al (2010) the lifetime prevalence rate between comorbid SAD and alcohol use disorders is 2.4%. A recent study that examined the comorbidity of SAD and alcohol abuse and dependence, found that participants with a lifetime history of SAD had a significantly increased risk for alcohol

dependence and that the majority of participants (80.1%) had an earlier age of onset of SAD relative to the onset of their alcohol related problems (Buckner et al., 2008). Furthermore this study followed high school students from 16 years until the age of 26 years found that 26% of the students with an original diagnosis of SAD (and no diagnosis of alcohol abuse or dependence) had developed a secondary diagnosis of alcohol dependence by the age of 26 years old, compared to 8.5% who developed an alcohol dependence in the absence of an earlier diagnosis of SAD (Buckner et al., 2008).

Similarly in a study (Thomas, Thevos & Randall, 1999; Randall, Thomas & Thevos, 2001) in which individuals seeking treatment for AUD's found that those individuals with comorbid SAD presented with higher alcohol dependence, were more reliant on alcohol to improve sociability and enhance functioning and experienced more psychiatric problems than those individuals without SAD. Falk, Yi & Hilton (2008) found that alcohol abuse and alcohol dependence appeared at a later mean age of onset than the onset of social anxiety disorder in their sample. In addition Buckner & Turner (2009) suggested that the causal directionality of the relation between SAD and AUDs is important in understanding the relationship between the disorders and found that SAD increased the risk of subsequent AUD, whereas AUD did not increase vulnerability for SAD. Social threat often coincides with the presence of alcohol (e.g. parties, meetings etc) which may make alcohol use a more likely mechanism for coping in socially anxious individuals.

Despite there being many studies that suggest SAD is a risk factor for AUD, Crum & Pratt (2001) found no significant association between SAD and the incidence of heavy drinking or alcohol abuse/dependence. They did however find a strong association between sub-clinical SAD and alcohol abuse or dependence across a median 12.6 years follow-up. Given the evidence of the frequent co-occurrence of SAD and alcohol use disorders and the complications that comorbidity confers on individual's physical and psychological health, social relationships and general societal costs it remains prudent to develop a comprehensive understanding of the factors that influence the development and maintenance of this comorbid relationship (Bacon & Ham, 2010).

### **2.3 Theoretical Framework**

In South Africa, both childhood trauma and alcohol consumption are major psychological, as well as public health concerns and occur across all cultural, gender and socio-economic contexts.

Developmental theory suggests that all individuals progress through phases of development across the lifespan (Sigelman & Rider, 2003). Both childhood trauma as well as SAD can be interpreted under Erik Erikson's life-span approach theory. Erikson's life-span approach focuses on the development of personality over the entire course of life (Schultz & Schultz, 2009). Each psychosocial stage presents a psychological crisis that necessitates some change in one's behaviour and personality. The individual responds to each crisis either in an adaptive or maladaptive way (Schultz & Schultz, 2009). Normal adaptive development



occurs through the successful resolution of each conflict, yet if the conflict at any stage remains unresolved, the individual is less likely to adapt to later problems and conflicts in life (Schultz & Schultz, 2009).

According to Erikson (1963) during middle childhood (age 6 to 11 years) the fourth stage of development occurs and the child is faced with the conflict of industry versus inferiority. This is a period of the child's life where they learn to function socially within the broader social realm of the neighbourhood and school rather than merely within the family context and start developing and using their skills (Schultz & Schultz, 2009). If children are treated negatively, ridiculed or rejected, they are likely to develop feelings of inferiority and inadequacy (Schultz & Schultz, 2009). Thus it is hypothesised that childhood trauma and maltreatment will hinder the individual's ability to resolve this crisis creating feelings of inferiority and inadequacy, which are emotions linked with SAD.

Cognitive psychopathology provides a potential framework for understanding the relationship between childhood trauma and SAD. In terms of SAD the literature proposes a cognitive behavioural explanation of the cognitive and behavioural mechanisms underlying social anxiety (Rapee & Heimberg, 1997). Individuals with SAD assume that others are inherently critical and are likely to evaluate them negatively (Rapee & Heimberg, 1997). The processes that occur to generate and maintain social anxiety are similar regardless of whether the social situation or event is actually encountered or anticipated (Rapee & Heimberg, 1997).

According to Rapee & Heimberg (1997) attention is given to both internal cues, regarding how their performance relates to others expectations, as well as external indicators of threat (e.g., cues signifying negative evaluation). This posits that there is an initial capturing of attention by cues indicating social threat which is then followed by a shift in attention or behaviours in order to avoid the threatening stimuli (Rapee & Heimberg, 1997).

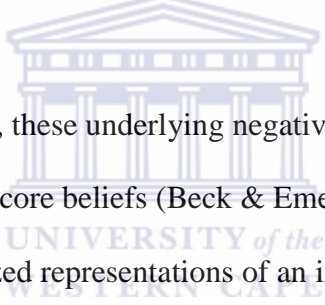
Early relationships shape our sense of self and what we expect from others and our world, and we build up cognitive structures and relational schemas that become activated in our future relationships (Gren-Landell et al., 2010). With regards to childhood trauma, it has been suggested that experiences of childhood trauma lead to an increase in negative self-associations such as negative self-inferential statements, dysfunctional self-attitudes, and low self-worth (Beck & Emery, 1985; Rapee & Heimberg, 1997). Furthermore, these increased negative self-associations, are hypothesised to enhance negative bias and recall when engaged in new situations, and when retrieving memories (Rapee & Heimberg, 1997). Here abused individuals may get caught in a negative circle in which childhood trauma may enhance negative biases, which in turn may result in more frequent and intense negative experiences that in turn enhance negative self-associations (Beck & Emery, 1985). As a result individuals with a history of childhood maltreatment may be more vulnerable to develop and/or maintain a mood and/or anxiety disorder (Rapee & Heimberg, 1997).

It has been argued that childhood emotional abuse may be more strongly related to negative self-associations than childhood sexual and/or physical abuse, since during emotionally abusive episodes negative self-associations are explicitly handed to the child (for example ‘you are such a stupid child, you are worthless’ (Beck & Emery, 1985). This is validated by various studies indicating that childhood emotional abuse is more strongly related to negative cognitive styles (dysfunctional self-attitudes and negative (self-inferential styles) than childhood sexual or physical abuse (Gren-Landell et al., 2010).

Cognitive functioning is often divided into two distinct mental processes; propositional and automatic processes (Gawronski & Bodenhausen, 2006; Haeffel, 2007). Propositional processes are characterized by evaluative judgments (explicit cognitions) which are based on inferences about the stimulus and/or event (e.g. I am being criticized; I know I made a mistake, thus I am inadequate) (Haeffel et al., 2007). These explicit cognitions mainly influence deliberate and controlled behaviour (Gawronski & Bodenhausen, 2006), and have been demonstrated to be good predictors of long-term depressive and anxious symptoms (Haeffel et al., 2007). Automatic self-associations, on the other hand, are thought to be spontaneous and unintentional (e.g. ‘I am worthless’) and become activated directly in response to certain stimuli and/or events (e.g. being yelled at), and thus play an important role in automatic affective behaviour (e.g., crying) (Haeffel et al., 2007). Automatic associations can be activated simultaneously with explicit cognitions, even when they have a diverging meaning. For example, an individual with a history of childhood trauma may

know on an explicit level that she/he is not a worthless person when someone is yelling at her/him (Haeffel et al., 2007). Yet despite this knowledge, she/he will automatically feel worthless and may begin crying (Haeffel et al., 2007).

