

**Universität Konstanz**

**Trauma, Post-traumatic Stress Disorder and Psychiatric Comorbidity  
In Forensic Patients**

Dissertation zur Erlangung des Doktorgrades  
Eingereicht an der Mathematisch-Naturwissenschaftlichen  
Sektion der Universität Konstanz

Vorgelegt von

Samia Sirag Garieballa

Erstgutachter: Prof. Dr. Thomas Elbert  
Zweitgutachter: Prof. Dr. Brigitte Rockstroh

Konstanz, im Dezember 2004

## **Acknowledgments**

I am greatly indebted to Prof. Dr. Thomas Elbert and Prof. Dr. Brigitte Rockstroh for their spontaneous willingness to supervise this study. Their constant and expert supervision as well as their kind advices, invaluable help and support at all stages of the study remain unforgettable. Without their help and support it would have been very hard for me to complete this work successfully.

I am also very grateful to Dr. Margarete Schauer for her permanent and friendly cooperation from the early stages of the preparations of the study in form of interviews, questionnaires selection and data collection till its final stages.

Special thanks are due to Dr. Klaus Hoffmann and Dipl. Psych. Tilman Kluttig for their kind welcome to conduct the study in the forensic ward at the Center for Psychiatry Reichenau (Germany). Many thanks are also due to the staff of the Hospital Center for Psychiatry (Sudan) for allowing me to conduct the study in their hospital and for their friendly cooperation.

I Would also like to extend my gratefulness to Dipl. Psych. Evangelia Saleptsi for her kind and unfailing support and cooperation. Many thanks are also due to Dr. Frank Neuner, Dr. Claudia Catani, Dr. Sabine Heim, and Dipl. Psych. Dana Bichescu for their appreciable cooperation and support.

Samia Sirag Garieballa  
Konstanz, December 2004

## Contents

	<b>Page</b>
<b>Acknowledgments</b>	II
<b>List of Tables and Figures</b>	VI
<b>Abstract</b>	VII
<b>1. General Introduction</b>	<b>1</b>
<b>2. Literature Review</b>	<b>4</b>
<b>2.1 Trauma</b>	<b>4</b>
2.1.1 Psychological Trauma: Definition versus Criteria	4
2.1.2 Traumatic Events and Situations	4
2.1.3 Traumatic Events in the General Population	5
2.1.4 Traumatic Events in Psychiatric Patients	5
2.1.5 Traumatic Events Among Forensic Patients and Inmates	6
<b>2.2 Post-traumatic Stress Disorder (PTSD)</b>	<b>6</b>
2.2.1 PTSD: Concept	6
2.2.2 PTSD in the DSM System	7
2.2.3 PTSD in the ICD System	8
2.2.4 Prevalence of PTSD in the General Population	8
2.2.5 PTSD Among Psychiatric Patients	9
2.2.6 PTSD Among Forensic Patients and Inmates	9
2.2.7 Aetiology of PTSD	9
2.2.8 Predisposing and Mediating Factors	10
2.2.9 PTSD and Race	11
<b>2.3 Clinical Aspects of PTSD</b>	<b>11</b>
2.3.1 Clinical Phenomenology	11
2.3.2 Types of PTSD	12
2.3.3 Complex PTSD	12
2.3.4 Progress and Outcome of PTSD	12
2.3.5 Trauma Severity and Frequency	13
2.3.6 Comorbidity of PTSD	14

	IV
<b>2.4 Treatment of PTSD</b>	<b>15</b>
2.4.1 Psychological Treatment	15
2.4.1.1 Cognitive Behavior Therapy	15
2.4.1.2 Imaginal Exposure Therapy	15
2.4.1.3 Narrative Exposure Therapy	16
2.4.1.4 Eye Movement Desensitization and Reprocessing (EMDR)	16
2.4.2 Pharmacological Treatment	16
<b>2.5 Forensic Aspects of PTSD</b>	<b>17</b>
<b>2.5 Hypotheses</b>	<b>20</b>
2.6.1 Rates of Traumatic Events and PTSD	20
2.6.2 Quantity of Trauma	20
2.6.3 Comorbidity	21
<b>3. Method</b>	<b>22</b>
<b>3.1 Subjects</b>	<b>22</b>
<b>3.2 Measures</b>	<b>23</b>
3.2.1 Structured Clinical Interview for DSM-IV (SCID-P)	24
3.2.2 Posttraumatic Stress Diagnostic Scale (PDS)	24
3.2.3 Traumatic Antecedents Questionnaire (TAQ)	25
3.2.4 Hopkins Symptom Checklist-25 (HSCL-25)	26
3.2.5 Beck Depression Inventory (BDI)	26
<b>3.3 Procedure</b>	<b>27</b>
<b>3.4 Data Reduction and Analysis</b>	<b>27</b>
<b>4. Results</b>	<b>29</b>
<b>4.1 Traumatic Experiences and PTSD According to SCID-P</b>	<b>29</b>
4.1.1 Types and Frequency of Reported Trauma	29
4.1.2 Trauma and PTSD	31
4.1.3 Association between PTSD Onset and other Psychiatric Disorders	33
<b>4.2 PDS</b>	<b>35</b>
4.2.1 Types and Frequency of Reported Trauma	35
4.2.2 PDS sum-scores	35
4.2.3 PTSD according to PDS	36

<b>4.3</b>	<b>Traumatic Antecedents Questionnaire (TAQ)</b>	<b>36</b>
4.3.1	TAQ Scores	36
4.3.2	TAQ scores and current PTSD (SCID-P)	40
4.3.3	TAQ Reliability	44
4.3.4	Total Trauma Scores	45
<b>4.4</b>	<b>Comorbid Symptoms according to HSCL-25 and BDI</b>	<b>46</b>
4.4.1	Association of PTSD and Comorbid Diagnoses	47
4.4.2	PDS sum-Scores vs. HSCL-25 Scores	48
4.4.3	Lifetime PTSD and Comorbidity	49
<b>5.</b>	<b>Discussion</b>	<b>50</b>
5.1	Traumatic Events and PTSD	50
5.2	Traumatic Antecedents Questionnaire (TAQ)	52
5.3	Number of Reported Trauma - “dose-effect”	54
5.4.	Comorbid Anxiety and Depression according to HSCL-25 and BDI	55
<b>6.</b>	<b>Conclusions</b>	<b>57</b>
<b>7.</b>	<b>Limitations</b>	<b>58</b>
<b>8.</b>	<b>Zusammenfassung</b>	<b>59</b>
<b>9.</b>	<b>References</b>	<b>61</b>
<b>10.</b>	<b>Appendix</b>	<b>84</b>

## List of Tables and Figures

Table 1. Sociodemographic characteristics and index crime (total sample)	23
Table 2. Prevalence of traumatic events (SCID-P) in 27 male subjects	30
Table 3. Frequencies and percentages of worst traumatic events in 27 male subjects	30
Table 4. Prevalence of current PTSD as a function of trauma type in 27 male subjects	33
Figure 1. Bar Chart illustrating age at year of having a psychiatric diagnosis and age at year of PTSD symptoms onset	34
Table 5. Regression of current PTSD diagnosis (SCID-P) on PDS-sum (total sample)	36
Table 6. Means of TAQ1 scores across developmental periods (total sample)	37
Table 7. Means of TAQ1 scores across developmental periods as a function of nation (total sample)	38
Table 8. Means of TAQ1 scores across developmental periods in subjects with and without current PTSD (total sample)	42
Table 9. TAQ1 total scores in subjects with and without current PTSD (total sample)	42
Table 10. Regression of current PTSD diagnosis (SCID-P) on TAQ1 total scores (total sample)	43
Figure 2. Bar Chart illustrating the means of TAQ1 total scores in subjects with and without current PTSD	43
Table 11. Regression of TAQ1 on TAQ2 scores across developmental periods (German sample)	44
Table 12. Regression of TAQ1 total scores on TAQ2 total scores (German sample)	45
Table 13. Comparison of subjects with and without current PTSD in relation to HSCL-25 sub-and total scores and BDI scores (total sample)	47
Figure 3. Box Plot illustrating the distribution of anxiety and depression scores in subjects with and without current PTSD	47
Table 14. Regression of PDS-sum on HSCL-25 sub-and total scores (total sample)	49

## **Abstract**

Violence and crime are often associated with traumatic experiences. The relationship between criminal behavior and traumatic stressors has been investigated from different perspectives. PTSD (post-traumatic stress disorder), a set of symptoms following exposure to trauma is not only a common consequence of repeated exposure to violence but may also lead to criminal behavior. Hyperarousal, the readiness for attack, anger outbursts, flashbacks triggered by conditions similar to those existing at the time of trauma, all may pose a risk factor for uncontrolled and fierce action. Moreover, criminal offenses can be connected to the specific trauma which the individual has experienced earlier. Hence, it seems conceivable to investigate trauma spectrum disorders in individuals, who have committed a crime and are assigned to psychiatric treatment, that is, in forensic patients.

The present study was performed to examine trauma and related disorders in forensic patients comparing two rather different cultural settings.

The prevalence of PTSD in relation to characteristics of traumatic experiences and comorbid symptoms of anxiety and depression were investigated in sixteen German and fifteen Sudanese forensic patients with the use of Structured Clinical Interview for DSM-IV: P-module (SCID-P) and Posttraumatic Stress Diagnostic Scale (PDS) for PTSD and trauma prevalence; Hopkins Symptoms Checklist-25 (HSCL-25) and Beck Depression Inventory (BDI) for prevalence of comorbid symptoms. In addition, positive and negative lifetime experiences across four developmental periods were assessed retrospectively with the Traumatic Antecedents Questionnaire (TAQ).

Subjects reported an average of five traumatic experiences with the first one occurring during childhood. Accordingly, PTSD-diagnoses were frequent in the total sample (38.7% current, 54.8% lifetime PTSD) and more likely in patients with a greater number of reported traumatic experiences. Moreover, neglect in early childhood and emotional abuse during latency were significantly associated with current PTSD diagnosis. The rate of co-morbid anxiety symptoms (60%) and depression (64%) was substantial. Differences in psychiatric profiles between the two cultures could not be detected.

It is concluded that forensic patients are highly exposed to multiple traumatic events, often already during childhood and are thus at high risk of developing trauma spectrum disorders. Results suggest that clinical evaluation of forensic patients should include evaluation of PTSD in addition to anxiety and depression, and that intervention strategies should address these coexisting symptoms.

## **I. General Introduction**

Past traumatic experiences have been noted to affect the current lives of many people. Janet, Charcot and Freud noted that fragmented memories of traumatic events dominated the mental life of many of their patients and built their theories about the nature and treatment of psychopathology on this recognition. Janet thought that traumatic memories of traumatic events persist as amnesia, chronic states of helplessness and depression (Janet, 1889). The prevailing of past trauma in the present can be understood by Freud's concept that the physical trauma or the memory of it is a "foreign body" which long after its entry must continue to be regarded as an agent that is still at work (Freud, 1893).

In recent years there has been a growing awareness of the importance of trauma in shaping the course of people's lives. A separate category for psychological trauma was first added to the Diagnostic and Statistical Manual of Mental Disorders in 1980 for adults and in 1987 for children (American Psychiatric Association, 1980, 1987). The DSM-IV defines a traumatic event as one that involves direct personal experience of an event that involves death, injury or a threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. The person's response to the event must involve intense fear, helplessness, or horror in adults and disorganized or agitated behavior in children (American Psychiatric Association, 1994).

The rates of lifetime trauma exposure in the general population are high. In the National Comorbidity Survey, 56% of the respondents reported exposure to at least one traumatic event during their lives (Kessler et al., 1995). Breslau, Davis, Andreski, and Peterson (1999) found a prevalence of 39% of people experiencing a traumatic event in a relatively young and well-educated population. Resnick, Kilpatrick, Dansky, Saunderson, and Best (1993) conducted a nationwide survey of criminal victimization among women and reported that 69% of them reported being victimized at least once in their lives.

The common types of trauma include various forms of violence such as rape and assault, combat exposure, natural disasters, the witnessing of or being threatened with bodily harm, and the sudden and unexpected death of a loved one (DSM-IV; American Psychiatric Association, 1994).

Post-traumatic stress disorder is one of the categories of psychiatric disorders in the Diagnostic and Statistical Manual of Mental Disorders “DSM” (American Psychiatric Association, 1980) and in the International Classification of Diseases “ICD” (World Health Organization, 1992) to address the consequences of traumatic experiences. The interest in the disorder has developed from studies of combat neuroses, motor vehicle accidents, pathological grief, industrial accidents, rape trauma and syndromes following disasters. Epidemiological studies have reported a lifetime prevalence of PTSD in the community ranging from 1% to 14% (Breslau et al., 1991, 1997, 1998; Norris, 1992; Kessler et al., 1995; Fairbank et al., 1995), along with the high levels of chronicity and comorbidity. Moreover, subsequent support for the validity of PTSD has come from a variety of studies that have examined the effect of war (Atkinson et al., 1984; Foy et al., 1984) and disasters (Erikson, 1979; Weisaes, 1984).

According to Daly (1983) the condition of PTSD is not new. He reviewed the diary of Samuel Pepys and examined the subjective feelings of an individual who experienced and chronicled two major 17-century disasters, namely, the Plague and the Great Fire of London. Daly showed that Samuel Pepys, following the Great Fire of London in 1666, satisfied the criteria for a diagnosis of PTSD. In a comprehensive history to traumatic neuroses over the last 150 years, Trimble (1985) quotes from Shakespear’s Henry IV Part II, where Hotspur’s wife describes symptoms in her husband that would satisfy the diagnosis of PTSD.

The most extensive literature on the subject of PTSD came from the USA. Andreasen (1980) provided a history of the development of the diagnosis as presented in the DSM-III, and Fairbank et al. (1981) and Silver (1982) provided a selected bibliography on the group of most extensively studied-Vietnam veterans. Andreasen (1980) refers to the disorder as a major public-health problem and Pynoos and Eth (1985) gave strong support to this opinion in a review of PTSD in children.

Although the hallmark symptoms of PTSD are pathognomonic, specially the intrusive recollections, flashbacks, and re-experiencing of trauma through nightmares etc., PTSD is still frequently overlooked (Davidson & Smith, 1990). Mueser et el. (2002) reviewed the results of some studies on the prevalence of PTSD in patients with severe mental illness and found a range of 29-43% with PTSD, with fewer than 5% of identified cases having PTSD documented in their charts (Craine et al., 1988; Cascardi et al., 1996; Mueser et al., 1998; Switzer et al., 1999; Mueser et al., 2002). Problems encountered with diagnosing PTSD may

result from the frequently observed symptoms overlap with depression or anxiety (Bleich et al., 1997).

While PTSD may be expected to be high in patients with diagnoses of depression or anxiety, a high frequency is also found in other diagnostic groups including forensic patients. For example, Timmerman and his group (2001) examined the relationship between traumatic experiences, dissociation, and borderline personality pathology in a group of 39 male forensic patients and 192 male prisoners and they reported that experiences of emotional and sexual abuse are significantly more common among the forensic psychiatric patients (48.6% and 40.5%, respectively) than among the prisoners (28.5% and 11.5%, respectively). Further, they revealed that forensic psychiatric patients reported a significantly higher number of all kinds of traumatic events, and that 78% of them have experienced at least one traumatic event.

*The present study aims to:* (a) examine the rates of lifetime trauma history and PTSD in two samples of forensic patients; one sample detained in the forensic ward at the Center for Psychiatry Reichenau-Germany, and the other sample detained in the forensic ward at the Hospital Center for Psychiatry-Sudan, (b) explore the association between number of reported trauma “dose-effect” and the development of PTSD, and (c) investigate the comorbidity of PTSD with depression, anxiety, and emotional distress.