Automatic processes may be of importance in maladaptive affective behaviours and are therefore suggested to play an important role in the development and maintenance of depressive and/or anxiety disorders (Haeffel et al., 2007). Given the prominent role that is attributed to negative self-associations in mood and/or anxiety disorders it is reasonable to hypothesise that these enhanced negative self-associations increase an individual's generic vulnerability to develop a mood and/or anxiety disorder (Beck & Emery, 1985).



In the cognitive literature, these underlying negative self-assumptions have been referred to as schemas or core beliefs (Beck & Emery, 1985). Schemas are conceptualized as organized representations of an individual's prior experiences that influence their current perceptions, thinking, and behaviour (Beck & Emery, 1985). According to Cogle et al (2009) childhood emotional abuse is significantly associated with a negative cognitive attributional style and negative self-schemas which mediate the relationship between childhood emotional abuse and subsequent internalised disorders.

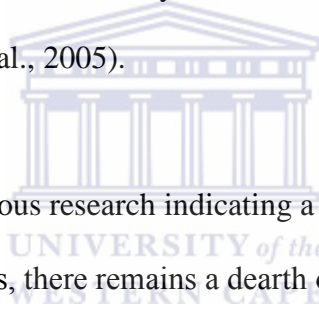
O' Dougherty Wright, Crawford & del Castillo (2009) suggested that both emotional abuse as well as emotional neglect were predictors of symptoms of anxiety and depression and that they were mediated by unconditional schemas of defectiveness/shame and vulnerability to harm, and conditional schema of self-

sacrifice. In terms of vulnerability to harm the importance of fear and helplessness were highlighted as lasting sequelae to both emotional abuse and neglect which may lead to the belief that one is unable to prevent catastrophes and that they may strike at any time (O' Dougherty et al., 2009). These beliefs may under lie feelings of anxiety and helplessness about the future that might consolidate into a more pervasive negative cognitive style (O'Dougherty et al., 2009).

In terms of the relationship between SAD and AUD's this can be explained by using the Social Learning Model which conceptualises drinking as a learned behaviour (Brannon & Feist, 2007; Marks et al., 2006). This model suggests that a possible explanation for why people drink is that drinking may serve as a coping response, that is, that people who drink may interpret the initial effect of small doses of alcohol as enhancement of their ability to cope (Brannon & Feist, 2007). This response may give individuals a sense of power and a feeling of relaxation or reduction in stress and tension (Brannon & Feist, 2007). Therefore drinking leads to positive reinforcement through the reduction of stress and tension and thus individuals will continue to drink as long as they perceive that alcohol has desired effects. Consistent with this is the Stress Response Dampening Model (SRD) in which the dominating concept in the aetiology of alcohol use disorders is that tension, stress or anxiety plays an instigating role (Marks et al., 2006).

A review of the empirical literature regarding these theories as they relate to social anxiety and alcohol suggests that while socially anxious individuals drink alcohol

with the belief that such behaviour will reduce anxiety, the evidence is ambiguous as to whether alcohol use has an anxiolytic effect (Battista, Stewart, & Ham, 2010; Carrigan & Randall, 2003). The reduction in stress caused by alcohol is the expected catalyst for continued use via negative reinforcement suggesting that individuals consume alcohol to reduce their reactivity to stressful situations and therefore consume alcohol when anticipating or experiencing anxiety provoking or stressful situations (Morris et al., 2005). For those with SAD, the anxiety provoking situations would be those involving social interactions or social performance and thus this model predicts that those with SAD will consume more alcohol, more frequently when socially stressed, compared to those with low or no social anxiety (Morris et al., 2005).



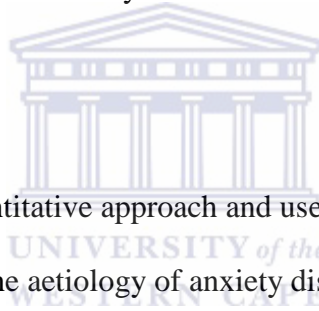
Despite there being previous research indicating a strong comorbid association between SAD and AUD's, there remains a dearth of research investigating the mechanisms which mediate this relationship (Morris et al., 2005). Childhood trauma has been identified as one potentially important factor that may play a role in this relationship (Morris et al., 2005; Simon et al., 2009). This study aims to better understanding the impact of childhood trauma in later life, in particular the role it may play in the development of psychopathology specifically SAD as well as secondary alcohol abuse and dependence disorders. The research methodology of the study will be discussed in the next chapter.

## CHAPTER THREE

### METHODOLOGY

#### 3.1 Introduction

This chapter presents the methodology and research design that was utilised in the study. The sample and participants are defined in terms of inclusion and exclusion criteria and the measuring instruments used in the study are discussed. The procedures followed for the data collection as well as the validity and reliability of the measuring instruments and procedures are discussed. The statistical techniques used and analyses that were done are also provided in this chapter.



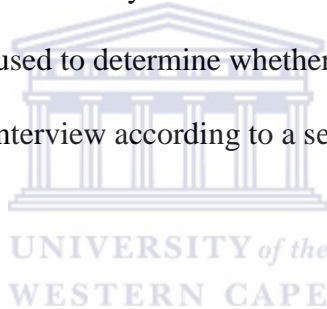
The study adopted a quantitative approach and used secondary data from a larger study that aims to understand the aetiology of anxiety disorders as this may have implications for early prevention and treatment. The primary objective of the larger study was to identify the specific genes that may contribute to the development of anxiety disorders. In addition, the larger study also aims to investigate demographic (e.g. gender and age) and clinical variables (e.g. age of onset of the primary disorder, symptom severity, response to treatment, comorbidity, and levels and nature of impairment due to the anxiety disorder) and to identify the associations between the disorder and specific aetiological factors, phenomenology and outcome.

This study's primary aim was to investigate the association between childhood trauma and the presence and severity of SAD in adulthood. The second aim was

to investigate whether alcohol abuse and dependence are more prevalent in SAD participants with a history of childhood trauma as compared with SAD participants without childhood trauma history.

### **3.2 Sampling**

Participants were recruited from a wide range of sources (e.g. the community, primary care and specialist practitioners) through advertisements in the local media. Individuals were encouraged to call study personnel for a telephonic screening interview if they had previously been diagnosed with; or thought they may be suffering with social anxiety disorder for the purposes of this study. This screening interview was used to determine whether an individual should be invited for an in-person interview according to a set of inclusion and exclusion criteria.



#### **Participants**

##### **3.2.1.) Inclusion criteria:**

- Participants 18 years and older, male or female, with a principal DSM-IV diagnosis of SAD (generalized or specific) with/without psychiatric comorbidity
- The participant signed the informed consent form
- The participant was willing to comply with study procedures

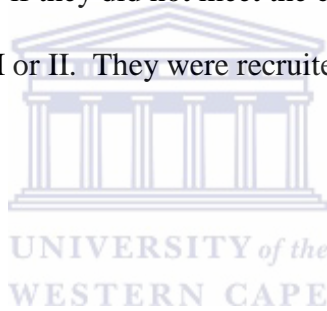


### 3.2.2) Exclusion criteria:

- Participants with a primary Axis I disorder other than SAD (as determined with the SCID-I/P)
- Participants who were psychotic or who did not appear to comprehend adequately the aims and practical implications of the study

### Controls

Control subjects were also recruited and interviewed and their data will be used for comparison purposes. The controls also underwent a diagnostic interview and were included as controls if they did not meet the criteria for any psychiatric diagnosis on either Axis I or II. They were recruited from the South African general population.



### 3.3 Participants

Fifty-seven (N=57) participants with a primary diagnosis of SAD, aged 18 years or older and sixty-two (N=62) controls were included in this study.

### 3.4 Research Design


The study used data obtained from a larger, ongoing study with an existing database of clinical data on participants with anxiety disorders at the MRC Unit on Anxiety and Stress Disorders. This secondary study will make use of a quasi-experiment as participants will be assigned to two different groups according to a pre-existing variable (e.g. presence of childhood trauma, and gender). The dependent variable will be SAD and the predictor variables will be the SAD

symptom severity and the presence or absence of a secondary AUD. Childhood trauma will be the mediating variable in order to assess whether it influences the strength and/or direction of the relationship between SAD and AUDs.

### **3.5 Data collection**

#### **3.5.1 Measuring Instruments**

The instruments used in this study included the Structured Clinical Interview for Axis I Disorders-Patient Version (SCID-I/P) that was used to assess diagnostic status (First, Gibbon, Spitzer, William & Benjamin, 1994). The SCID-I/P has a high degree of validity (First et al., 1994), reliability (First et al., 1994) and is used frequently in psychiatric research.



The severity of the participants' SAD symptomatology was assessed using the Liebowitz Social Anxiety Disorder Scale (LSAS), a 24-item clinician rated scale (range 0-144 points) with first-rate psychometric properties (Liebowitz, 1987). This scale assesses the level of fear and avoidance in a broad range of social and performance situations, and is a standard assessment scale for SAD severity (Liebowitz, 1987). Information on the nature and severity of childhood trauma/maltreatment was collected from each participant with the use of the Child Trauma Questionnaire (CTQ), a well-validated 28-item self-rated scale (Bernstein et al., 1994; Bernstein & Fink, 1998). This short-form version of the CTQ consists of five subscales (five items each) and three validity items assessing minimization/denial. The CTQ items are rated from 1 (never true) to 5 (very often true) with some items reverse scored, and a possible range of subscale

scores of 5-25 (Bernstein, Ahluvalia, Poggie & Handelsman, 1997; Bernstein et al., 1994). The CTQ has demonstrated reliability and validity, including test-retest reliability coefficients ranging from .79 to .86 over an average of 4 months, internal consistency reliability coefficients ranging from a median of .66 to a median of .92 across a range of samples (Bernstein & Fink, 1998), and convergent validity with both clinicians' and therapists' ratings of childhood maltreatment. Bernstein and Fink (1998) describe the subscales as follows: Emotional abuse refers to verbal assaults on a child's sense of worth or well-being, or any humiliating, demeaning, or threatening behaviour directed toward a child by an older person (e.g. People in my family called me things like 'stupid', 'lazy', or 'ugly'). Physical abuse refers to bodily assaults on a child by an older person that pose a risk of, or result in, injury (e.g. people in my family hit me so hard it left bruises or marks). Sexual abuse refers to sexual contact or conduct between a child and an older person, including explicit coercion (e.g. someone tried to make me do sexual things or make me watch sexual things). Emotional neglect refers to the failure of caregivers to provide basic psychological and emotional needs, such as love, encouragement, belonging and support (reverse scored, e.g. I felt loved). Physical neglect refers to failure to provide basic physical needs or necessities including food, shelter, and safety (e.g. I didn't have enough to eat). These definitions are consistent by ones provided by Dawes et al (2006) and DSD (2004) within the South African context. The CTQ short form also includes three validity items assessing minimization/denial. This standardised short-form was based on the combined data from seven samples and demonstrated excellent reliability and validity (Bernstein & Fink, 1998).

Guidelines were established for classifying scores on each short-form subscale according to the severity of abuse and neglect. These guidelines specified the range of scores that constituted “none to minimal,” “low to moderate,” “moderate to extreme” on each subscale. The lowest level cut-off scores used in the present study succeeded in capturing a high proportion of true maltreatment cases, including those of low severity (Paivio & Cramer, 2004).

### **3.5.2 Procedure**

After recruitment and consenting to participate, individuals were subjected to a once-off semi-structured interview lasting approximately 3-5 hours, performed by an experienced clinical psychologist or other clinician with expertise in the field at the MRC Unit on Anxiety and Stress Disorders. Demographic data, including gender, age, onset age of their primary disorder (SAD) and their comorbid secondary disorder(s), and ethnicity was obtained. After completing the demographic questionnaire, information regarding the participant’s treatment history (including medication and psychotherapy) and family’s psychiatric history was collected. In addition, information of childhood trauma was collected using the Child Trauma Questionnaire (CTQ). Participants were classified into groups according to the CTQ categories of ‘none-minimal’ trauma; ‘low-moderate’ trauma and ‘moderate-extreme’ trauma according to the cut-off score (see Table 1). Alcohol abuse and dependence was collected using the Structured Clinical Interview for Axis I – Patient Version (SCID-I/P). Presence and severity of comorbid depression was also assessed.

**Table 1: CTQ cut-off levels**

<b>CTQ Subtype</b>	<b>None-Minimal</b>	<b>Low-Moderate</b>	<b>Moderate - Extreme</b>
Emotional abuse	$\leq 8$	9 – 12	$\geq 13$
Emotional neglect	$\leq 9$	10 – 14	$\geq 15$
Physical abuse	$\leq 7$	8 – 9	$\geq 10$
Physical neglect	$\leq 7$	8 – 9	$\geq 10$
Sexual abuse	$\leq 5$	6 – 7	$\geq 8$

(Bernstein & Fink, 1998)

### **3.6 Statistical Analysis**

Demographic data was analysed by means of basic descriptive statistical analysis (i.e. frequencies, correlations and t-tests) using SPSS version 17.0. A linear regression analysis was done to test the hypothesis that a history of childhood trauma would be significantly related to the increased symptom severity (LSAS) in individuals with social anxiety disorder. In order to examine the presence and impact of threshold levels of the different types of abuse and neglect, the cut off points previously established by Bernstein & Fink (1998) for the CTQ subscales were utilised (see Table 1).

Variables used in the main analysis included childhood trauma, severity and gender and an ANOVA was done in order to make comparisons. Descriptive statistics were calculated for the mean age of onset of SAD and AUDs in all the participants. The participants with no history of lifetime AUDs were excluded from this analysis. In order to investigate the mediating role of childhood trauma

with regards to the association between SAD and alcohol use disorders, comparisons were run to assess whether alcohol abuse and dependence are more prevalent in SAD participants with a history of childhood trauma as compared to those without. The statistical level of  $P < 0.05$  was considered to be statistically significant. The statistical package SPSS version 17.0 was used for the statistical analyses.