*The suggested hypotheses are as follows:*

1. The rates of traumatic events and PTSD are high among forensic patients.
2. The quantity of trauma is associated with the development of PTSD in forensic patients.
3. Depression, anxiety, and emotional distress are common comorbid disorders with PTSD among forensic patients.

*The organization of this dissertation is as follows:* Section 1 is a general introduction with brief overview about issues under study, aims of the study, and the suggested hypotheses. Section 2 reviews the related literature. Section 3 outlines the methodology. Section 4 contains the analysis and the results. Section 5 discusses the main aspects of the results. Section 6 draws some conclusions, and section 7 outlines the limitations of the study. Zusammenfassung, references, and appendix are contained in section 8 ,9, and 10, respectively.

## **2. Literature Review**

### **2.1 Trauma**

#### **2.1.1 Psychological Trauma: Definition versus Criteria**

Psychological trauma refers to the experience of an uncontrollable event which is perceived to threaten a person's sense of integrity or survival (Horowitz, 1986; Herman, J. L., 1992; Van der Kolk, B. A., 1987). The DSM-III (American Psychiatric Association, 1980) defines a trauma as experience of an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone, such as a serious threat or harm to one's life or physical integrity.

The DSM-IV defines a traumatic event as one that involves direct personal experience of an event that involves death, injury or a threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. The person's response to the event must involve intense fear, helplessness, or horror in adults and disorganised or agitated behavior in children (American Psychiatric Association, 1994).

#### **2.1.2 Traumatic Events and Situations**

Regarding the traumatic events and situations which can lead to psychological effects, a sizable number of events and situations are considered, e.g. torture, rape, sexual abuse, knifing or axing, beatings to the head, beatings to other parts of the body, near drowning, fire accident, natural disaster, near suffocation with a plastic bag, murder of a family member or a friend, combat situations, forced evacuation under dangerous conditions, shelling or grenade attacks, imprisonment, being lost or kidnapped, extortion or robbery by armed bandits, serious accidents, death of a loved one, serious illness without access to medical care; and witnessing experiences like: murder of a stranger, torture, rape, knifing or axing, beating to any part of body, suicide attempt, near drowning, and near suffocation with a plastic bag (Mollica et al., 1993). However, there are many other traumatic events and situations which can lead to psychological trauma.

### **2.1.3 Traumatic Events in the General Population**

Many epidemiological studies on the prevalence of exposure to traumatic events have found a high rate of trauma exposure. In the National Comorbidity Survey (Kessler et al., 1995) 56% of the respondents reported exposure to a traumatic event over their lives. In a study of trauma in 1007 young persons (ages 21-30) living in Michigan, 39% reported at least one lifetime trauma (Breslau et al., 1991). Resnick, Kilpatrick, Dansky, Saunders, and Best (1993) in their nationwide survey of criminal victimization among women found that 69% of them reported being victimized at least once over their lives. Norris (1992) surveyed four urban areas in southeast United States and found that 69% of the adults reported experiencing one or more traumatic events in their lives. Fitzpatrick and Boldizar (1992) in study of a cohort of 221 Afro-American subjects (age range = 7 to 18 years) reported that 70% of the group had experienced at least one event that qualified as an extreme trauma; of these subjects, 27% went on to develop the intrusive thoughts, the avoidance behaviors, and the psychophysiological arousal that are required for a DSM-III diagnosis of PTSD. Some relatively recent epidemiological investigations in the general population indicated that the prevalence of trauma is more common than previously known. These studies reported lifetime prevalence of exposure to traumatic events of between 40% and 90% (Breslau et al., 1997; 1998).

The National Center for PTSD (1998) reported that, at least 50% of all children and adults are exposed to a traumatic event and as many as 67% of trauma survivors experienced lasting psychological impairments, including PTSD, panic, phobic, or generalized anxiety disorder; or substance abuse.

### **2.1.4 Traumatic Events in Psychiatric Patients**

The frequency of traumatic events in inpatients is reported by some investigators to be ranged between 35% to 85% (Fierman et al., 1993; Zlotnick et al., 1996; Spitzer et al., 2000). Traumatic events were also documented to be present in high rates among patients with severe mental illnesses (e.g., schizophrenia and bipolar disorder). Surveys indicated that between 34% and 53% of patients with severe mental illnesses report childhood sexual or physical abuse (Greenfield, Strakowski, Tohen, Batson, Kolbrener, 1994; Ross, Anderson, & Clark, 1994), and estimates of their lifetime exposure to interpersonal violence vary between 48% and 81% (Hutchinhs & Dutton, 1993; Jacobson & Richardson, 1987).

### **2.1.5 Traumatic Events Among Forensic Patients and Inmates**

Evidence has been gathered during the last years indicating high rates of traumatic events (e.g., Lewis et al., 1997; Timmerman et al., 2001; Spitzer et al., 2001). Lewis et al. (1997) studied the biographies of 12 murderers with dissociative identity disorder and revealed that all subjects suffered severe physical or sexual abuse as children (Lewis, Yeager, Swica, Pincus, & Lewis, 1997). Timmerman et al. (2001) investigated the relationship between traumatic experiences, dissociation, and borderline personality disorder in 39 male forensic patients and 192 male prisoners and reported that experiences of emotional and sexual abuse to be significantly more common among forensic patients (48.6% and 40.5%, respectively) than among prisoners (28.5% and 11.8%, respectively) and that 78% of the forensic patients had experienced at least one traumatic event. Spitzer et al. (2001) investigated traumatic events and PTSD in 53 forensic patients in Germany and revealed that two thirds disclosed at least one traumatic event over their lives.

Some studies (e.g., Stone 1994) have tended to concentrate on examining the traumatic factors and experiences rather than the internationally defined traumatic events. Stone (1994) analyzed biographies of 42 serial murderers and revealed that lower socio-economic status, coming from a broken home, and parental neglect, brutality, humiliation, or alcoholism, were the most common traumatic factors and experiences. He also revealed that, in only 10% of these subjects was none of these traumatic factors present.

Most inmates have experienced a relatively high degree of trauma as children and young adults (Collins & Bailey, 1990; Irwin & Austin, 1994; Weeks & Widom, 1998). Disproportionate numbers of inmates have family backgrounds that include criminality, physical, emotional, or sexual abuse (Gunn, Robertson, Dell, & Way, 1978; Masuda, Cutler, Hein, & Holmes, 1978). Many inmates have a lifestyle through which they are frequently confronted with violence and death of a significant others (Collins & Bailey, 1990; Gibbs, 1991; Jankowski, 1991; Jessor & Jessor, 1977; Masuda et al., 1978).

## **2.2 Post-traumatic Stress Disorder (PTSD)**

### **2.2.1 PTSD: Concept**

The introduction of the diagnosis PTSD is considered as a recognition of the psychic consequences of war, specially as experienced by Vietnam veterans. Throughout military

history PTSD has been known under various names including ‘irritable heart of the soldiers’, ‘combat neurosis’, ‘war neurosis’ and ‘shell-shock’. These terms represent a complex of symptoms making the soldier unfit for further military combat (Gerson & Carlier, 1992).

Many terms related to PTSD were used in the DSM system before the official introduction of the diagnosis PTSD in the DSM-III (American Psychiatric Association, 1980). Terms such as ‘gross stress reaction’ (DSM-I: American Psychiatric Association, 1952) came into use: a reaction to extreme stress such as war, disasters, fires, earthquakes or explosion. In 1968 (DSM-II: American Psychiatric Association, 1968) temporary situational disorder entered the language to define a reaction to unusual stress caused by anything from an unwanted pregnancy to death sentence (Brett et al., 1988).

### **2.2.2 PTSD in the DSM System**

Post-traumatic stress disorder was first introduced into the psychiatric nomenclature of the DSM system in 1980 (DSM-III: American Psychiatric Association, 1980). It was included as a compromise after veterans’s groups and mental health personnel engaged in caring for Vietnam veterans spearheaded a drive for the recognition of a “post-Vietnam syndrome”. The syndrome was said to be characterized by hyperalertness, sudden reliving of the combat experience, emotional numbing, and guilt over having survived when others had died (Helzer et al., 1987). The initial definition of PTSD had three components: experiencing the trauma, numbing of responsiveness and an additional list of arousal symptoms, of which two must be developed after the trauma (including avoidance of activities reminiscent of the trauma). With the publication of DSM-III-R in 1987, the second component was changed to include avoidance of stimuli associated with the trauma, and additional symptoms were added to the hyperarousal symptoms (American Psychiatric Association, 1987). The diagnostic criteria for PTSD in DSM-V1 (1994) require: Criterion (A) “exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. The person’s response to the event must involve intense fear, helplessness, or horror”. The characteristic symptoms resulting from the exposure to the extreme trauma include persistent reexperiencing of the traumatic event (Criterion B); persistent avoidance of stimuli associated with the trauma and numbing of general

responsiveness (Criterion C); and persistent symptoms of increased arousal (Criterion D). The full symptoms picture must be present for at least 1 month (Criterion E) and the disturbance must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (Criterion F).

### **2.2.3 PTSD in the ICD System**

Post-traumatic stress disorder was first introduced into the psychiatric nomenclature of the International Classification of Diseases “ICD” in 1992 (ICD-10: World Health Organization, 1992). According to the ICD-10 PTSD is a disorder that arises as a delayed or protracted response to a stressful event or situation (of either brief or long duration) of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone. Typical features include episodes of repeated reliving of the trauma in intrusive memories (flashbacks), dreams or nightmares occurring against the persisting background of a sense of numbness and emotional blunting, detachment from other people, unresponsiveness to surroundings, anhedonia and avoidance of activities and situations reminiscent of the trauma. There is usually a state of autonomic hyperarousal with hypervigilance, an enhanced startle reaction and insomnia. Anxiety and depression are commonly associated with the above symptoms and signs, and suicidal ideation is not infrequent. The onset follows the trauma with a latency period that may range from a few weeks to months. The course is fluctuating but recovery can be expected in the majority of cases. In a small proportion of cases the condition may follow a chronic course over many years, with eventual transition to an enduring personality change (WHO, 1992).

### **2.2.4 Prevalence of PTSD in the General Population**

Wide variations (from 1% to 14%) in the prevalence of PTSD in the general population have been reported (Breslau et al., 1991, 1997, 1998; Norris, 1992; Kessler et al., 1995; Fairbank et al., 1995). Many studies reported that PTSD is relatively common among general population. In the study of Breslau et al. (1991) approximately 25% of those who are exposed to a traumatic event ultimately developed PTSD, with approximately 9% lifetime prevalence of PTSD. A current rate of 5% was reported by Norris (1992). Resnick and colleagues (1993) reported a 9% current rate of PTSD among women, accompanied by a 12% lifetime rate. Kessler, Sonnega, Bromet, Huges and Nelson (1995) reported a lifetime rate of 8% among

adult general population. Relatively recent epidemiological investigations reported lifetime rates of between 5% to almost 14% (Breslau et al., 1997, 1998).

### **2.2.5 PTSD Among Psychiatric Patients**

Several studies reported high rates of PTSD among psychiatric patients (Craine et al., 1988; Cascardi et al., 1996; Mueser et al., 1998; Switzer et al., 1999). In these studies the rates of PTSD were 34%, 29%, 43%, and 40%, respectively. These rates of PTSD are considerably higher than rates reported in studies of general population suggesting that psychiatric patients may be specially vulnerable to developing PTSD following exposure to traumatic events (Mueser et al., 2002).

### **2.2.6 PTSD Among Inmates and Forensic Patients**

Several studies reported high rates of PTSD among inmates and forensic patients (e.g., Powell et al., 1997; Gibson et al., 1999; Spitzer et al., 2001). Powell et al. (1997) investigated psychiatric disorders among 213 male inmates and reported that PTSD was a common disorder with 21% of the participants meeting criteria for a 6-month and 33% meeting criteria for lifetime diagnosis. Gibson et al. (1999) examined trauma exposure and psychiatric comorbidity in 213 inmates and they revealed a rate of 33% for lifetime PTSD and 21% for current PTSD. Spitzer et al. (2001) investigated 53 forensic patients in Germany and revealed a rate of 56% for lifetime PTSD and 17% for current PTSD.

Several studies of juvenile and adult delinquents revealed high rates of PTSD (Teplin et al., 1996; Steiner et al., 1997; Cauffman et al., 1998; Ulzen and Hamilton, 1998; Fondacaro et al., 1999). For example, Cauffman et al. (1998) reported lifetime and current PTSD rates of 65% and 49%, respectively, among female juvenile offenders. Steiner et al. (1997) reported that 32% of incarcerated juvenile delinquents met criteria for PTSD.

### **2.2.7 Aetiology of PTSD**

Historically, there has been a long-standing controversy in psychiatric practice about the cause of mental illness that follows an extremely traumatic event (Horowitz, 1979). The uncertainty is about whether the severity of the trauma or the pre-morbid psychological vulnerability of the person involved is the most important factor (Horowitz, 1979). Both

DSM-I and DSM-II (APA, 1952; 1968) conceptualised stress disorder as acute, time-limited phenomena that diminish unless some pre-existing character pathology was present which would contribute to symptoms maintenance (Green et al., 1985). In contrast, DSM-III (APA, 1980) emphasises the central aetiological role of the traumatic event in its formulation of PTSD. Green et al. (1985) concluded that “the nature and intensity of the stressor is the primary aetiological factor in individual differences in response to stress”.

The risk factors for the development and maintenance of PTSD symptoms include general vulnerability factors and individual response to the trauma, frequency of lifetime traumatic events and trauma severity (Bernat, J. A. et al., 1998). Other risk factors include: prior psychiatric disorder and family history of psychiatric disorder, and immediate traumatic/posttraumatic reaction such as peritraumatic dissociation, psychological arousal, or avoidant/numbing symptoms (Fairbank et al., 1995).

### **2.2.8 Predisposing and Mediating Factors**

The likelihood of a given individual's developing PTSD after exposure to a trauma is influenced in part by the differences in susceptibility between individuals (Skre, 1993). The degree of this susceptibility is genetically and biologically determined. Genetic vulnerability to generalized anxiety disorders increases vulnerability to PTSD; PTSD is significantly more prevalent among twins with anxiety disorder than among twins with other non-psychotic DSM-III-R disorders and more prevalent in monozygotic than in dizygotic co-twins (Skre, 1993). Quantitative genetic analysis of the Vietnam Twin Registry showed that after adjusting for differences in combat exposure, genetic factors accounted for up to one-third of the variance in liability to symptoms of re-experiencing, avoidance, and arousal (True et al., 1993).

Prior histories of mood disorders and anxiety increase the risk for exposure to traumatic events and to increased vulnerability to PTSD once exposed to traumatic event (Kessler et al., 1995).

Another reported predisposing factor is female gender, with women more likely to develop PTSD than men (Breslau et al., 1991, 1998; Kessler et al., 1995; Norris, 1997). For example, Kessler and associates (1995) reported that females (12%) were more likely to develop PTSD than were males (6%). This distinction may be a real gender difference in the susceptibility to PTSD, possibly linked to biological, psychological, or social differences.

In sum, the likelihood of developing PTSD is mediated by the following:

(a) Pre-traumatic factors: these include the above mentioned genetic predisposition, history of childhood anxiety with exposure to violence in the family (Silva et al., 2000), and family history of psychiatric illness and adverse social situation (Ozer et al., 2003; Brewin et al., 2000).