### **3.7 Ethical considerations**

Informed consent was obtained in writing from all the participants in the study. The study procedures were explained in unprofessional terminology to all participants verbally, as well as in the written form. The participants were informed that all data collected in the study would remain strictly confidential and that the results of the study would be made available to the public and published without compromising the right to confidentiality. Only the researchers of the study have access to this data. The participants were informed that participation is voluntary and that they were free to withhold or to withdraw participation in the study, without compromising future care at any time of the process. The participating individuals incurred no costs in this study.

The study protocol and patient information and consent forms (Appendix A) have been approved by the Research Ethics Committee of the Faculty of Health Sciences of the University of Stellenbosch. The study was conducted in accordance with the guidelines of the International Conference on Harmonisation Good Clinical Practice Guidelines (ICH/GCP, 1996), The Declaration of Helsinki

(Edinburgh, 2000) and the Medical Research Council of South Africa's guidelines (2002) on the ethical conduct of research in humans. The study was also approved by the Research Ethics Committee of the Faculty of Community Health Sciences of the University of the Western Cape.



## CHAPTER FOUR

### RESULTS

In this chapter, the results of the aims of this study are reported in terms of the research hypotheses. Additional findings pertaining to the study will also be reported in this chapter. The data was statistically analysed by means of the Statistical Package for the Social Sciences (SPSS) version 17.0.

#### 4.1 Demographic Data

Participant and control characteristics are summarised in Table 2. The sample consisted of a total of 57 participants, 34 male (59.6%) and 23 (40.4%) females with a primary diagnosis of SAD. The mean age of the participants was 37.6 years. There were 62 controls, 34 males (54.8%) and 28 females (45.2%) and the mean age was 36.3 years.

**Table 2: Participant characteristics**

	Participants with SAD (N= 57) (%)	Controls (N= 62) (%)
<b>Gender</b>		
Male	34 (59.6)	34 (54.8)
Female	23 (40.4)	28 (45.2)
Chi-square	.281	.281
<b>Age</b>		
Mean (SD)	37.6 (12.5)	36.3 (12.2)
t-test	.656	.655



## 4.2 Hypothesis One

It was hypothesised that the majority of participants with a primary diagnosis of SAD would have experienced increased rates of childhood trauma. In the analyses it was confirmed that the majority of participants (n= 42, 73.7%) met the Bernstein & Fink (1998) threshold severity criteria of CTQ total  $\geq 36$ , any exposure to trauma (see Figure 1) suggesting that almost three quarters of the study sample presented with significant rates of early adversity. Of those 75.4% participants 45.6% were within the low-moderate category of childhood trauma whereas 28.1% fell within the moderate to extreme. In the control group majority of participants (n=38, 61.3%) experienced none to minimal trauma (see Figure 2); 35.5% reported low-moderate rates of trauma and 3.2% were within the moderate to severe category.

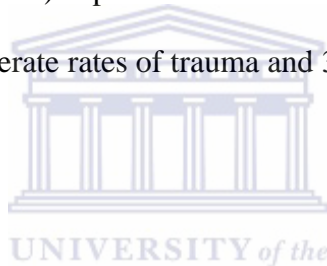
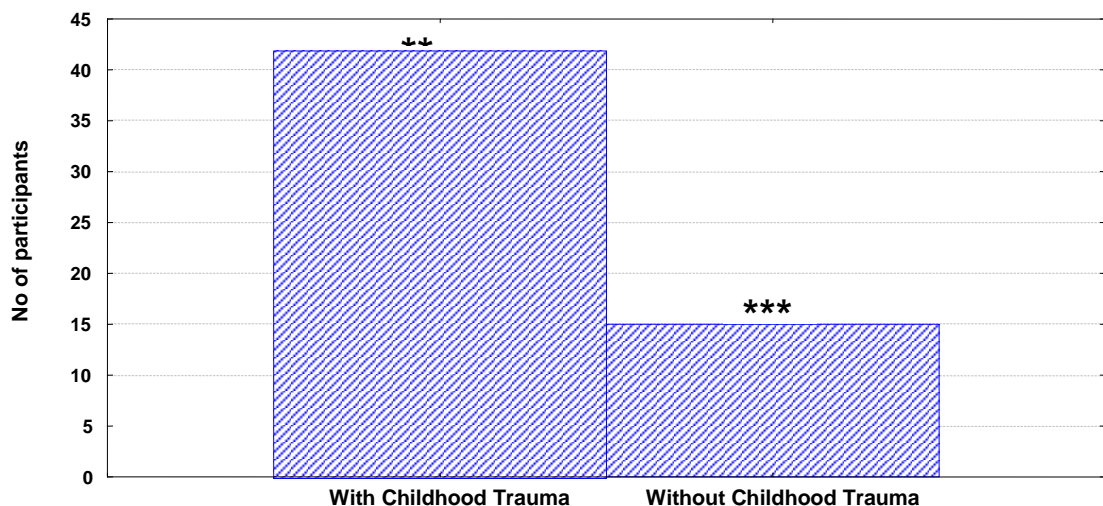


Figure 1: Number of SAD participants with/without childhood trauma



\* CTQ, Childhood Trauma Questionnaire; SAD, Social Anxiety Disorder.

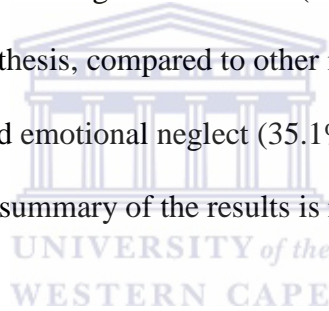
\*\* CTQ  $\geq 36$ : with childhood trauma

\*\*\*CTQ  $< 36$ : without CT

## 4.2 Hypothesis Two

It was hypothesised that emotional neglect would be the most prevalent type of childhood trauma in individuals with a primary diagnosis of SAD (Simon et al., 2009; Acarturk et al., 2009). The majority of the sample 73.7% met the Bernstein & Fink (1998) threshold severity criteria for at least one type of childhood abuse or neglect as measured by the CTQ subscales. Any exposure to trauma in terms of the threshold levels demonstrated that in self-reported rates of childhood trauma 40.4% (n=23) met criteria for childhood sexual abuse, physical abuse was met for 35.1% (n=20), physical neglect for 33.3% (n=19), emotional abuse for 59.6% (n=34), and emotional neglect for 70.2% (n=40) of the participants.

Consistent with the hypothesis, compared to other instances of childhood trauma, most participants reported emotional neglect (35.1% - low-moderate; 35.1% - moderate – extreme). A summary of the results is reported in Table 3.