(b) Peri-traumatic factors: the immediate emotional and physical reactions experienced at the time of the trauma are important predictors of PTSD development (Resnick et al., 1994). Specifically, peritraumatic dissociation, extreme anxiety, panic, negative emotions are important predictors of subsequent PTSD symptoms (Bernat et al., 1998; Brewin et al., 2000).

(c) Post-traumatic factors: the degree of ameliorative effects of social support and coping efforts have been proposed to account for the development and course of PTSD (Allen, 1995; McFarlane, 1996).

### **2.2.9 PTSD and Race**

The role of race in the development of PTSD is till now not clear. Norris (1992) examined the epidemiology of trauma and its effects in a sample of 1,000 adults (500 whites and 500 blacks) and she revealed that trauma exposure was higher among whites, but black men appeared to be most vulnerable to the effects of the trauma. Breslau et al. (1998) investigated the effects of trauma in a cohort of white and black sample and they reported a racial difference in the development of PTSD in that nonwhites were almost twice as likely to develop PTSD following exposure than were whites.

## **2.3 Clinical Aspects of PTSD**

### **2.3.1 Clinical Phenomenology**

Post-traumatic stress disorder is characterized by three symptom clusters: reexperiencing, avoidance/numbing, and hyperarousal. Reexperiencing symptoms are unique to PTSD in relation to other psychiatric disorders. They reflect the persistence of thoughts, feelings, and behaviors specifically related to the traumatic event. Daytime recollections and traumatic nightmares often evoke panic, terror, dread, grief, or despair. Trauma-related stimuli can precipitate PTSD flashbacks, in which clients actually relive the traumatic experience, losing all connection with the present. Avoidance symptoms include avoiding thoughts, feelings, activities, places, and people related to the original traumatic event or psychogenic amnesia

for trauma-related memories. Numbing symptoms are psychological mechanisms through which PTSD sufferers anesthetize themselves against the intolerable panic, terror, and pain evoked by reexperiencing symptoms (Friedman, 2000).

### **2.3.2 Types of PTSD**

The DSM-III (American Psychiatric Association, 1980) distinguished two subtypes of PTSD: acute in which symptoms begin within six months following the trauma but have not lasted six months, and chronic or delayed, in which symptoms either develop more than six months following the trauma or last six months or more. The DSM-III-R (American Psychiatric Association, 1987) eliminated these subtypes. The DSM-IV (American Psychiatric Association, 1994) distinguished three specifiers that may be used to specify onset and duration of the symptoms of PTSD:

Acute: in which the duration of the symptoms is less than three months.

Chronic: in which the symptoms last three months or longer.

With Delayed Onset: which indicates that at least six months have passed between the traumatic event and the onset of the symptoms.

### **2.3.3 Complex PTSD**

Complex PTSD is found among individuals who have been exposed to prolonged traumatic circumstances, specially during childhood, such as childhood sexual abuse. Developmental research is revealing that many brain and hormonal changes may occur as a result of early, prolonged trauma, and contribute to difficulties with memory, learning, and regulating impulses and emotions. Combined with a destructive, abusive home environment, these brain and hormonal changes may contribute to severe behavioral difficulties, emotional regulation difficulties and mental difficulties. As adults, these individuals often are diagnosed with depressive disorders, personality disorders or dissociative disorders (The National Center for PTSD, 2000).

### **2.3.4 Progress and Outcome of PTSD**

The severity of PTSD may vary from mild to severe. Some people with PTSD are able to lead full and rewarding lives despite the disorder. A minority may develop a persistent,

incapacitating mental illness marked by severe and intolerable symptoms; marital, social and vocational disability; and extensive use of psychiatric and community services (Friedman, 1996).

The National Comorbidity Survey reported that 40% of those who develop PTSD are likely not to recover whether or not they have ever received treatment. Some patients may show improvement in functional capacity or symptoms severity, but their PTSD remains chronic, severe, and permanent (Kessler et al., 1995). Remission with occasional relapses occurs in many patients who have probably been recently exposed to situations that resemble the original traumatic event in a significant way (Friedman, 2000).

### **2.3.5 Trauma Severity and PTSD**

It is generally accepted that the more intense the experience, the greater will be the likely effects on psychological functioning (Raphael, 1986). For example, Horowitz (1975) found a positive relationship between the degree of stress experienced and the amount of subsequent intrusive thoughts.

A number of studies has shown that multiple exposure to traumatic events (either of the same type of event or across event types) is associated with higher levels of symptoms. For example, McCauley et al. (1997) screened 1,931 women in primary care setting for childhood and adult sexual and physical abuse. They reported that childhood abuse was associated with higher levels of physical symptoms, psychological distress, substance abuse, and suicide attempts, compared to adult abuse. However, women with both adult and childhood abuse had more psychological problems and physical symptoms than those with either alone. Further, Follette, Polusny, Bechtel, and Naugle (1996), in a study of the cumulative effects of child sexual abuse, adult sexual abuse, and spouse abuse, revealed that there was a linear increase in reported symptoms on Trauma Symptom Checklist-40 associated with the number of these types of events experienced. Further, Miranda, Green, and Krupnick (1997) screened 279 poor women recruited in family planning clinics for psychological trauma exposure, using the screening questions from the National Comorbidity Survey (Kessler et al., 1995), and for psychiatric disorders using the PRIME-MD (Spitzer et al., 1994). They documented that rates of psychiatric disorders increased with the number of reported traumas experienced.

A number of studies concluded that interpersonal trauma is more distressing and related to higher rates of PTSD. For example, Resnick et al., (1993) revealed that lifetime rates of PTSD associated with interpersonal trauma ranged from 31% to 39%, whereas the rates of PTSD

associated with non-interpersonal trauma was only 9%. Kessler et al. (1995) reported that lifetime PTSD rates associated with rape, molestation, physical abuse, and physical attack ranged from 2% to 65% in men and from 21% to 49% in women, whereas rates from accident, natural disaster, or witnessing a traumatic event happened to another person ranged from 4% to 6% in men and from 5% to 9% in women. Further, Norris and Kaniasty (1994) directly compared victims of violent crimes with those exposed only to property crimes and revealed that, those exposed to violent crimes were significantly more distressed. Recently Neuner et al. (in press) investigated the impact of traumatic events on the prevalence and severity of PTSD in a random sample of 3,339 Ugandan and Sudanese nationals and Sudanese refugees and documented a clear dose-effect relationship between the number of traumatic events and the number of endorsed PTSD symptoms. Of the 58 respondents who experienced the greater number of traumatizing experiences, all reported symptoms that met the DSM-IV criteria for PTSD.

### **2.3.6 Comorbidity Of PTSD**

PTSD is frequently accompanied by another psychiatric disorder. In clinical studies of war veterans with PTSD over 50% were revealed to be having at least one other current comorbid mental disorder (Sierles et al., 1983, 1986; Escobar et al., 1983; Davidson et al., 1985, 1990; Bleich et al., 1986, 1997; Lerer et al., 1987; Green et al., 1989; Keane & Wolff, 1990; Roszell et al., 1991; Mellman et al., 1992).

In general population studies 60 to 90% of respondents with PTSD have been shown to have at least one additional disorder (Helzer et al., 1987; Shore et al., 1989; Breslau et al., 1991; Davidson et al., 1991; Kessler et al., 1995).

Several studies documented significant rates of comorbid depression and anxiety (Shore et al., 1986; Helzer et al., 1987; Breslau et al., 1987, 1991, 1997; Kulka et al., 1990; Davidson et al., 1991; Kessler et al., 1995). Kessler et al. (1995) reported that prior histories of mood disorders and anxiety increased risk for exposure to traumatic events and to increased vulnerability to PTSD once exposed. Breslau et al. (1998) reported that PTSD increased the risk factor of developing subsequent first-onset major depression by 4.3 times in a community sample during a 3.5 years follow-up interval. Major depression and anxiety are suggested to increase the risk of exposure to traumatic events and PTSD upon exposure (Skodol et al., 1996).

According to Green et al., 1985; Breslau & Davis, 1987, four explanations seem to be possible for elevated rates of other mental disorders in people with PTSD:

- (a) Pre-existing disorders increase the vulnerability to develop PTSD after exposure to trauma.
- (b) Other disorders are subsequent complications of PTSD.
- (c) The disorders co-occur because of shared risk factors.
- (d) Comorbidity is a result of measurement artifact, i.e. the symptoms of PTSD overlap and therefore increase the probability of certain other diagnoses.

## **2.4 Treatment of PTSD**

### **2.4.1 Psychological Treatments**

There is a wide array of psychological treatments available but many of them are not empirically validated (Bryant, R. A. & Friedman, 2001). Overall, there is a convergent evidence that the most effective psychological treatment of PTSD is cognitive behavior therapy (Bryant, R. A. 2000; Foa, 1997; Foa, 2000).

#### **2.4.1.1 Cognitive Behavior Therapy (CBT)**

Cognitive behavior therapy can include prolonged exposure that may be either imaginal or in vivo, cognitive therapy (CT), or stress inoculation training, or a combination of all these components (Hembree, E. A., & Foa, E. B., 2000). Individuals are presumed to adapt psychologically after trauma because they: (i) emotionally engage with and habituate to their traumatic memories; (ii) organize their trauma memories in an adaptive manner; and (iii) correct dysfunctional cognitions about the traumatic experience (Hembree & Foa, 2000).

#### **2.4.1.2 Imaginal Exposure Therapy**

Imaginal exposure typically involves repeated reliving of the traumatic event. In vivo exposure involves planned confrontation with situations or objects associated with the trauma and they are therefore anxiety-evoking. Most exposure therapy programs do not consist solely of exposure, but include other components such as psychoeducation or relaxation training (Foa, 1999).

### **2.4.1.3 Narrative Exposure Therapy**

Narrative exposure therapy (NET) is a short-term approach based on cognitive-behavioral therapy and testimony therapy. The focus of narrative exposure therapy procedure is to reduce the symptoms of PTSD by confronting the patient with the memories of the traumatic event. Telling one's story ("trauma narrative") and directly facing the grief, anxiety, and guilt related to trauma enables many survivors to cope with their symptoms, memories, and other aspects of their lives (Foa, 1999).

Recently (Neuner et al., in press) the efficacy of NET in comparison to supportive counselling (SC) and psychoeducation (PE) was evaluated in 43 Sudanese refugees living in a Ugandan refugees settlement who were diagnosed as suffering from PTSD. One year after treatment, only 29% of the NET participants but 79% of the SC and 80% of the PE group still fulfilled PTSD criteria.

### **2.4.1.4 Eye Movement Desensitization and Reprocessing (EMDR)**

EMDR is one of the popular variant of of CBT. It involves having the patient visualizing trauma images while rapidly moving his eyes sideways by following the therapist's moving finger; this exercise is followed by a cognitive therapy approach that attempts to replace negative cognitions with positive ones (Shapiro, 1999). In terms of outcomes studies, EMDR appears to be more effective than no treatment, supportive listening, and relaxation (McNally, 1999).

## **2.4.2 Pharmacological Treatments**

The main goals of pharmacotherapy are:

- (a) Reduction of phasic intrusive symptoms.
- (b) Improvement of avoidance symptoms.
- (c) Reduction of tonic hyperarousal.
- (d) Relief of depression, anhedonia.
- (e) Improvement of impulse regulatin.
- (f) Control of acute dissociative and psychotic features (Davidson et al., 1992).

The drug classes for PTSD treatment (Friedmann, 2000) include:

- (a) Selective Serotonin Reuptake Inhibitors (SSRIs). The SSRIs have a broad spectrum of action with all three clusters (re-experiencing, avoidance/numbing hyperarousal) of PTSD symptoms significantly reduced by SSRIs treatment in people traumatized by rape, criminal assault, and motor vehicle accidents (Friedman, 2000).
- (b) Monoamine Oxidase Inhibitors (MAOIs). MAOIs produced moderate to good global improvement in 82 percent of Patients with PTSD (DeMartino, Mollica, & Wilk, 1995; Southwick et al., 1994).
- (c) Tricyclic Antidepressants (TCAs). An analysis of all published findings on TCAs treatment for PTSD found that only 45 percent of patients showed moderate to good global improvement following treatment (Southwick et al., 1994).
- (d) Anti-adrenergic Agents. Research indicates that the adrenergic system functions abnormally in patients with chronic PTSD (Southwick et al., 1999). There has been so little research with two medications that reduce excessive adrenergic activity, propranolol and clonidine (Friedman, 2000).
- (e) Antianxiety Agents. This benzodiazepine family of medication has been widely prescribed, although they have not been extensively tested in formal research protocols (Friedman, 2000).
- (f) Anticonvulsants. Carbamazepine produces 50-75 percent reduction in re-experiencing and arousal symptoms (Friedman et al., 1995).
- (g) Antipsychotics. These are prescribed for the rare PTSD patients who exhibit psychotic symptoms (Friedman et al., 1995).

## **2.5 Forensic Aspects of PTSD**

Post-traumatic stress disorder is increasingly addressed in forensic psychiatry. Since PTSD has been included into the diagnostic system of psychiatry, it had a dramatic impact on forensic psychiatry and law (Stone, 1993). In civil law, PTSD diagnosis represents landmark recognition that an external event can serve as the direct cause of a mental disorder (Raifman, 1983). PTSD provides also a reliable diagnostic category which includes physical signs and symptoms, and an identifiable proximate cause for numerous forms of psychic damage (Sullivan v. Boston, 1993). In criminal law, the dissociative 'flashbacks' experience has opened a new dimension in insanity defenses and related criminal defenses, insofar as a non-

psychotic defendant with PTSD may be alleged to have briefly lost contact with reality and become 'temporarily insane' (Appelbaum et al., 1993; Sparr & Atkinson, 1986).

In criminal defenses a mental illness has been used to argue for diminished criminal intent but criminal act by reason of insanity and diminished responsibility of the act. Since 1980, the number of defendants seeking either acquittal or sentence reduction because of the alleged effects of PTSD has steadily increased (Speir, 1989). In contrast to the mental illnesses which lead to insanity and diminished responsibility of the act, persons with PTSD have lost neither their contact with reality nor their appreciation of wrongfulness (Speir, 1989).

The use of PTSD for insanity defense is less common and has less often led to defense. A study of 967, 209 felony indictments revealed insanity pleas in only 8, 953 instances (0.93%), with an acquittal rate of 26% (Callahan, Steadman, McGreevy, & Robbins, 1991). Of these insanity pleas, only 28 (0.3%) were based on a PTSD diagnosis, with a comparable acquittal rate of 29% (Appelbaum et al., 1993). The only conceivable way that PTSD can qualify a defendant for insanity under MacNaughten rules is for the disorder to have manifested itself at the time of the act in a full-blown dissociative or flashback state (Pitman, K. et al., 1993). PTSD-related dissociative states should qualify if it entails a drastic alteration of an individual's cognitive capacity (Davidson, 1988).

Since the tightness of insanity defense standards, the use of PTSD in criminal proceeding has more applicability to the use of diminished responsibility for the act. Several different dynamic aspects of PTSD may potentially reflect diminished responsibility for the act in a defendant: (1) sensation seeking, i.e. 'addiction to trauma'; (2) need for punishment to appease a sense of guilt connected with the traumatic event; (3) substance abuse in an attempt to numb post-traumatic psychic pain, resulting in disinhibition (Grant & Coons, 1983; Sparr, Reaves, & Atkinson, 1987).

Lack of consciousness during a PTSD dissociative state is also used as a criminal defense. Traumatic experiences in which a person's will is physically overridden may stimulate dissociation at the time and predisposes the individual to subsequent dissociative reactions. Under this defense the individual charged argues that he or she was not conscious of the act, and therefore can not be held criminally responsible for it (Higgins, 1991; Thomson, 1991).

Automatism is rarely used as a plea. This plea may apply to PTSD veterans who repeatedly performed sanctioned acts of violence in the combat situation and subsequently find themselves losing control of violent behavior after their return to civilian life (Erlinder, 1984).

In dealing with evaluation of alleged PTSD subjects, deep understanding of the evaluatees is needed. Some evaluatees can attempt to fake, malingering, or exaggerate PTSD symptomatology. The evaluator must take into account the possible effects of prior traumas on the reliability of the victim/witness (Bursztajn, J. et al., 1993). On the other hand, some PTSD subjects may experience repression, denial, or other avoidance of reliving the traumatic stress which can lead to diagnostic pitfall (Bursztajn, J. et al., 1993).

## **2.6 Hypotheses**

The suggested hypotheses are as follows:

1. The rates of traumatic events and PTSD are high among forensic patients.
2. The quantity of trauma is associated with the development of PTSD in forensic patients.
3. Depression, anxiety, and emotional distress are common comorbid disorders with PTSD among forensic patients.

### **2.6.1 Rates of Traumatic Events and PTSD**

Evidence has been gathered during the last years indicating high rates of traumatic events (e.g., Lewiss et al., 1997; Timmerman et al., 2001), as well as significant rates of PTSD in forensic patients (e.g., Spitzer et al., 2001). Lewis et al. (1997) studied the biographies of 12 murderers with dissociative identity disorder and revealed that all subjects suffered severe physical/or sexual abuse during childhood (Lewis, Yeager, Swica, Pincus, & Lewis, 1997). Timmerman et al. (2001) examined the relationship between traumatic experiences, dissociation, and borderline personality disorder in 39 male forensic patients and 192 male prisoners and revealed that experiences of emotional and sexual abuse to be significantly more common among forensic patients (48.6% and 40.5%, respectively) than among prisoners (28.5% and 11.8%, respectively) and that 78% of the forensic patients had experienced at least one traumatic event over their lives. Spitzer et al. (2001) investigated 53 forensic patients in Germany and revealed that two thirds of them had at least one traumatic event over their lives and 56% met the criteria for lifetime PTSD and 17% for current PTSD. With this background of high rates of traumatic events and PTSD in forensic patients and inmates it is conceivable that the rates of traumatic events and PTSD will be high in the sample under study.

### **2.6.2 Quantity of Trauma**

A number of studies has shown that multiple exposure to traumatic events (either of the same type of event or across event types) is associated with higher levels of PTSD symptoms (e.g., Follette et al., 1996; McCauley et al., 1997; Miranda, Green, and Krupnick, 1997). For example, Follette, Polusny, Bechtle, and Naugle (1996) in a study of the cumulative effects of child sexual abuse, adult sexual abuse, and spouse abuse, documented that there was a linear

increase in reported symptoms on Trauma Symptom Checklist-40 associated with the number of these types of events experienced.

An analysis by March (1993), which reviewed 19 studies that quantified stressors suffered during combat, disaster, illness, injury, and crime, revealed that in 16 out of 19 studies there was a “dose-response” relationship between stressors intensity and the likelihood of developing PTSD.

Recently, Neuner et al. (in press) investigated the impact of traumatic events on the prevalence and severity of PTSD in a random sample of 3,339 Ugandan nationals, Sudanese nationals, and Sudanese refugees and documented a clear dose-effect relationship between traumatic exposure and PTSD.

With this background of the effect of number and type of trauma in different samples, it seems reasonable to study the same effect in forensic patients and to expect similar findings.

### **2.6.3 Comorbidity**

In spite of the general notion that major depression and anxiety are suggested to increase the risk of exposure to traumatic events and PTSD upon exposure (Skodol et al., 1996) and the notion that PTSD increases the risk factor of developing subsequent first-onset major depression by 4.3 times (Breslau et al., 1998), comorbidity is not researched in forensic patients with PTSD.

Taking into consideration the similarities between forensic patients and inmates it might be conceivable that the reported comorbidity of anxiety and depression in inmates (e.g., Neighbors et al., 1987; Chiles et al. 1990; Herman et al. 1991; Motiuk et al. 1991; Gibson et al. 1999) could also be reported in forensic patients.

Evaluating the prevalence of comorbid anxiety and depression might have important clinical implications with regard to proper management and hence better prognosis.

### 3. Method

#### 3.1 Subjects

The sample included 16 German (12 males and 4 females) forensic patients who were consecutively admitted to the forensic ward at the Center for Psychiatry Reichenau (Germany) and 15 Sudanese forensic patients who were also consecutively admitted to the forensic ward at the Hospital Center for Psychiatry (Khartoum/Sudan).

The ages of the German subjects ranged from 21-64 years ( $M = 39.3$ ,  $SD = 9.3$ ). Ten subjects (62.3%) completed elementary school, twenty-five percent ( $n = 4$ ) completed secondary school, 6.3% ( $n = 1$ ) completed school for educationally subnormal children, and 6.3% ( $n = 1$ ) did not attend any school. Eleven subjects (68.7%) were not working, four (25%) were laborers, and 6.3% ( $n = 1$ ) was self-employed (see table 1). Ten subjects (62.5%) were single, two (12.5%) married, three (18.7%) divorced or separated, and one (6.3%) was widowed. The majority of the German subjects (56.3%) were diagnosed as having personality disorders, schizophrenia (18.8%), and major depressive disorder (12.5%). About fifty percent of them had been convicted of violent offences and crimes.

The ages of the Sudanese subjects ranged from 21-52 years ( $M = 32.6$ ,  $SD = 8.0$ ). About forty-six percent ( $n = 7$ ) completed elementary school, twenty percent ( $n = 3$ ) completed intermediate school, twenty-six Percent ( $n = 4$ ) completed secondary school, and 6.6% ( $n = 1$ ) completed school for educationally subnormal children. Eight subjects (53.3%) were not working, five (33.3%) were laborers, and two (13.3%) were self-employed. Ten subjects (66.6%) were single, three (20%) married, and two (13.3%) divorced or separated.

The majority of the Sudanese subjects (46.6%) were diagnosed as schizophrenia, depression (20%), personality disorder (13.2%), and alcohol addiction (6.6%).

Seven subjects (46.6%) had been convicted of violent offences and crimes. Subsamples differed in age with Sudanese subjects being significantly younger ( $t = 2.06$ ,  $p < .05$ ).

Inclusion criteria were (1) being between the ages of 18 and 65 years, (2) adequate mental capacity to engage in interview, accomplish self-report questionnaires and to give an informed consent, and (3) willingness to participate in the study.

**Table 1. Sociodemographic characteristics and index crime (total sample)**

	German subjects	Sudanese subjects	Total
	n (%)	n (%)	n (%)
<b>Sex</b>			
Male	12 (75.0)	15 (100)	27 (87.8)
Female	4 (25.0)	0 (0.0)	4 (12.2)
<b>Marital Status</b>			
Single	10 (62.5)	10 (66.7)	20 (64.5)
Married	2 (12.5)	3 (20.0)	5 (16.0)
Divorced/separated	3 (18.7)	2 (13.3)	5 (16.0)
Widowed	1 (6.3)	0 (0.0)	1 (3.2)
<b>Education</b>			
Elementary school	4 (25.0)	6 (40.0)	15 (48.4)
Intermediate school	0 (0.0)	3 (20.0)	3 (9.7)
Secondary school	5 (31.2)	4 (26.7)	9 (29.0)
Special school	1 (6.3)	2 (13.3)	3 (9.7)
No school attendance	1 (6.3)	0 (0.0)	1 (3.2)
<b>Occupation</b>			
Not working	11 (68.7)	8 (53.4)	19 (61.3)
Laborer	4 (25.0)	5 (33.3)	9 (29.0)
Self-employee	1 (6.3)	2(13.3)	3 (9.7)
<b>Index crime</b>			
Murder/manslaughter	1 (6.3)	3 (20.0)	7 (22.6)
Other violent crimes <sup>°</sup>	5 (31.3)	7 (46.6)	12 (38.7)
Sexual crimes	3 (18.7)	1 (6.7)	4 (12.9)
Others*	4 (25.0)	4 (26.7)	8 (25.8)

<sup>°</sup> Includes property damage, fire-setting and harming another person.

\* Includes deception, exhibitionism, theft and alcohol/drug related problems.

### 3.2 Measures

The study battery consisted of five psychological measures and intake data sheet. The psychological measures included one semi-structured interview and four self-report questionnaires. The intake data sheet is a chart consisting of sociodemographic variables, past psychiatric history, diagnoses assigned, and psychotropic medications used.

### **3.2.1 Structured Clinical Interview for DSM-IV (SCID-P)**

The SCID is a semi-structured interview which provides a comprehensive DSM-IV diagnostic assessment with a separate module for each Axis I disorders. It contains a number of probes designed to elicit relevant clinical information about the presence of both current and lifetime diagnoses (Friedman, 2000). The PTSD module of the SCID (SCID-P: First, Spitzer, Gibbon, Williams, 1996) was found to be clinically sensitive and reliable by many researchers. Keane et al. (1998) examined the interrater reliability of SCID-P and found a kappa of .68 and agreement across lifetime, current, and never PTSD of 78%. They also examined test-retest reliability and found a kappa of .66 and diagnostic agreement of 78%. The main limitation of the SCID-P is that it only provides dichotomous (yes, no) information about the presence or absence of each symptom. It can neither provide information about symptoms severity nor can it detect any change in symptoms severity following treatment (First, M.B. et al., 1996).

The SCID-P and the PDS were selected for the assessment of PTSD because both of them are directly derived from the DSM-IV criteria for PTSD and that they are clinically sensitive and validated.

### **3.2.2 Posttraumatic Stress Diagnostic Scale (PDS)**

The PDS is a 49-item self-report instrument that measures all six criteria for PTSD in the DSM-IV (PDS; Foa, 1995). The scale comprises a 13-item checklist of possible traumatic events, and respondents are required to indicate which events they have experienced. They then rate which traumatic event was most stressful for them in the past month and, subsequently, this event is the one that is assessed. Patients then rate their reaction(s) to the event at the time of its occurrence in order to determine if the event fits both criteria A1 and A2. The PDS then measures the presence and the frequency of symptoms of reexperiencing traumatic events (Criterion B), avoidance of stimuli associated with the trauma (Criterion C), and increased arousal (Criterion D) through a 4-point scale, with 0 corresponding to 'not at all', 1 to 'a little bit', 2 to 'quite a bit', and 3 to 'severe'.

In addition, the PDS specifies symptoms duration (Criterion E) and Significant Distress or Impairment in Daily Functioning (Criterion F). A diagnosis of PTSD is made only if all the

six DSM-IV criteria are met (American Psychiatric Association, 1994). The PDS is widely used and was validated using several populations including combat veterans, accident victims, sexual and non-sexual assault survivors and survivors of a range of other traumatic events. The psychometric analysis of it proved to be exceptional. For internal consistency, the coefficient alpha was .92 overall; test-retest reliability for the diagnosis of PTSD over a 2-3 weeks interval was also high (kappa = .74). For symptoms severity, test-retest correlation was .83 (Foa et al., 1995). The PDS has an acceptable diagnostic utility, with a sensitivity of .82, a specificity of .77, and a kappa of .59 (Foa, 1995).

The rationale behind using two different scales for the assessment of PTSD is the establishment of validity of the SCID-P.

### **3.2.3 Traumatic Antecedents Questionnaire (TAQ)**

Lifetime exposure to traumatic events was assessed with a short version of Traumatic Antecedents Questionnaire (Herman, J. L., Christopher, P., & Van der Kolk, B. A., 1989). The original TAQ is a 100-item semistructured interview which includes detailed questions about primary caretakers and other important relationships in childhood and adolescence, siblings and peer relationships, family discipline and conflict resolution, major separations, moves and losses, family alcoholism, domestic violence, and physical and sexual abuse (Herman, J. L. et al., 1989). The used TAQ is a 42-item self-report questionnaire. It assesses different subtypes of potentially traumatic events and salient aspects of such experiences. It gathers information about lifetime experiences in 11 domains: (1) competence (2) safety (3) neglect (4) separation (5) family secrets (6) emotional abuse (7) physical abuse (8) sexual abuse (9) witnessing traumas of others, (10) exposure to alcohol and/or drugs, and (11) other traumas. These domains are assessed at four different developmental periods: early childhood (0-6 years), latency (7-12 years), adolescence (13-18 years), and adulthood (over 18 years) (Van der Kolk, B. A., 2001). Items responses were scored 0 to 3, with 0 corresponding to 'never or not at all', 1 to 'rarely or a little bit', 2 to 'occasionally or moderately', 3 to 'often or very much'. In addition, a response with 'don't know' is also included in the scoring system. The TAQ was used by many researchers (e.g., Herman, J. L. et al., 1989; Glenn N. Saxe et al., 1993; Herman, J. L. & Van der Kolk, B. A., 1996).

### **3.2.4 Hopkins Symptom Checklist-25 (HSCL-25)**

The presence of other psychiatric disorders which are frequently comorbid with PTSD such as anxiety disorder and depression was assessed by using Hopkins Symptom Checklist-25 (HSCL-25; Mollica et al., 1987). The HSCL-25 is a well-known and widely used screening instrument that dates from the 1950s. It consists of 10 self-rated items referring to symptoms of anxiety disorder and 15 self-rated items for symptoms of depression during the last two weeks. Item responses were scored 1 to 4, with 1 corresponding to 'not at all', 2 to 'a little bit', 3 to 'quite a bit', and 4 to 'severe'. Responses are summed and divided by the number of answered items to generate an anxiety score, a depression score, and a total score between one and four. A score of 1.75 was established by the originators of the instrument as a positive cut-off point for depression, anxiety, and combined total response. This cut-off point has been established as valid for US communities and still has to be validated for specific Indochinese communities and others (Mollica et al., 1987). The questionnaire is brief and simple in its language and may be self-administered by literate subjects. The HSCL-25 was validated by many researchers (Murphy, J. M., 1981; Hesbacher, P. T. et al., 1980; Winokur, A. et al., 1984; Mollica et al., 1987) and many American versions of it have been proven through extensive research to be highly valid and reliable screening (Derogatis, L. R. et al., 1974; Uhlenhuth, E. H. et al., 1966; Rickels, K. et al., 1976).

### **3.2.5 Beck Depression Inventory (BDI)**

The BDI is a 21-item self-assessment instrument of depression severity. It was designed by A. T. Beck (1961) to measure depth of depression independent of psychiatric diagnosis. Items score from 0 to 3 and total scores of 0 to 9 indicates no significant symptoms, 10 to 18 mild/moderate, 19 to 29 moderate/severe and 30 to 63 extremely severe depression. Reliability of internal consistency is good for mixed diagnoses as well as for single and recurrent-episode of major depression. Test-retest reliability for psychiatric patients ranged from 0.48- 0.86. BDI scores correlate 0.72 with clinical ratings of depression in psychiatric patients (Beck & Steer, 1987).

The rationale behind using two different scales for screening and assessing depression is to deal with measurement errors and hence to be more sure about the diagnosis of depression.

Other depression rating scales (e.g., Hamilton Depression Rating Scale, Hamilton, 1960) were not chosen because they have to be rated independently by two researchers and take into account information from nurses and relatives as well as direct interview with the patient (Snaith, R. P., 1996).