**Table 3: Number of SAD participants with childhood trauma**

CTQ subscales*	Participants with SAD (N= 57) (%)	Mean (SD)
<b>Emotional Abuse</b>		<b>11.5 (5.49)</b>
None-minimal	24 (42.1)	
Low-moderate	13 (22.8)	
Moderate-extreme	20 (35.1)	

<b>Physical Abuse</b>		<b>7.8 (3.81)</b>
None-minimal	37 (64.9)	
Low-moderate	8 (14.0)	
Moderate-extreme	12 (21.1)	
<b>Sexual Abuse</b>		<b>7.5 (4.48)</b>
None-minimal	34 (59.6)	
Low-moderate	4 (7.0)	
Moderate-severe	19 (33.3)	
<b>Emotional Neglect</b>		<b>12.6 (5.12)</b>
None-minimal	17 (29.8)	
Low-moderate	20 (35.1)	
Moderate-severe	20 (35.1)	
<b>Physical Neglect</b>		<b>7.12 (2.89)</b>
None-minimal	38 (66.7)	
Low-moderate	11 (19.3)	
Moderate-severe	8 (14.0)	

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\* According to CTQ cut-off scores (Bernstein & Fink, 1998)

### 4.3 Hypothesis Three

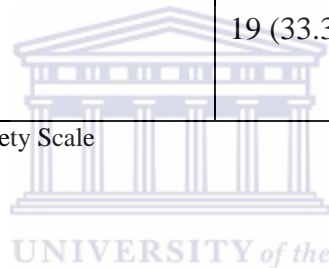
An LSAS mean of 87.2 (23.37) suggested severe SAD symptomatology in the study sample. Most participants experienced severe (29.8%) or very severe (33.3%) SAD symptoms (see Table 4; Figure 2). It was hypothesised that a history of childhood trauma would be significantly associated with greater SAD symptom severity in individuals with SAD. Correlations were done using Spearman's  $r$  to determine the association between threshold levels of childhood

trauma (CTQ) and SAD symptom severity (LSAS). It was found that physical neglect was significantly and positively associated with symptom severity on the LSAS ( $p = .02$ ), whereas all the other correlations did not achieve significance (see Table 5).

**Table 4: Threshold categories for LSAS**

LSAS-scores	Number of patients (n = 53) (%)
<b>Mean (SD)</b>	<b>87.2 (23.37)</b>
Moderate (55-65)	10 (17.5%)
Marked (65 -80)	7 (12.3%)
Severe (80-95)	17 (29.8%)
Very Severe (> 95)	19 (33.3%)

LSAS, Liebowitz Social Anxiety Scale



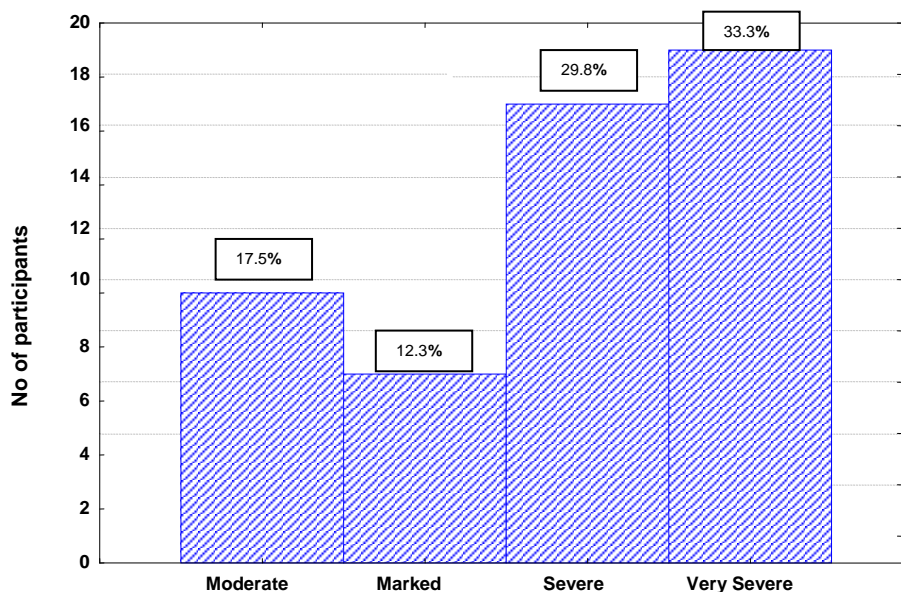
**Table 5: The correlation between childhood trauma subtotals and LSAS total**

CTQ subscale	LSAS total	
	Spearman's Rho ( $r$ )	P-value
Sexual abuse	0.07	.63
Physical abuse	-0.00	.98
Physical neglect	0.32	<b>.02*</b>
Emotional abuse	0.11	.45
Emotional neglect	0.19	.17

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

CTQ, Childhood Trauma Questionnaire; LSAS, Liebowitz Social Anxiety Scale.

**Figure 2: Threshold categories of the LSAS**



#### 4.4 Hypothesis Four

It was hypothesised that childhood trauma would be significantly higher in women than in men, in individuals with a primary diagnosis of SAD. A summary of the data is provided in Table 6. Females had significantly more severe emotional abuse ( $p = 0.03$ ) (see Figure 3) and sexual abuse ( $p = 0.01$ ) (see Figure 4) than males. In addition, females reported significantly higher rates of childhood trauma in total ( $p = 0.03$ ) (see Figure 5).

**Table 6: CTQ differences between Genders**

CTQ Subscale	Male	Female	Mann-Whitney U	F	P-value
<b>Emotional Abuse</b>					
Mean	10.15	13.39	$p = 0.03$	$F(1.55) =$	<b><math>p = 0.03^*</math></b>
SD	5.03	5.68		5.1445	
CI	[8.39-11.90]	[10.94-15.85]			

<b>Physical Abuse</b>					
Mean	7.29	8.52	p = 1.00	F(1.55) =	p = 0.24
SD	2.68	5.02		1.4380	
CI	[6.36-8.23]	[6.35-10.69]			
<b>Sexual Abuse</b>					
Mean	6.26	9.30	p = 0.08	F(1.55) =	<b>p = 0.01*</b>
SD	2.35	6.08		7.0033	
CI	[5.44-7.09]	[6.68-11.93]			
<b>Emotional Neglect</b>					
Mean	12.06	13.39	p = 0.34	F(1.55) =	p = 0.34
SD	4.94	5.37		92949	
CI	[10.33-13.78]	[11.07-15.72]			
<b>Physical Neglect</b>					
Mean	6.91	7.57	p = 0.78	F(1.55) =	p = 0.41
SD	2.44	3.46		.69984	
CI	[6.06-7.76]	[6.07-9.06]			
<b>CTQ Total</b>					
Mean	42.68	52.17	p = 0.06	F(1.55) =	<b>p = 0.03*</b>
SD	12.35	19.34		5.1319	
CI	[38.37-46.99]	[43.81-60.54]			

\* Significant at the 0.05 level (2-tailed)

SD, Standard Deviation; CI, Confidence Intervals [-95.00-+95.00]