### **3.3 Procedure**

The study was announced first at a group meeting consisting of the treating staff at the forensic ward-Center for Psychiatry Reichenau and the research team at the department of Clinical Psychology-University of Konstanz. The treating staff, which consists of psychologists, psychiatrists, and social workers, was informed about the objectives of the study, the planned methodology and the selected measures to be applied.

All potential subjects were recruited by the therapists to participate in the study. The purpose of the study was explained to all subjects individually and those who agreed to participate gave informed consents stating that (1) participation is completely voluntary, (2) the data are going to be treated confidentially and processed anonymously, (3) the results of the study are used basically for scientific purposes, (4) no reward is to be received, and no financial payment is to be made in case of psychiatric damage due to the participation in the study.

Some background and sociodemographic data on each subject were obtained. In addition, data about past psychiatric history, diagnoses established by the treating staff and psychotropic medications used were also collected. The TAQ, PDS, HSCL-25, and BDI were administered after explaining to the subjects how to fill them in. The interview was performed one month after the administration of the questionnaires. Each subject was interviewed with the Structured Clinical Interview for DSM-IV: PTSD module for a minimum of two hours. The TAQ was re-tested within 3-6 months interval from the date of the first test among the German subjects.

A similar procedure was followed with regard to the Sudanese subjects in the Hospital Center for Psychiatry.

### **3.4 Data Reduction and Analysis**

The Statistical package StatView was used for the analysis of means, standard deviations and test of the hypotheses. Analysis of variance (ANOVA) was used as measure of disparity in the majority of the used scales. Chi-square analysis and regression analysis were conducted to

verify the strength of association between different variables. T-tests were conducted to determine which variables differentiated significantly. The probability level for rejecting the null hypothesis was set at  $p < 0.05$ . The results are presented as absolute numbers (n) and corresponding percentages (%) or as group means (M) and standard deviations (SD).

The agreement between SCID-P and PDS was evaluated with kappa test.

## 4. Results

### 4.1 Traumatic Experiences and PTSD According to SCID-P

#### 4.1.1 Types and Frequency of Reported Trauma

All subjects (n = 31) who participated in the SCID-P interview reported having experienced at least one traumatic event over their lives and 77.4% (n = 24) met criterion A for the presence of traumatic event.

As there were no females in the Sudanese sample the comparison of the reported trauma was performed with the exclusion of the females. In descending order of frequency the types of trauma reported by the male German subjects were witnessing traumas experienced by others and physical abuse during childhood (83.3%; n = 10); serious illness/operation, serious accident, and other traumas (58.3%; n = 7); physical attack/weapon threat and sexual assault/tenderness exchange (50%; n = 6); sexual abuse during childhood or adolescence (41.6%; n = 5), sexual assault/anal or oral sex (33.3%; n = 4), imprisonment/kidnapping (25.0%; n = 4), sexual assault/ sleeping with (16.6%; n = 2), and combat (6.25%; n = 1) (see table 2). With regard to the four females: All of them reported two forms of sexual assault and weapon threat; three of them reported sexual abuse during childhood/adolescence, sexual assault (tenderness exchange), and serious accident.

The most often reported worst type of event in the males of the German sample were witnessing others' traumas, namely, seeing someone being physically assaulted or dead (41.6%; n = 5), being physically assaulted during childhood/adolescence (33.3%; n = 4), being sexually assaulted during childhood and adolescence (16.6%; n = 2), and killing someone (16.6%; n = 2) (see table 3). In the females sexual assault was reported by two and the committed crime by one as the worst event.

In descending order of frequency, the types of trauma reported by the Sudanese subjects were witnessing trauma experienced by others (80%; n = 12), physical attack and/or weapon threat (53.3%; n = 8), sexual abuse during childhood or adolescence (46.6%; n = 7), serious illness or operation (40%; n = 6), natural disaster and other traumas (33.3%; n = 5); physical abuse during childhood (26.6%; n = 4), serious accident and imprisonment/ kidnapping (26.6%; n = 4); sexual assault (anal/oral sex) and combat (20%; n = 3); and sexual assault (tenderness exchange) (6.6%; n = 1).

**Table 2. Prevalence of traumatic events (SCID-P) in 27 male subjects**

Trauma type	German subjects		Sudanese subjects		Chi <sup>2</sup>
	n	%	n	%	
Combat	1	8.3	3	20.0	.71
Natural disaster*	0	0.0	5	33.3	4.9
Serious accident	7	58.3	4	26.6	2.7
Physical attack/weapon threat	6	50.0	8	53.3	.03
Kidnapping/imprisonment	3	25.0	4	26.6	.01
Serious illness/operation	7	58.3	6	40.0	.89
Sexual assault (sleeping with)	2	16.6	0	0.0	2.9
Sexual assault (anal/oral sex)	4	33.3	3	20.0	.61
Sexual assault (tenderness exchange)**	6	50.0	1	6.6	6.5
Sexual abuse(childhood/adolescence)	5	41.6	7	46.6	.034
Physical abuse/assault (childhood)**	10	83.3	4	26.6	8.5
Witnessing others' traumas	10	83.3	12	80.0	.04
Other traumas	7	58.3	5	33.3	1.6

\* P &lt; .05

\*\* P &lt; .01

**Table 3. Frequencies and percentages of worst traumatic events in 27 male subjects**

Worst event	German subjects		Sudanese subjects	
	n	%	n	%
Witnessing others' traumas*	5	41.6	4	26.6
Sexual assault(childhood/adolescence)	2	16.6	2	13.3
Physical attack/assault	4	33.3	5	33.3
Being a killer	2	16.6	0	00.0
Others <sup>o</sup>	6	50.0	4	26.6

\* Includes mainly seeing somebody being physically assaulted, injured, or dead.

<sup>o</sup>Includes staying in juvenile detention, admission in a psychiatric ward, self-and others harm, rape, witnessing parental violence, suicide of a sister, having a chronic infection, suicide attempt, and serious accident.

The most often reported worst type of event were being attacked/weapon threat during adulthood (33.3%; n = 5), witnessing others' trauma (26.6%; n = 4), serious accident (20.0%; n = 3), and sexual assault during childhood or adolescence (13.3%; n = 2).

The number of the reported traumatic events in the males of the German sample ranged from 1 to 9 ( $M = 5.8$ ;  $SD = 2.6$ ) and from 7 to 11 for the females ( $M = 8.0$ ;  $SD = 2.0$ ;  $t = -1.5$ ,  $p = .155$ ). The mean number of trauma in the Sudanese sample ( $M = 4.0$ ;  $SD = .92$ ; range 3 to 6) was significantly lower than the mean in the male German sample ( $t = 2.5$ ,  $p < .01$ ).

In the German sample there was strong association between sexual assault (anal/oral sex) and female gender ( $\chi^2 = 8.182$ ,  $P = .0042$ ). Physical abuse/assault during childhood and witnessing traumas of others were significantly associated with male gender ( $\chi^2 = 4.75$ ,  $p = .02$ ;  $\chi^2 = 4.75$ ,  $P = .02$ , respectively).

Given the very small number of females participating in this study, the results of gender effect are going to be cautiously interpreted throughout the results of this study.

#### **4.1.2 Trauma and PTSD**

##### **(a) Symptoms**

For the total sample, intrusion symptoms were the most frequently endorsed symptoms ( $n = 20$ ; 64.5%), followed by arousal symptoms ( $n = 18$ ; 58.5%) and avoidance symptoms ( $n = 13$ ; 42.0%). Among the German subjects, intrusion symptoms were the most frequently endorsed symptoms ( $n = 15$ ; 93.8%), followed by arousal symptoms ( $n = 10$ ; 62.5%), and avoidance symptoms ( $n = 8$ ; 50.0%). Among the Sudanese subjects, arousal symptoms were the most frequently endorsed symptoms ( $n = 8$ ; 53.3%), followed by intrusion and avoidance symptoms ( $n = 5$ ; 33.3%) for each of them.

##### **(b) Rate of PTSD Diagnoses**

For the total sample, 17 subjects (54.8%) met the criteria for lifetime PTSD and 12 subjects (38.7%) met the criteria for current PTSD.

In the German sample, eleven subjects (68.8%) met the criteria for lifetime PTSD and seven (43.7%) met the criteria for current PTSD; three (42.9%) of them as moderate PTSD and the other four (57.1%) as severe PTSD.

In the Sudanese sample, six subjects (40.0%) met the criteria for lifetime PTSD and five (33.3%) met the criteria for current PTSD; three (20%) of them as mild PTSD, one (20%) as moderate, and another one (20%) as severe.

Despite this high rate of lifetime and current PTSD in the sample, PTSD diagnosis was not documented in any of the charts of these subjects, suggesting a marked underdetection of PTSD within these subjects.

### **(c) PTSD and Trauma Characteristics**

Subjects with current PTSD in contrast to those who did not report symptoms characteristics for PTSD were characterized by the following:

(a) In the total sample the first trauma occurred at an early age for subjects with than without current PTSD, however the difference did not reach significance ( $M = 8.5$ ,  $SD = 4.4$  vs.  $M = 10.2$ ,  $SD = 4.6$ ; n.s.).

(b) There was a significant difference in the mean number of traumas among those with current PTSD diagnosis ( $M = 6.25$ ,  $SD = 2.41$ ) and those without it ( $M = 4.57$ ,  $SD = 2.00$ );  $p = .0459$ . Among the German subjects, the mean number of traumas for those with and without current PTSD was 7.71 ( $SD = 1.89$ ) and 5.33 ( $SD = 2.69$ ), respectively. The mean difference approached significance;  $p = .067$ . Among the Sudanese subjects the mean number of traumas for those with and without current PTSD was 4.20 ( $SD = 1.30$ ) and 3.90 ( $SD = .73$ ), respectively. The mean difference did not reach significance;  $p = .573$ .

(c) For the total sample, there was a significant correlation between the diagnosis of current PTSD and the number of traumas experienced ( $r = .361$ ;  $F(1, 29) = 4.35$ ;  $p = .0459$ ). This correlation approached significance in the German sample ( $r = .468$ ;  $F(1, 14) = 3.934$ ;  $p = .067$ ). In the Sudanese sample the correlation did not reach significance ( $r = .158$ ;  $F(1, 13) = .333$ ;  $p = .573$ ).

(d) Sexual abuse during childhood/adolescence was reported by almost 50% ( $n = 15$ ) of the total sample (male German: 41.6%; Sudanese: 46.6%, n.s.; females: 75%) and eight (53%) of them suffered from PTSD at the time of the study and 60% of them had lifetime PTSD. Three subjects experienced sexual abuse already at the age of six years.

(e) For the total male sample, there was a highly significant association between the diagnosis of current PTSD and the experience of two types of sexual assault, namely anal/oral sex and sleeping with ( $\chi^2 = 6.1$ ,  $p = .01$ ;  $\chi^2 = 4.8$ ,  $p = .02$ , respectively) (see table 4).

**Table 4. Prevalence of current PTSD as a function of trauma type in 27 male subjects**

Trauma type	PTSD (n = 9)		No PTSD (n = 18)	
	n	%	n	%
Combat	1	11.1	3	16.6
Natural disaster	1	11.1	4	22.2
Serious accident	4	44.4	7	38.8
Physical attack/weapon threat	4	44.4	10	55.5
Imprisonment/kidnapping	4	44.4	3	16.6
Serious illness/operation	5	55.5	8	44.4
Sexual assault(sleeping with)*	2	25.0	0	0.0
Sexual assault(anal/oral sex)**	5	55.5	2	11.1
Sexual assault(tenderness exchange)	3	33.3	4	22.2
Sexual abuse(childhood/adolescence)	6	66.6	6	33.3
Physical abuse/assault(childhood)	5	55.5	9	50.0
Witnessing traumas of others	7	77.7	15	83.3
Other traumas <sup>o</sup>	4	44.4	8	44.4

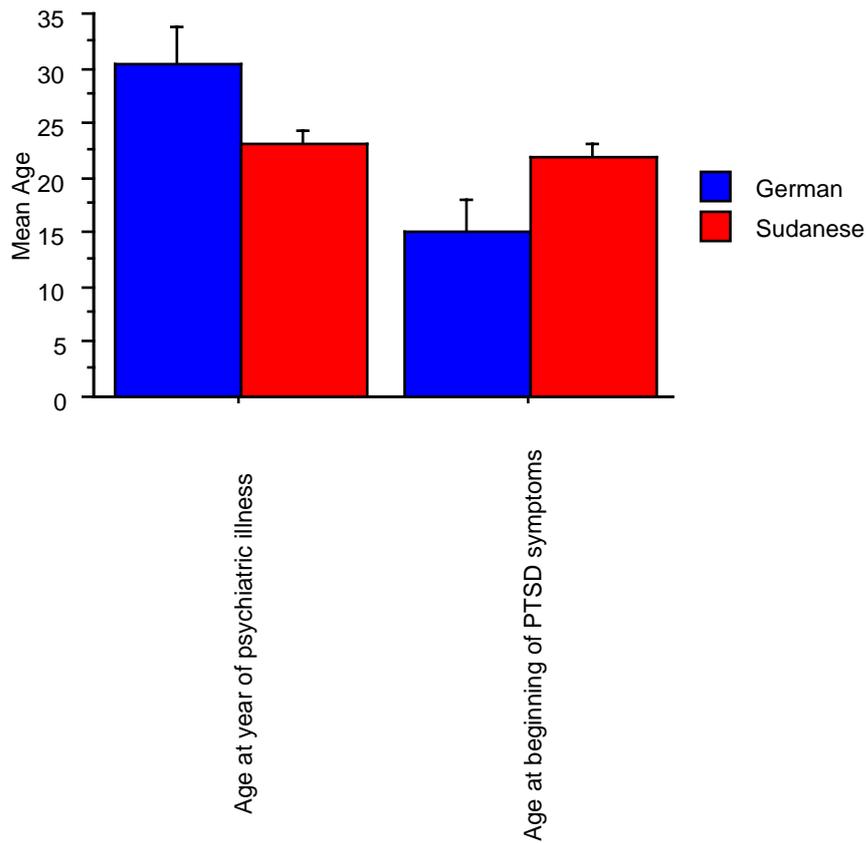
\* p < .05

\*\* P < .01

<sup>o</sup> Includes staying in juvenile detention, admission in a psychiatric ward, self-and others-harm, rape, witnessing parental violence, suicide of a sister, having a chronic infection, suicide attempt, seeing a mother killing her daughter, and drowning accident.

#### 4.1.3 Association between PTSD Onset and other Psychiatric Disorders

The data for the total sample were examined to track the onset of PTSD symptoms versus other psychiatric disorders as the incident disorder. This was done by identifying the earliest age of onset reported in the data sheet for having another psychiatric disorder. In all subjects with current PTSD, PTSD symptoms developed before the diagnosis of the other psychiatric disorder. For the total sample the mean age of onset of PTSD symptoms was 18.5 years (SD = 9.6) and 25.1 years (SD = 7.9) for the onset of any other psychiatric disorder. In the German sample the mean age at PTSD onset was 15 years (SD = 11.1) and 30 years (SD = 12.0) for the onset of any other psychiatric disorder versus 21.8 years (SD = 4.8) and 23.1 years (SD = 4.7), respectively, for the Sudanese sample (p < .05) (see figure 1).



**Figure 1: Bar Chart illustrating the age at year of having a psychiatric diagnosis and age at year of PTSD symptoms onset**

*The analyses and results of SCID-P showed that:*

1. There is a high rate of exposure to traumatic events within the total sample and particularly for sexual abuse during early childhood/adolescence irrespective to the cultural setting.
2. The rate of current and lifetime PTSD is high in the two subsamples.
3. The quantity of trauma is associated with the diagnosis of current PTSD in the total sample.

## 4.2 PDS

### 4.2.1 Types and Frequency of Reported Trauma

In descending order of frequency the reporting of the traumatic events among the male German subjects was as follows: physical attack by a stranger and serious accident 83.3%; physical attack by a family member and imprisonment 66.6%; other traumas and sexual contact with older person 50%; torture, sexual assault by a stranger, and sexual assault by a family member 33.3%; life-threatening illness and military combat 16.6%.

The reporting of the traumatic events among the Sudanese subjects was as follows: imprisonment 53.3%, physical attack by a stranger 40.0%; physical attack by a family member and serious accident 33.3%; life-threatening illness 28.5%; natural disaster and military combat 26.6%; torture 21.4%; sexual assault by a stranger 20%; other traumas 14.2%, sexual contact with older person 13.3%, and sexual assault by a family member 6.6%. The rates of trauma exposure were comparable in the German and Sudanese male sample. The difference in rate was not significant across all types of trauma.

### 4.2.2 PDS-sum Scores

For the total sample, the mean score for PDS-sum was 11.36 (SD = 5.36). Within the German subjects the mean score was 10.10 (SD = 5.80). Within the Sudanese subjects the mean score was 12.20 (SD = 5.08). The difference between the mean scores of the German and the Sudanese subjects was significant ( $p < .001$ ).

For the total sample, there was a highly significant correlation between PDS-sum scores and the diagnosis of current PTSD according to SCID-P ( $r = .506$ ,  $p = .0098$ ).

Among the German subjects, and also among the Sudanese subjects, there were highly significant correlations between PDS-sum scores and the diagnosis of current PTSD (see table 5).

As PDS-sum score is the number of PTSD symptoms, this result verifies the validity of the SCID-P.

**Table 5. Regression of current PTSD diagnosis (SCID-P) on PDS-sum (total sample)**

	<b>r</b>	<b>r<sup>2</sup></b>	<b>F-value</b>	<b>P – value</b>
Total sample	.506	.256	7.921	.0098
German sample	.682	.466	6.973	.0297
Sudanese sample	.518	.268	4.765	.0480

### 4.2.3 PTSD according to PDS

Of the twenty-five subjects who participated in PDS questionnaire, sixteen (64.0%) met the criteria for current PTSD.

Of the ten German subjects who participated in the PDS questionnaire, six (60%) met criteria for current PTSD. Of the fifteen Sudanese subjects, ten (66.%) met the criteria for PTSD.

For the total sample there was a high agreement (90.9%) between the diagnosis of current PTSD according to SCID-P and the diagnosis of current PTSD according to PDS. With regard to the exclusion of current PTSD, the agreement was 53.8%. A kappa of .44 was obtained. In other words, the sensitivity was almost .91 and the specificity was .54.

Within the German subjects, the agreement for current PTSD diagnosis was 83.3% and the agreement for its exclusion was 66.6%. Within the Sudanese subjects the agreement for the inclusion of current PTSD diagnosis was 100% and the agreement for its exclusion was 50%. These results further verify the validity of SCID-P

## 4.3 Traumatic Antecedents Questionnaire (TAQ)

### 4.3.1 TAQ Scores

The distribution of means for the TAQ scores for the total sample across developmental periods is illustrated in table 6. The means of the scores tended to increase in the subsequent developmental periods. The means of the domain sexual abuse across developmental periods were remarkably lower than the means of the other domains.

The rates of lifetime exposure to negative experiences for the total sample were as follows: neglect 100%, separation 95%, secrets 87.5%, emotional abuse 95.6%, physical abuse 91.6%, sexual abuse 66.6%, witnessing traumas 79.1%, alcohol and drug abuse 79.1%, other traumas 91.6%. The rates of reporting negative experiences among the German and the Sudanese

subsamples were as follows: neglect (100% vs. 100%), separation (90% vs. 100%; n.s.), secrets (70% vs. 100%;  $p = .02$ ), emotional abuse (88.8% vs. 100%; n.s.), physical abuse (80% vs. 100%; n.s.), sexual abuse (60% vs. 71.4%; n.s.), witnessing trauma (60% vs. 92.8%;  $p = .05$ ), alcohol and drug abuse (60% vs. 92.8%;  $p = .05$ ), and other traumas (80% vs. 100%; n.s.), respectively.

**Table 6. Means of TAQ1 scores across developmental periods (total sample)**

Experience domain	Early childhood (0-6 years)		Latency (7-12)		Adolescence (13-18)		Adulthood (19& over)	
	M	SD	M	SD	M	SD	M	SD
Competence	1.050	.887	1.370	.991	1.413	.913	1.304	1.008
Safety	1.087	.645	1.058	.672	1.232	.735	1.000	.389
Neglect	.736	.416	.965	.438	1.113	.529	1.275	.583
Separation	.292	.426	.815	.762	1.054	.815	1.681	.913
Secrets	.738	.718	1.205	.766	1.435	.816	1.413	.900
Emotional abuse	.829	.649	1.104	.549	1.600	.701	1.435	.590
Physical abuse	.365	.504	.942	.897	1.493	1.049	1.319	.873
Sexual abuse	.170	.652	.380	.703	.587	.536	.228	.548
Witnessing	.232	.334	.297	.289	.594	.536	1.174	.576
Other traumas	.373	.418	.645	.576	.797	.738	.690	.687
Alcohol/drug abuse	.119	.384	.391	.621	1.130	.968	1.087	1.00

**Table 7 . Means of TAQ1 scores across developmental periods as a function of nation (total sample)**

Experience domain	Early childhood (0-6 years)	Latency (7-12)	Adolescence (13-18)	Adulthood (19& over)
	M±SD	M±SD	M±SD	M±SD
Competence	G:1.500±.964	2.056±.882	1.889±.961	1.611±1.193
	S: .750±.723	.992±.805	1.107±.764	1.107±.859
	F=3.4; n.s.	F=20.4***	F=4.6*	F=1.3; n.s.
Safety	G:1.433±.686	1.259±.778	1.630±.790	1.222±.373
	S: .821±.483	.929±.587	.976±.591	.857±.339
	F=6.3*	F=1.3; n.s.	F=5.1*	F=5.8*
Neglect	G: .711±.593	.933±.678	1.133±.794	1.133±.799
	S: .754±.260	.986±.199	1.100±.291	1.238±.422
	F=.05; n.s.	F=.07; n.s.	F=.02; n.s.	F=.14; n.s.
Separation	G: .250±.540	1.194±.908	.667±.740	1.444±1.179
	S: .321±.346	.558±.571	.786±1.304	.701±1.833
	F=8.0**	F=5.3*	F=.53; n.s.	F=.36; n.s.
Secrets	G: .250±.463	.750±.926	1.278±1.093	1.556±1.236
	S:1.038±.691	1.464±.536	1.536±.603	1.321±.639
	F=8.0**	F=4.1*	F=.53; n.s.	F=.36; n.s.
Emotional abuse	G: .914±.823	1.111±.756	1.400±.927	1.333±.800
	S: .786±.574	1.100±.993	1.729±.605	1.500±.824
	F=.17; n.s.	F=.00; n.s.	F=1.2; n.s.	F=.42; n.s.
Physical abuse	G: .375±.452	.704±.841	.963±1.136	1.222±.986
	S: .359±.552	1.095±.928	1.833±.865	1.381±.825
	F=.00; n.s.	F=1.0; n.s.	F=4.3*	F=.1; n.s.
Sexual abuse	G: .417±1.000	.611±1.024	.778±1.100	.500±.820
	S:0.000±0.00	.232±.360	.464±.706	.054±.106
	F=1.2; n. s.	F=1.6 n.s.	F=.70; n. s.	F=4.1 ; n.s.
Other traumas	G: .333±.333	.333±.289	.500±.565	1.019±.562
	S: .167±.346	.274±.289	.655±.529	1.274±.583
	F=1.3; n.s.	F=.23; n.s.	F= .44; n.s.	F=1.0; n.s.
Witnessing	G: .500±.454	.741±.866	.926±1.115	1.100±.986
	S: .295±.392	.583±.298	.714±.372	.457±.277
	F=1.2; n.s.	F=.39; n.s.	F=.43; n.s.	F=5.3*
Alcohol/drug abuse	G: .312±.594	.333±.661	.944±1.102	1.111±1.244
	S:0.00±.000	.429±.616	1.250±.893	1.071±.874
	F=3.7; n.s.	F=.12; n.s.	F=.53; n.s.	F=.00 ; n.s.

Note: G stands for German sample and S for Sudanese; F stands for F-value.

\* P < .05

\*\* P < .01

\*\*\* P < .001

Repeated measure analysis was performed to evaluate differences between subsamples and differences in scores across developmental periods for the total sample.

Positive experiences: the scores of competence differed significantly between subsamples ( $F(1, 17) = 5.8, p < .05$ ). The interaction (developmental period  $\times$  nation) has significant effect ( $F(3, 51) = 3.99, p < .01$ ) which was explained by the German sample having higher scores across developmental periods and particularly significantly higher scores in latency and adolescence. For the total sample the scores in latency were significantly higher than in early childhood ( $p < .05$ ) for post hoc test.

Safety: the scores differed significantly between subsample ( $F(1, 20) = 6.6, p < .01$ ). The effect of the interaction (developmental period  $\times$  nation) did not reach significance ( $F(3, 60) = 2.2, n.s.$ ). However, the scores of the German sample were significantly higher across three developmental periods (see table 7). For the total sample the scores in adolescence were significantly higher than in adulthood ( $p < .01$ ) for post hoc test.

Negative experiences: the scores of neglect did not differ significantly between subsamples ( $F(1, 19) < 1, n.s.$ ). The interaction (developmental period  $\times$  nation) has no significant effect ( $F(3, 57) < 1, n.s.$ ). For the total sample the scores in adulthood were significantly higher than in latency ( $p < .01$ ) for post hoc test.

Separation: the scores did not differ significantly between subsamples ( $F(1, 21) < 1, n.s.$ ). The interaction (developmental period  $\times$  nation) has significant effect ( $F(3, 63) = 4.4, p < .01$ ) which was explained by the German sample having higher scores in latency. For the total sample the scores were significantly higher in latency than early childhood ( $p < .01$ ), in adolescence than early childhood ( $p < .001$ ), in adulthood than early childhood, in adulthood than latency ( $p < .001$ ), and in adulthood than adolescence ( $p < .001$ ) for post hoc test.

Secrets: the difference in scores between subsamples did not reach significance ( $F(1, 18) = 2.2, n.s.$ ). The effect of the interaction (developmental period  $\times$  nation) did not reach significance ( $F(1, 54) = 1.4, n.s.$ ). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .0001$ ), in adulthood than early childhood ( $p < .05$ ), in adolescence than latency ( $p < .001$ ), and in adolescence than adulthood ( $p < .01$ ) for post hoc test.

Emotional abuse: the scores did not differ significantly between subsamples ( $F(1, 19) < 1, n.s.$ ). The interaction (developmental period  $\times$  nation) was not significant ( $F(3, 57) = 1.1, n.s.$ ). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .0001$ ), in early childhood than adulthood ( $p < .001$ ), in adolescence than

latency ( $p < .001$ ), in latency than adulthood ( $p < .0001$ ), and in adolescence than adulthood ( $p < .0001$ ) for post hoc test.

Physical abuse: the scores of physical abuse did not differ significantly between subsamples ( $F(1, 18) = 1.2$ , n.s.). The interaction (developmental period x nation) was not significant ( $F(1, 54) < 1$ , n.s.). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .0001$ ), in early childhood than adulthood ( $p < .001$ ), in adolescence than latency ( $p < .001$ ), in latency than adulthood ( $p < .0001$ ), and in adolescence than adulthood ( $p < .0001$ ) for post hoc test.

Sexual abuse: the difference in scores between subsamples did not reach significance ( $F(1, 19) = 4.0$ , n.s.). The interaction (developmental period x nation) has no significant effect ( $F(3, 57) < 1$ , n.s.). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .05$ ) and in adolescence than adulthood ( $p < .05$ ) for post hoc test.

Witnessing trauma: the scores differed significantly between subsamples ( $F(1, 18) = 4.5$ ,  $p < .05$ ). The effect of the interaction (developmental period x nation) did not reach significance ( $F(3, 54) = 1.4$ , n.s.). For the total sample the scores were significantly higher in latency than early childhood ( $p < .05$ ), in adolescence than early childhood ( $p < .001$ ), and in adulthood than early childhood ( $p < .01$ ) for post hoc test.

Other trauma: the scores did not differ significantly between subsamples ( $F(1, 20) < 1$ , n.s.). The interaction (developmental period x nation) has no significant effect ( $F(1, 60) < 1$ , n.s.). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .01$ ), in adulthood than early childhood ( $p < .0001$ ), in adolescence than latency ( $p < .05$ ), in adulthood than latency ( $p < .0001$ ), and in adulthood than adolescence ( $p < .0001$ ) for post hoc test.

Alcohol/drug abuse: the scores did not differ significantly between subsamples ( $F(1, 18) < 1$ , n.s.). The interaction (developmental period x nation) has no significant effect ( $F(1, 54) < 1$ , n.s.). For the total sample the scores were significantly higher in adolescence than early childhood ( $p < .0001$ ), in adulthood than early childhood ( $p < .0001$ ), in adolescence than latency ( $p < .001$ ), and in adulthood than latency ( $p < .001$ ) for post hoc test.

#### **4.3.2 TAQ scores and current PTSD (SCID-P)**

As illustrated in table 8, the mean scores of the negative experiences across the developmental periods tended to be higher in subjects with than without current PTSD. However, the difference was significant only for neglect during early childhood and emotional abuse during

latency ( $p < .05$  for each). Similarly, and as shown in table 9, the total scores of TAQ1 for the negative experiences tended to be higher in subjects with than without current PTSD, however, the difference was significant only for sexual abuse ( $p < .05$ ); (see also figure 2). Table 10 presents the regression of current PTSD diagnosis on TAQ1 total scores.

The clear tendency of the scores of almost all negative experiences to be higher in subjects with than without current PTSD is a further validation to SCID-P result of revealing significant correlation between the number of reported trauma and the diagnosis of current PTSD.

The outcome of the TAQ scores was characterized by:

- (a) The scores of the positive experiences (competence and safety) differed significantly between the subsamples with the German sample having higher scores across all developmental periods and significantly higher scores across most of these developmental periods.
- (b) The scores of the negative experience secrets were significantly higher in the Sudanese sample in early childhood and latency.
- (c) In the majority of the domains and across the majority of developmental periods the scores across adolescence were significantly higher than across the other developmental periods.
- (d) The clear tendency of the scores of almost all negative experiences to be higher in subjects with than without current PTSD.