Figure 3: Emotional Abuse vs Gender in SAD Participants

Current effect:  $F(1, 55)=5.1445, p=0.03$  Mann-Whitney U  $p=0.03$

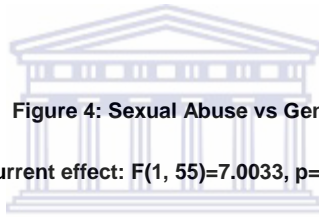
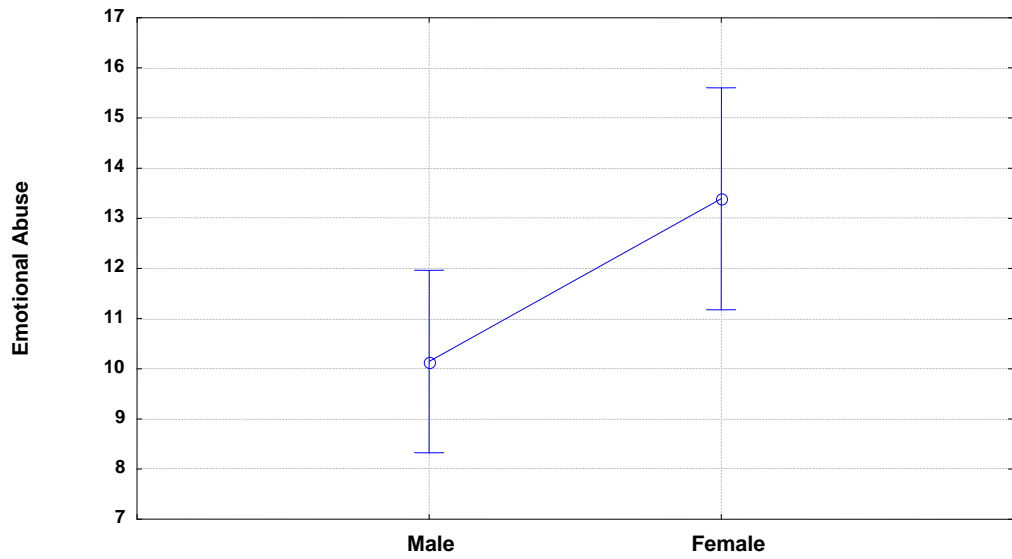


Figure 4: Sexual Abuse vs Gender in SAD Participants

Current effect:  $F(1, 55)=7.0033, p=0.01$  Mann-Whitney U  $p=0.08$

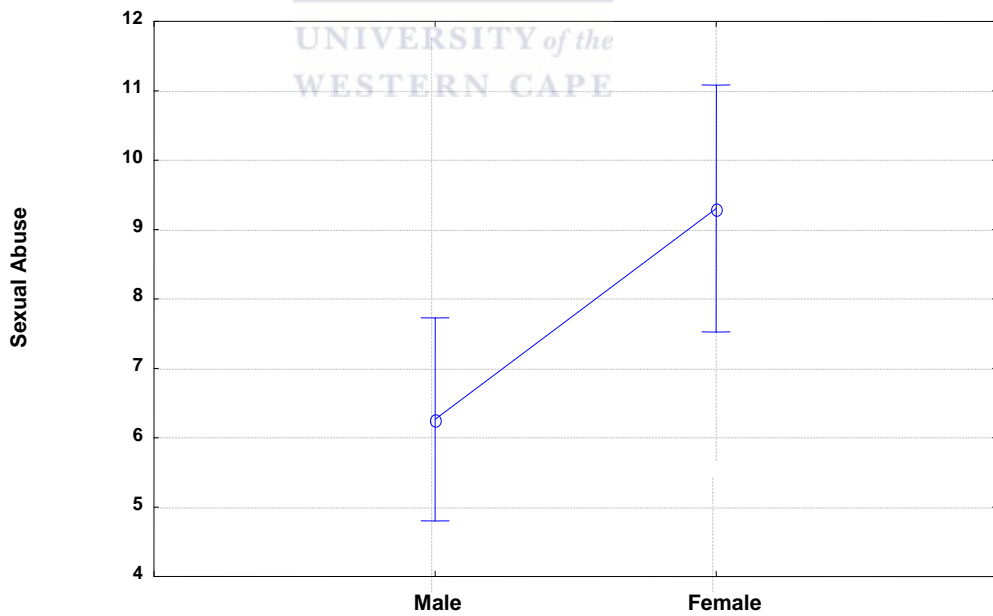
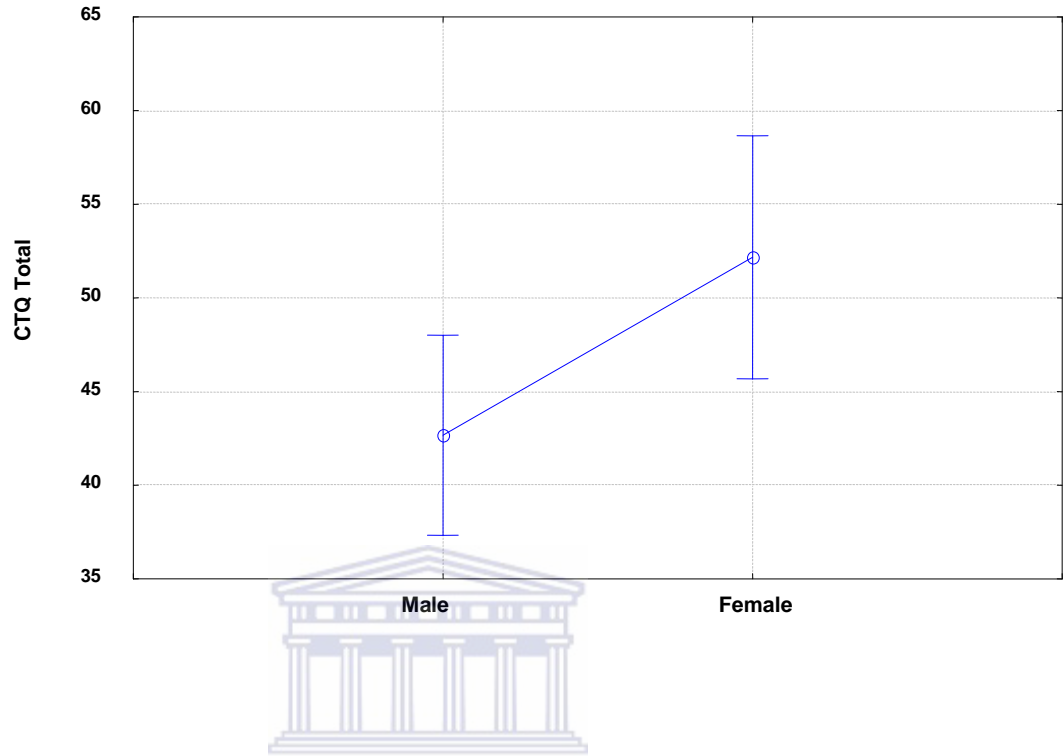