**Table 8 . Means of TAQ1 scores across developmental periods for subjects with and without current PTSD (total sample)**

Experience domain		(0-6 years)		(7-12)		(13-18)		19&>	
		M	SD	M	SD	M	SD	M	SD
Competence	yes	.688	.704	1.31	1.05	1.31	.874	1.136	1.074
	no	1.29	.940	1.41	.973	1.50	.977	1.458	.964
Safety	yes	.867	.571	.939	.800	1.24	.883	1.061	.467
	no	1.25	.669	1.16	.541	1.22	.609	.944	.312
Neglect	yes	.978	.452*	1.07	.508	1.09	.718	1.182	.524
	no	.569	.304	.867	.355	1.13	.299	1.361	.643
Separation	yes	.250	.354	1.06	.815	1.15	.808	1.788	.934
	no	.327	.494	.583	.660	.958	.845	1.583	.923
Secrets	yes	.562	.496	1.35	.914	1.40	1.02	1.273	1.104
	no	.846	.826	1.08	.634	1.45	.620	1.542	.689
Emotional abuse	yes	.978	.724	1.34	.580*	1.80	.743	1.418	.690
	no	.717	.594	.883	.430	1.41	.635	1.450	.513
Physical abuse	yes	.500	.591	1.09	.883	1.51	1.139	1.455	.885
	no	.282	.448	.806	.926	1.47	1.010	1.194	.881
Sexual abuse	yes	.417	1.00	.568	.923	.864	1.098	.432	.751
	no	.000	.000	.208	.382	.333	.526	.042	.097
Other traumas	yes	.183	.242	.364	.267	.712	.548	1.106	.490
	no	.269	.411	.236	.267	.486	.524	1.236	.661
Witnessing	yes	.562	.519	.788	.727	.939	.961	.820	.872
	no	.256	.309	.514	.379	.667	.461	.583	.501
Alcohol/drug abuse	yes	.188	.530	.500	.707	1.04	.986	1.182	1.079
	no	.077	.277	.292	.542	1.20	.988	1.000	.977

Note. Yes corresponds to with current PTSD, no to without current PTSD.

\*  $p < .05$

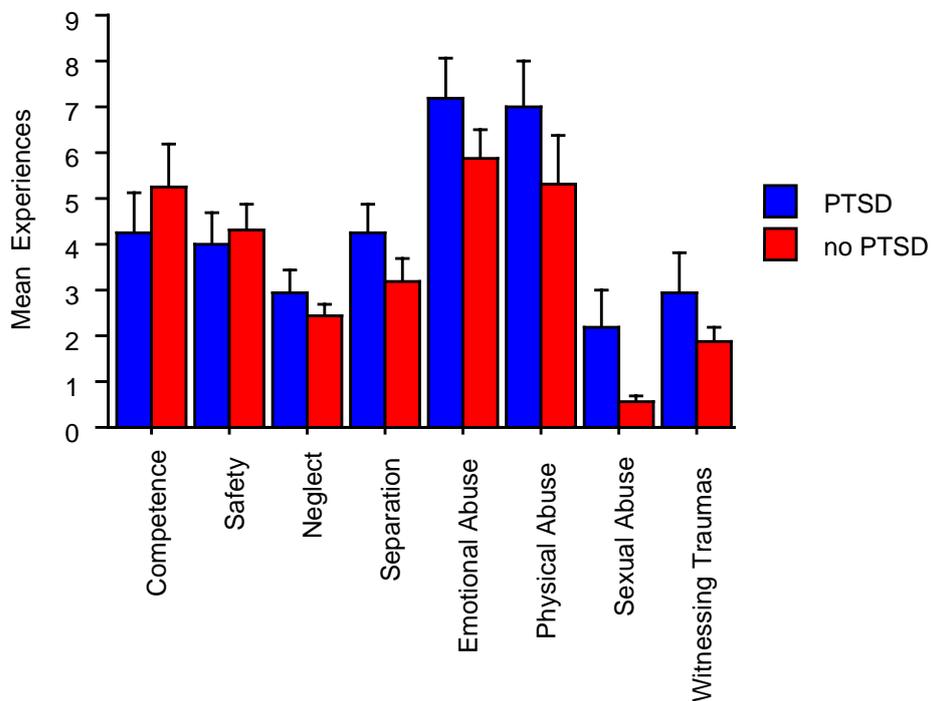
**Table 9. TAQ1 total scores in subjects with and without current PTSD (total sample)**

Experience domain	PTSD		No PTSD		p-value
	M	SD	M	SD	
Competence	4.273	2.901	5.231	3.498	n.s.
Safety	4.030	2.089	4.333	1.977	n.s.
Neglect	2.964	1.582	2.415	.870	n.s.
Separation	4.265	2.106	3.212	1.711	n.s.
Secrets	4.318	2.866	4.615	2.417	n.s.
Emotional abuse	7.164	3.000	5.883	2.116	n.s.
Physical abuse	6.970	3.520	5.333	3.756	n.s.
Sexual abuse	2.205	2.715	.538	.628	.042
Witnessing	2.909	2.982	1.846	1.144	n.s.
Other traumas	2.348	1.149	2.77	.947	n.s.
Alcohol/drug abuse	2.864	2.550	2.385	1.873	n.s.

**Table 10. Regression of current PTSD diagnosis (SCID-P) on TAQ1 total Scores (total sample)**

<b>Experience domain</b>	<b>r</b>	<b>r<sup>2</sup></b>	<b>F-value</b>
Competence	.152	.023	.521
Safety	.078	.006	.133
Neglect	.223	.050	1.55
Separation	.277	.077	1.831
Secrets	.059	.003	.076
Emotional abuse	.252	.063	1.419
Physical abuse	.227	.052	1.197
Sexual abuse	.417	.174	4.638*
Witnessing	.134	.018	.404
Other traumas	.246	.060	1.416
Alcohol/drug abuse	.112	.013	.281

\* P <.05



**Figure 2: Bar Chart illustrating the means of TAQ1 total scores in subjects with and without current PTSD**

### 4.3.3 TAQ Reliability

The reliability of the TAQ was examined in the German sample across the four developmental periods. The rationale behind testing the reliability was to evaluate the temporal stability of retrospectively self-reported information about specific negative and positive experiences in such specialized population, that is, forensic patients.

The evaluation of the reliability for the developmental period early childhood (0 to 6 years) for the 11 domains revealed a pattern of low to high correlations with  $r$  value in the range of .09 to .87. However, none of the correlations reached significance (see table 11).

For the developmental period latency (7-12 years) there were highly significant correlations for the domains competence, alcohol and drug abuse, physical abuse, and sexual abuse. The other domains correlated with  $r$  value in the range of .35 to .72 but the correlations did not reach significance.

For the developmental period adolescence (13 to 18 years) there were highly significant correlations for the domains emotional, physical abuse, alcohol and drug abuse, and other trauma. The other domains correlated with  $r$  value in the range of .42 to .84, however, these correlations did not reach significance.

For the developmental period adulthood (over 18 years) there were significant correlations for the domains emotional abuse and other traumas. The domain witnessing traumas experienced by others revealed high correlation but it did not reach significance.

**Table 11. Regression of TAQ1 scores on TAQ2 scores across developmental periods (German sample)**

Experience domain	Early childhood	Latency	Adolescence	Adulthood
	(0-6 years)	(7-12)	(13-18)	(19& over)
	$r$	$r$	$r$	$r$
Competence	.645	.826*	.842	.783
Safety	.306	.530	.648	.488
Neglect	.462	.598	.792	.381
Separation	.265	.539	.550	.287
Secretes	.250	/	/	.065
Emotional abuse	.643	.350	.930**	.835*
Physical abuse	.097	.836*	.925**	.492
Sexual abuse	.870	/	.423	.158
Other traumas	.632	.936**	/	.805
Witnessing trauma	/	.723	/	.738
Alcohol/drug abuse	/	.861*	.997***	.228

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; / Data were few to be computed.

#### 4.3.4 Total Trauma Scores

The total trauma score is the sum of the values obtained with the dynamic formula for the trauma score across developmental periods.

As presented in table 12, the total trauma score for TAQ 1 and TAQ 2 correlated significantly in the domains emotional, physical abuse, witnessing trauma, and alcohol and drug abuse.

In sum, the TAQ reliability was characterized by:

- (a) More significant correlations, i.e. more reliability, in adolescence than in early childhood, latency, and adulthood.
- (b) Higher associations and more significant correlations for the more severe negative experiences (emotional, physical abuse, witnessing trauma, and alcohol and drug abuse) which come closer to severe trauma.

**Table 12. Regression of TAQ1 total Scores on TAQ2 total scores (German sample)**

Experience domain	r	r <sup>2</sup>	F-value	p-value
Competence	.597	.356	2.762	.157
Safety	.607	.368	2.913	.148
Neglect	.773	.537	4.639	.097
Separation	.756	.572	5.351	.081
Secrets	.417	.174	.843	.410
Emotional abuse	.848*	.719	10.223	.033
Physical abuse	.848*	.719	10.216	.033
Sexual abuse	.754	.568	5.258	.083
Other traumas	.878	.771	13.503	.091
Witnessing trauma	.951**	.905	38.024	.003
Alcohol and drug abuse	.883*	.780	14.181	.019

\* p < .05

\*\* p < .01

#### 4.4 Comorbid Symptoms According to HSCL-25 and BDI

The mean scores of anxiety, depression, and emotional distress among the German subjects were 1.87 (SD=.69), 2.02 (SD=.60), and 1.96 (SD=.60), respectively.

Among the Sudanese subjects the mean scores of anxiety, depression, and emotional distress were 2.01 (SD=.60), 1.96 (SD=.50), and 1.98 (SD=.52), respectively. Of the twenty-five subjects who filled in the HSCL-25, fifteen (60%) met criteria for anxiety, sixteen (64%) for depression and sixteen (64%) for emotional distress. Of the ten German subjects who filled in the HSCL-25, six (60%) met criteria for anxiety, seven (70%) for depression, and seven (70%) for emotional distress.

Of the fifteen Sudanese subjects, nine (60%) met criteria for anxiety, nine (60%) for depression, and nine (60%) for emotional distress.

In the total sample, the mean scores of anxiety and depression were significantly higher in subjects with than without PTSD (see figure 3).

The mean scores of anxiety, depression and emotional distress among the German subjects with current PTSD were significantly higher than in those without current PTSD (see table 13). Among the Sudanese subjects the difference did not reach significance.

The mean scores of BDI among the German subjects was 18.7 (range: 4-40) and 22.3 (range: 2-39) among the Sudanese subjects. Of the eleven German subjects who participated in the BDI, nine (81.8%) met criteria for depression; two subjects endorsed extremely severe depression, five moderate/severe, and two mild/moderate depression. Of the fifteen Sudanese subjects, ten (66.6%) fulfilled the criteria for depression; four subjects as extremely severe depression, and the other six as moderate/severe depression.

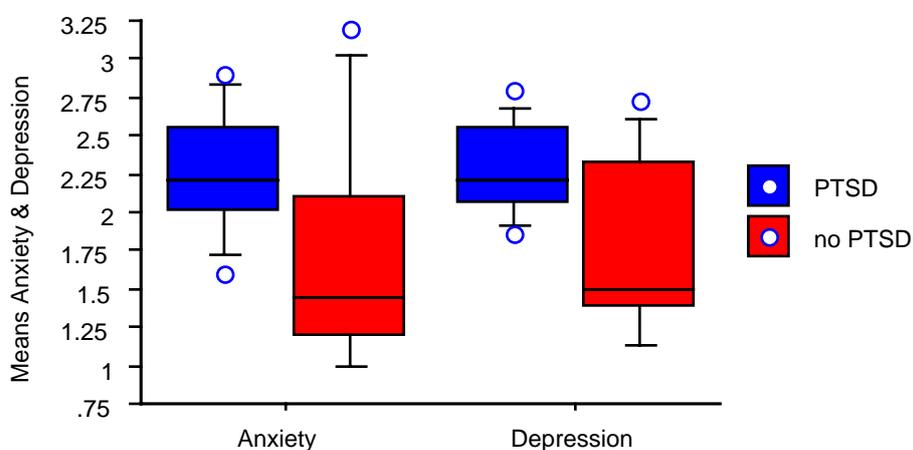
Among the German subjects there was a highly significant correlation between depression scores based on BDI and depression scores based on HSCL-25 ( $r = .761$ ,  $p = .04$ ). BDI scores correlated also significantly with emotional distress scores ( $r = .831$ ,  $p = .0105$ ); the association with anxiety scores did not reach significance. Among the Sudanese subjects the correlation between BDI scores was high with anxiety, depression, and emotional distress scores ( $r = .799$ ,  $.791$ ,  $.815$ , respectively).

**Table 13 . Comparison of subjects with and without current PTSD in relation to HSCL-25 sub-and total scores and BDI scores (total sample)**

	German subjects		Sudanese subjects	
	No PTSD M±SD	PTSD M±SD	No PTSD M±SD	PTSD M±SD
HSCL-10(anxiety)	1.27±.42	2.26±.52*	1.90±.70	2.24±2.3
HSCL-15(depression)	1.50±.53	2.37±.34*	1.88±.59	2.13±.17
HSCL-25(emotional distress)	1.41±.49	2.33±.33**	1.88±.62	2.17±.17
BDI (depression)	13.50±6.92	25.0±10.84	20.10±14.13	26.8±5.71

\* P < .05

\*\* P < .01



**Figure 3: Box Plot illustrating the distribution of anxiety and depression scores in subjects with and without current PTSD**

#### 4.4.1 Association of PTSD and Comorbid Diagnoses

##### (a) Depression

For the total sample, the diagnosis of current PTSD was significantly associated with the diagnosis of depression according to BDI ( $\chi^2 = 6.48$ ;  $p = .010$ ).

Among the German subjects, the association did not reach significance ( $\chi^2 = 2.5$ ;  $p = 0.113$ ).

Among the Sudanese subjects, the association was significant ( $\chi^2 = 3.755$ ;  $p = .05$ ).

The diagnosis of depression according to HSCL-25 was significantly associated with the diagnosis of current PTSD for the total sample ( $\chi^2 = 11.04$ ,  $p = .0009$ ). Within the German and the Sudanese subjects the association was also significant ( $\chi^2 = 6.42$ ,  $p = .01$ ;  $\chi^2 = 5.00$ ,  $p = .02$ , respectively).

### **(b) Anxiety and Emotional Distress**

For the total sample, the endorsement of anxiety was significantly associated with the diagnosis of current PTSD ( $\chi^2 = 7.81, p = .005$ ). Within the German subjects the association approached significance ( $\chi^2 = 3.40, p = .06$ ). Within the Sudanese subjects the association was significant ( $\chi^2 = 5.00, p = .02$ ).

For the total sample, the endorsement of emotional distress was significantly associated with the diagnosis of current PTSD ( $\chi^2 = 11.04, p = .0009$ ). The association was also significant among the German and Sudanese subjects ( $\chi^2 = 6.42, p = .01$ ;  $\chi^2 = 5.00, p = .02$ , respectively).

These results justify the hypothesis: depression, anxiety and emotional distress are comorbid disorders with PTSD.

#### **4.4.2 PDS-Sum Scores vs. HSCL-25 Scores**

The correlations between PDS-sum scores and the scores of anxiety, depression, and emotional distress were measured to investigate the strength of association between current PTSD symptoms and comorbid symptoms.

For the total sample, there were positive significant correlations for anxiety and emotional distress scores with PDS-sum scores ( $r = .470, p = .01$ ;  $r = .428, p = .03$ , respectively). The correlation between depression scores and PDS sum-scores approached significance ( $r = .364, p = .07$ ).

Among the German subjects, there was a significant positive correlation between PDS-sum scores and emotional distress scores ( $r = .743, p = .013$ ). Anxiety and depression scores correlated also positively and significantly ( $r = .713, p = .020$ ;  $r = .700, p = .024$ , respectively).

Among the Sudanese subjects the correlations did not reach significance (see table 14).

**Table 14 : Regression of PDS-sum on HSCL-25 sub-and total scores (total sample)**

	German subjects			Sudanese subjects		
	r	F-value	P-value	r	F-value	P-value
HSCL-10	.713	8.266	.0207	.248	.849	.373
HSCL-15	.700	7.705	.0241	.102	.137	.717
HSCL-25	.743	9.882	.0137	.171	.393	.541

#### 4.4.3 Lifetime PTSD and Comorbidity

Of the total sample, the diagnosis of lifetime PTSD was significantly associated with the diagnosis of anxiety, depression and emotional distress ( $x^2 = 8.76$ ,  $p < .01$ ,  $x^2 = 11.50$ ,  $p < .001$ ,  $x^2 = 11.50$ ,  $p < .001$ , respectively). The diagnosis of lifetime PTSD was also significantly associated with the diagnosis of depression according to BDI ( $x^2 = 10.5$ ,  $p < .01$ ).