Figure 5: CTQ Total vs Gender in SAD Participants

Current effect:  $F(1, 55)=5.1319, p=0.03$  Mann-Whitney U



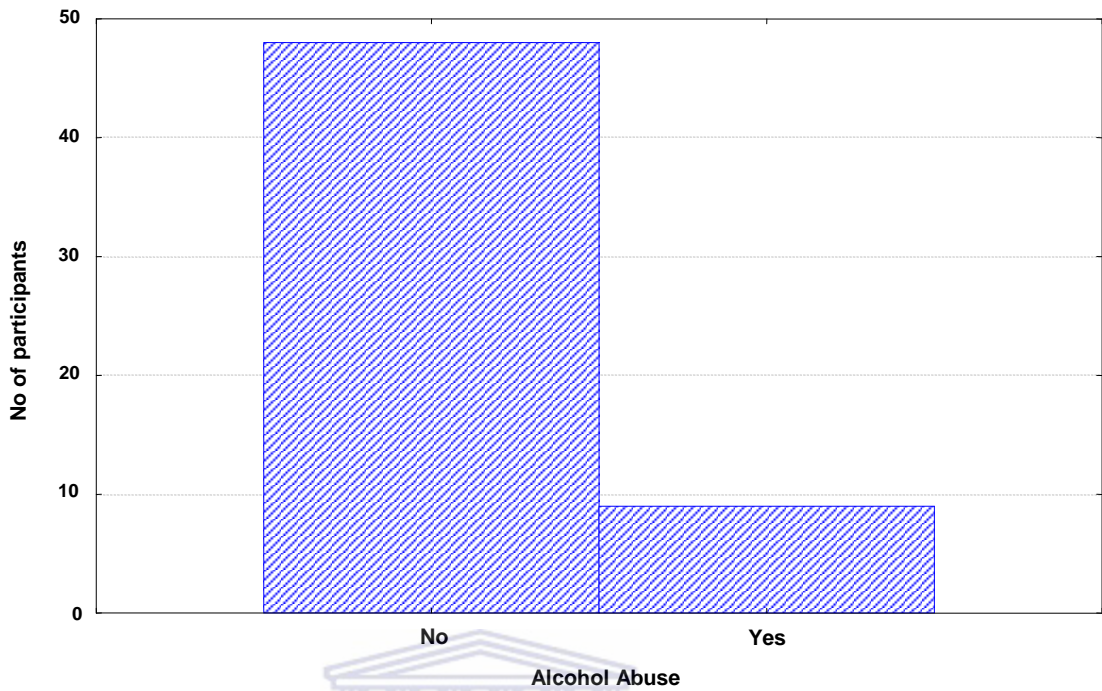
#### 4.6 Hypothesis Five

It was hypothesized that the prevalence of AUD's will be higher among participants with a history of childhood trauma in comparison to those without.

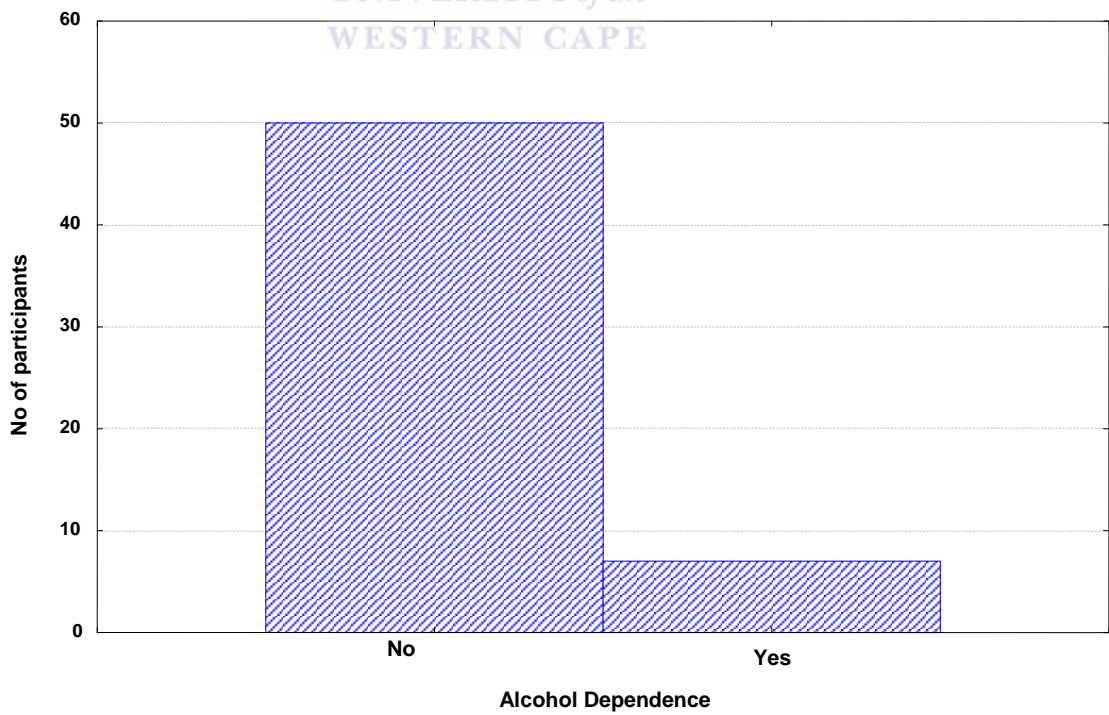
In terms of lifetime alcohol *abuse*, 3 of the 57 participants had a comorbid diagnosis of alcohol abuse (see Table 7; Figure 6). Of the 57 participants, 1 had a comorbid diagnosis of lifetime alcohol *dependence* (see Table 7; Figure 7). There were 6 participants that met the diagnosis for lifetime alcohol abuse and dependence (see Table 7). Of the 57 participants ( $n = 10, 17.5\%$ ) have a comorbid alcohol use disorder and of those participants eight participants (80%) reported experiencing some form of childhood trauma.



Figure 6: Histogram of Alcohol Abuse



Graph 7: Histogram of Alcohol Dependence



**Table 7: Onset ages of SAD and AUDs and CTQ**

<b>Cases</b>	<b>SAD</b>	<b>Alcohol Abuse</b>	<b>Alcohol Dependence</b>	<b>CTQ Total</b>
1	13 years	38 years		39
2	22 years	19 years		40
3	12 years	17 years		74
4	14 years		20 years	44
5	16 years	24 years	24 years	45
6	4 years	22 years	22 years	48
7	24 years	31 years	31 years	55
8	17 years	20 years	20 years	83
9	14 years	30 years	30 years	31
10	20 years	32 years	32 years	31

This chapter has presented the results of the statistical analysis and the discussion of the results will be presented and discussed in the next chapter.

## **CHAPTER FIVE**

### **DISCUSSION & CONCLUSION**

#### **5.1 Discussion of Results**

There is a growing interest in the potential presence of childhood maltreatment in individuals with SAD due to the early onset of this disorder (Simon et al., 2009). Childhood maltreatment is a prevalent concern within South Africa and is often associated with many secondary implications and more specifically the later emergence of psychopathology.

The main purpose of this study was to investigate the prevalence of reported childhood trauma in individuals with a primary diagnosis of SAD. Furthermore the study aimed to explore the association between childhood trauma and SAD symptom severity in this participant group. The role of gender in terms of the abovementioned association was also investigated. In addition, the study also investigated whether comorbid alcohol abuse and dependence were more prevalent in SAD participants with a history of childhood trauma as compared with SAD participants without childhood trauma history.

Study finding suggested a significant relationship between childhood trauma and SAD in adulthood. Almost three quarters (73.7%) of the study sample presented with significant rates of early adversity as compared to (38.7%) in the control group. This finding is consistent with the work of Simon et al (2009) which found

that 70% of their sample met the threshold criteria (i.e. at least minimal or worse severity) for at least one type of childhood maltreatment on the CTQ.

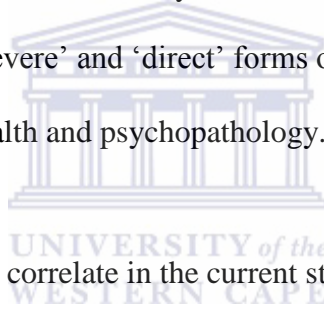
In the current study majority of the sample reported severe (29.8%) or very severe (33.3%) SAD symptomology whereas only (29.8%) of the sample reported moderate or marked symptom severity. In this study previously established threshold levels were used to determine clinically significant levels of specific subtypes of childhood abuse. It was found that physical neglect was significantly associated with increased SAD symptom severity ( $p < 0.02$ ) on the LSAS. The current study's findings were inconsistent with the results found in the study by Simon et al (2009) which demonstrated that emotional abuse and emotional neglect were significantly associated with greater symptom severity in SAD patients. This finding is consistent with results found in Gibbs et al (2007) that physical abuse was more strongly associated with anxiety disorders. However this study did not consider emotional neglect and physical neglect and thus possible reasons for variability in results among studies may be due to differences in trauma subtypes used and differences in the threshold levels applied. All of the other subtypes on the CTQ did not achieve significance and thus there was no association between these subtypes and increased SAD symptom severity.

The current study expanded on previous work by examining a full range of childhood trauma subtypes including emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse. The current study found 70.2% of the sample experienced emotional neglect, 59.6% reported experiencing emotional

abuse, and 40.4% reported experiences of sexual abuse in childhood. These findings are consistent with the work of Simon et al (2009) that found emotional abuse to be the most common form of maltreatment with an overall rate of 56%. The current findings are also consistent with a recent study that reported that childhood trauma, specifically emotional neglect was a significant predictor of SAD (Acarturk et al., 2009). The findings of the current study are also consistent with those of many other studies (Morris et al., 2005; Hovens et al., 2009; Scher et al., 2004) demonstrating that childhood trauma is a widespread phenomenon and is often experienced in those individuals who develop anxiety disorders in later life. This finding has significant relevance for clinical practice as it indicates the importance of screening for childhood trauma specifically emotional abuse and neglect as this may provide valuable information in being able to identify individuals at high risk to developing SAD in adulthood. Rates of physical abuse and physical neglect were lower among the current sample of individuals with SAD compared to those found in other studies (Gibb et al., 2007; Didie et al., 2006) which found a strong association between physical abuse and lifetime anxiety disorders in adulthood. However there was a string association between physical neglect and increased symptom severity and thus even though physical neglect is not as prevalent among those with SAD this finding shows that individuals that experience physical neglect tend to suffer from more severe SAD which is of clinical importance.

Psychological theories of development such as Erik Erikson's developmental stage theory, have posited the importance of early childhood experiences and

relations to be nurturing and supportive in order to achieve normal developmental milestones (Gren-Landell et al., 2010; Spertus et al., 2003). Thus experiences of emotional abuse and neglect in childhood may prevent development and lead to a limited repertoire of adaptive behaviours and poor self-esteem (Spertus et al., 2003). In the current study severe levels of emotional abuse and neglect were found which may illustrate that a neglectful early relationship can build up certain negative self schema or beliefs within individuals which may can instil a lack of self-worth within the individual. Thus it could be hypothesised that there is an association between childhood trauma, specifically emotional abuse and neglect with later development of social anxiety disorder. Furthermore this illustrates that it is not only the more 'severe' and 'direct' forms of childhood trauma that have implications for adult health and psychopathology.



Gender was an important correlate in the current study. It was found that women were significantly more likely to experience childhood trauma of some form than men ( $p = 0.03$ ). Women were also more likely to report clinically significant emotional abuse ( $p = 0.03$ ) and sexual abuse ( $p = 0.01$ ) as compared to males. The current findings are consistent with that of Scher et al (2004) investigations which found emotional abuse and sexual abuse to be significantly more present or reported among women. Females had significantly more abuse in general and more emotional abuse and sexual abuse in particular, than males. Prevalence rates in males (42.7%) were similar, and that of women (52.2) slightly higher, than those found in males and females, respectively, in a study by Scher et al (2004). As well as a more recent study (Gren-Landell et al., 2010) which found that

women with SAD experienced significantly more sexual victimisation. This study also found that men were more likely to report physical abuse. This was not found in the current study. Another study Cogle et al (2010) found childhood sexual and physical abuse to be uniquely associated with men with SAD. The findings of the current study are inconsistent with this finding and therefore more research would be required.

Social anxiety disorder was associated with alcohol abuse and/or alcohol dependence. Of the 57 participants 17.5% presented with a comorbid lifetime alcohol use disorder which is consistent with rates found in previous studies (Schneier et al., 2010; Kessler et al., 1997). It was also found that of the participants that had a comorbid alcohol use disorder 80% reported experiencing some form of childhood trauma. This finding is significant and suggests that a history of childhood trauma may be an important indicator of later secondary alcohol use disorders in individuals with SAD. This has significant implications for both clinical assessment and treatment of individuals with SAD in order to prevent further development of alcohol use disorders.

## **5.2 Implications of the Study**

It was established that individuals with a primary diagnosis of SAD have higher rates of childhood trauma. This finding is consistent with earlier work suggesting that early adversity may increase the risk for the development of psychopathology in later life. Thus, the assessment of childhood trauma history - having implications for current illness severity and comorbidity, and thus prognosis – appears to be important. Early interventions aimed at prevention of the negative

impact of childhood trauma are needed. This has particular importance within the context of South Africa as many of our children within this country are exposed to not only to single forms of childhood trauma but also multiple, continuous traumas.

### **5.3 Limitations of the Study**

The present study should be considered in light of the following limitations. The current results may have been limited due to the subjective nature of the self-report measures used to assess childhood trauma. It is also possible that unmeasured confounding variables may explain some of the associations that were found in the current study (e.g. exposure to trauma/stressors in adulthood was not assessed). Another limitation of the study was the small sample size, limiting some of the analyses. Furthermore, due to the sensitive nature of the research topic in terms of alcohol use as well as childhood trauma, it is possible that participants could have given socially desirable answers (i.e. under reporting of alcohol use and childhood trauma), which could have impacted on the results of the study.

Despite these limitations of the study, the data still suggests a relatively high rate of childhood trauma in individuals with a primary diagnosis of SAD. Therefore screening for childhood trauma is clinically prudent to facilitate consideration of addressing these experiences in treatment. Future studies would benefit from larger samples sizes and a more detailed exploration of the nature of the relationship between childhood trauma, SAD and alcohol use disorders in order to fully understand whether childhood trauma indeed plays a mediating role in the



association between SAD and AUDs and the clinical implications of this.

Notwithstanding these limitations, the study adds to the growing body of literature in this area.

#### **5.4 Conclusion**

This study largely supports the previous literature on childhood trauma in individuals with SAD. It contributes significantly to our understanding of the effect that childhood trauma has on the SAD-AUD comorbid association in adults with SAD, as well as the impact of childhood trauma on the symptom severity of SAD, from a sample in a developing country such as South Africa. Associations found appear consistent with international studies and should be used to focus future social awareness, prevention and treatment strategies in developing countries such as South Africa.



There is increasing evidence suggesting that childhood trauma may lead to future psychological difficulties and disorders within adulthood. This demands that childhood trauma be screened for in those individuals presenting with psychological difficulties specifically anxiety disorders and SAD in particular in order to curb the increase of symptom severity and the later development of secondary AUDs by providing treatment as early as possible.

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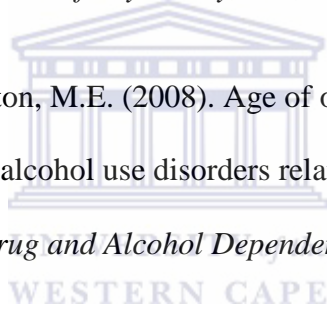
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