## 5. Discussion

### 5.1 Traumatic Events and PTSD

All the subjects (100%) reported exposure to at least one kind of traumatic event that meet criterion A of DSM-IV and that more than 65% have experienced more than four traumatic events over their lives. The lifetime rate of PTSD was 54.8% and the current rate was 38.7% according to SCID-P and 64% according to PDS. In comparison with the findings of other similar studies in inmates and forensic patients populations, the prevalence of traumatic experiences in this study is high. Timmerman and Emmelkamp (2001) and Spitzer et al. (2001) reported lower prevalence rates; 78%, 64%, respectively. Some other studies have reported similar (100%) or slightly lower (90%) prevalence rates (e.g., Lewis, Yeager, Swica, Pincus, & Lewis, 1997; Stone, 1994), respectively. The rates for reporting natural disasters and combat experiences were higher in the Sudanese sample than in the German sample. This is explainable by the fact that there were many natural disasters in the last ten years and the fact that there are frequent civil wars and military incidents in Sudan. On the other hand, the rates for reporting sexual assault and physical abuse during childhood were comparatively lower in the Sudanese sample than in the German sample. This is explained by the fact that there were no females in the Sudanese sample and the fact that females are known to be highly prone to sexual assault than males (e.g., Bauman et al., 1988). The four females in the German sample were highly exposed to sexual trauma. When females were excluded from the comparison with regard to sexual trauma, the rate was comparable between the subsamples except for one variant of sexual assault (sexual tenderness) which was still significantly higher reported by the German sample. With regard to the lower reporting of sexual assault in the Sudanese sample, it is possible that there are cultural differences in the openness with which sexual assaults are disclosed and reported. From a cultural viewpoint, it is considered shameful in Sudan to disclose histories of sexual assaults. The comparatively lower rate of reported physical abuse/assaults during childhood could also be explained culturally. Some forms of interfamilial physical punishment are amounting to physical abuse/assault, yet are accepted

culturally as ordinary deserved punishment. This fact could have led to underestimation of reporting such traumas and other forms of interpersonal traumatization.

In the total sample, the reporting of physical abuse/assault and sexual abuse during childhood/adolescence was high (68.7%, 50.0%, respectively). This result corresponds with results of other studies giving a range of 18% to 70% (e.g., Weeks and Widom, 1998; Fondacaro et al., 1999; Gibson et al., 1999). These high rates of physical abuse/assault and sexual abuse during childhood/adolescence support the observation that early childhood victimization increases the likelihood for later criminal behavior, particularly in men and specially for violent offending (e.g., Rivera and Widom, 1990; Widom and Ames, 1994, Adshear, 1994). Furthermore, the reporting of sexual assault, namely, 'anal/oral sex' and 'sleeping with' was high among subjects with PTSD (66.6%; 45.4%, respectively). These results are in accordance with results from other studies in inmates (e.g., Dutton & Hart, 1994; Weeks and Widom, 1998; Gibson et al., 1999; Fondacaro, Holt & Powell, 1999).

Interestingly enough, being a killer was reported to be experienced as the most bothering traumatic event by only two German (and none Sudanese) forensic patients. The violent offender who claims to have been traumatized by an injurious crime committed against another person is more common in forensic practice than once thought (Pollock, P. H., 1999). For instance, previous studies of violent offenders reported prevalence rates for PTSD intrinsically linked to their offending of 15% (Collins & Bailey, 1990), 22% (Kruppa, Hickey & Hubbard, 1995) and 32% (Steiner, Garcia & Matthews, 1997) following the violent act.

In comparison with the rate of lifetime PTSD among jail and prison inmates, the rate of lifetime PTSD in this study (54.8%) is substantially higher than the rates of the 2.3% and 33% for lifetime PTSD reported in inmates by Collins et al. (1990) and Powell et al. (1997), respectively. Powell et al. (1997) examined 213 jail and prison inmates and revealed that 21% of these inmates had met a 6-month criteria for PTSD and 33% for lifetime criteria. On the other hand, the prevalence rates of current and lifetime PTSD revealed in this study is quite comparable to the rates reported by Spitzer et al. (2001) in a sample of 53 forensic patients where the rates were 17% and 56%, respectively. This substantially high rate of lifetime PTSD among the sample under study could be a product of the multiple potential traumas experienced by this sample, and hence verifies a building block effect, whereby increasing numbers of traumatic experiences increase the likelihood for developing PTSD (Schauer et al., 2003).

Despite this high rate of lifetime and current PTSD in the sample, PTSD diagnosis was not documented in any of the charts of these subjects. The practical implication is that PTSD

appears to be a frequently neglected and underestimated comorbid disorder among these forensic patients.

The prevalence rate of PTSD according to PDS in the present sample has to be interpreted with caution due to the very small number of the subjects who participated in the PDS questionnaire, and also to the notion that, PTSD self-report questionnaires with cut-off points for scoring the symptoms are still under discussion (Brewin et al., 1999). With regard to trauma reporting, the rates of reporting were comparable to those in the SCID-P in most of the similar questions. Moreover, the diagnostic performance of the PDS was adequate. A kappa of .44 between the SCID-P and PDS suggests that the PDS has a modest overall level of diagnostic agreement with the SCID-P.

## **5.2 Traumatic Antecedents Questionnaire (TAQ)**

The results of the TAQ analysis showed that the overall rate of reporting lifetime negative experiences was high in forensic patients. Negative experiences were reported less often in early childhood than in the other developmental periods. This could be attributed to memory bias. The elapsed time between trauma/negative experience occurrence and this study might be gross enough for the recall of such negative experience.

The mean scores of the domain sexual abuse across developmental periods were remarkably lower than the means of the other domains. This could be attributed to the excessive omissions in answering the items of this domain that could be related to the intensity of the trauma. The rates of reporting neglect, separation, emotional abuse, and physical abuse were high in the total sample. This result is in consistence with the results of other similar studies in forensic patients (e.g., Arnesman, 1997; Jordan et al., 1996). This high rate of victimization and trauma exposure could explain the criminal and offending behavior of these subjects. Physical abuse, emotional neglect and sexual victimization have been cited as contributory factors in the development of extreme violent behavior such as multiple murder (e.g., Ressler, Burgess, Douglas, Hartman & D'Agostino, 1986). On the other hand, post-traumatic stress reactions have been proposed to be both causal and mediating factors for aggressive behavior (Goodwin, 1988) with a general consensus among researchers that the presence of PTSD reactions or combinations of symptoms increase the person's propensity to demonstrate violent actions (e.g., Black, Newman, Hindrick & Mezey, 1997).

The rates of reporting negative experiences were quite comparable among the German and Sudanese subjects. Moreover, in the TAQ rather than in SCID-P, the reporting of physical abuse and alcohol/drug abuse was higher in the Sudanese sample suggesting that there was reluctance to the reporting of such negative experiences through direct interview.

With regard to the positive experiences (competence and safety), the German subjects reported higher scores across the four developmental periods than the Sudanese subjects and significantly higher scores across almost all periods. Having experienced markedly less degrees of competence and safety by the Sudanese subjects could explain why they develop psychiatric disorders within very few years after experiencing traumatic events or negative experiences than their German counterparts.

Reliability: with regard to the reliability for the developmental period of early childhood (birth to 6 years) for the 11 domains, there were very low to high correlations and none of these correlations reached significance. This negative result could be attributed to the fact that most of the items in this developmental period were not answered. Difficulties in reporting specific information about adverse events or negative experiences that occurred a long time ago could be an explanation to the element of excessive omissions for reporting adverse events and negative experiences in this early developmental period of life. The reliability of the TAQ increased in the subsequent developmental periods and most of the domains correlated positively and significantly specially for the very negative experiences which are in the direction of severe trauma, e.g. emotional and physical abuse. However, there has been considerable controversy about the validity of information obtained from retrospective self-reports of earlier childhood traumas (e.g., Berliner & Williams, 1994; Brier & Conte, 1993; Della Femina, Yeager, & Lewis, 1990; Herman & Schazow, 1987; Kruttschnitt & Dornfeld, 1992; Loftus, 1993; Widom, 1989a; Williams, 1994). Retrospective reports may suffer from a number of problems (e.g., Bradburn, Rips, & Shevell, 1987). The distortion and loss of information associated with the recollection of events from a prior time period, specially those from the distant past, is a major problem (Squire, 1989). Moreover, lying might well be expected to result in unreliability (Angold & Costello, 1995). On the other hand, some researchers (e.g., Brewin, Andrews, & Gotlib, 1993) concluded that claims concerning the general unreliability of retrospective reports are exaggerated and that there is little reason to link psychiatric pathology with less reliable or less valid recall of life experiences.

Overall, the TAQ revealed fair to adequate level of reliability which is in line with findings of other studies (e.g., Goodman et al., 1998; Green, 1996; Lauterbach & Vrana, 1996; Norris &

Perilla, 1996) on the temporal stability of trauma exposure measures which reported fair to moderate retest reliability. In general, the results of the TAQ reliability suggested that lifetime trauma exposure in forensic patients could be explored reliably with the use of the TAQ.

### **5.3 Number of Reported Trauma - “dose-effect”**

The analysis and results of the relationship between the number of traumatic events, i.e. cumulative trauma, experienced by the subjects over their lives and the development of PTSD verified the hypothesis: the quantity of trauma is associated with the development of PTSD. Subjects with current PTSD had significantly more traumatic events over their lives than subjects without current PTSD. There were no previous studies with regards to the “dose-effect” of trauma in inmates or forensic patients to compare with. However, the results of trauma “dose-effect” in this study are consistent with results of other similar studies in community samples (e.g., Mollica et al., 1998) and in victims of torture (Basoglu et al., 1994a; 1994b; Mollica et al., 1998). For instance, Basoglu et al.’s study (1994a, 1994b) of tortured Turkish political activists and non-tortured comparison group revealed that the Turkish torture group had a higher prevalence of PTSD than the comparison group. Mollica et al. (1998) studied the prevalence of torture and trauma dose-effect relationships between cumulative torture experience and the symptoms of PTSD and major depression in Vietnamese ex-political detainees and a comparison group and they revealed that, the ex-political detainees, in contrast to the comparison group, had experienced more torture events ( $M = 12.2$ ,  $SD = 4.2$  vs.  $M = 2.6$ ,  $SD = 3.1$ ) and had higher rates of PTSD (90% vs. 79%) and depression (49% vs. 15%).

The results of cumulative trauma effect are also in consistence with the findings of a recent study (Neuner et al., in press) that investigated the impact of traumatic events on the prevalence and severity of PTSD in a random sample of 3,339 Ugandan and Sudanese nationals and Sudanese refugees and documented a clear “dose-effect” relationship between the number of traumatic events and the number of endorsed PTSD symptoms. Of the 58 respondents who experienced the greater number of traumatizing experiences, all reported symptoms that met the DSM-IV criteria for PTSD.

Although the subjects who did not meet full criteria for current PTSD experienced significantly lower number of traumatic events than the subjects who met the full criteria, however, they experienced many of the PTSD symptoms. According to Shalev (1992),

subjects who endorsed PTSD symptoms partly but not strongly enough to qualify for a full diagnosis, are considered as subthreshold PTSD cases. However, the taxonomic status and the clinical importance of this subthreshold variant of PTSD is one of the unresolved problems in the field of PTSD (Spitzer et al., 2001).

As trauma “dose-effect” responses are an essential element in inferring the aetiology of PTSD (True et al., 1988), the findings of the study yielded further support for earlier findings with regard to the causation of PTSD. Demonstration of a “dose-effect” relationship between the number of traumatic events experienced and PTSD diagnosis provides further evidence that cumulative trauma is an important risk factor for the development of PTSD in forensic patients.

In summary, the reported multiple traumas in the majority of the subjects, coupled with the evidence of high rates of current and lifetime PTSD, is consistent with the hypothesis that the quantity of trauma is associated with the development of PTSD in this sample.

#### **5.4 Comorbid Anxiety and Depression According to HSCL-25 & BDI**

Although PTSD is the most prevalent and prominent disorder after exposure to a traumatic experience, several studies (e.g., Sierles et al., 1983; Davidson et al., 1985; Health Status of Vietnam Veterans, 1988; Green et al., 1992; McFarlane & Papay, 1992; Mellman et al., 1992; Kessler et al., 1995; Bleich et al., 1996) have shown that a variety of psychiatric disorders can be found following an exposure to a traumatic experience.

As hypothesized, the rates of anxiety and depression were higher within the forensic patients than in other samples (e. g., in inmates: Neighbors et al., 1987; Chiles et al., 1990; Herman et al., 1991; Motiuk et al., 1991; Gibson et al., 1999). In these studies the rate of anxiety ranged between 1% and 24.6% and the rate of depression ranged between 5% and 43.5%. It has been suggested that the high rate of comorbidity with anxiety disorder and depression might be in part artifactual, reflecting an overlapping of diagnostic criteria (Kaene & Wolfe, 1990; Davidson & Foa, 1991). For instance, many of the symptoms of depression (e.g., loss of interest, irritability, difficulties in remembering and concentration, pessimism about the future, and sleep difficulties) overlap with PTSD symptoms (Bleich et al., 1996). Certain symptoms of anxiety (e.g., hyperalertness, impaired memory and ability to concentrate, increased arousal during stimulus exposure) are very similar to the symptoms of PTSD (Fairbank et al., 1983). However, these similarities should not cloud the fact that PTSD, depression, and anxiety all show sufficient important differences to be considered as discrete

conditions (Yule, W., 2001). Another suggested explanation for this comorbidity is that chronic PTSD symptoms may cause reactive depression (Green et al., 1992), and that anxiety and depression represent a range of complications caused by distressing symptoms of PTSD (Breslau et al., 1997). As the measures used for the assessment of anxiety and depression are concerned only with the current occurrences of anxiety and depression, it was difficult to know the chronology of their development with regard to PTSD development. On the other hand, there is little information on the chronology of multiple psychiatric disorders in persons with PTSD (Breslau et al., 1997).

Taking into account the diagnoses assigned to the subjects under study by therapists in charge, which were almost three diagnoses for the majority of the subjects, the rate of comorbidity between PTSD and other psychiatric disorders was high. This finding is in accordance with findings of another similar study in inmates population which revealed that inmates who had experienced PTSD at some point in their lifetime were more likely to have experienced major depressive disorder, dysthymia, generalized anxiety disorder, and antisocial personality disorder than those who had never met criteria for PTSD (Gibson et al., 1999). On the other hand, the result of this study revealed that in all subjects with PTSD, PTSD developed before the other psychiatric disorder. This finding is in consistence with the finding of another study in psychiatric inpatients, in which PTSD was revealed to be the incident disorder in 50% of those with PTSD (McFarlane, A. C. et al., 2001). However, it is difficult to know whether other disorders were a secondary complication of PTSD or whether these disorders develop as such. A lack of understanding of the role of trauma and PTSD in subsequent psychiatric disorders has important implications for recovery from mental health problems (Brady, Killeen, Brewerton, & Lucerini, 2000; Lundy, 1992).

## 6. Conclusions

The results of this study suggest some specific conclusions. First, histories of exposure to traumatic events and the prevalence rate of PTSD are substantially high among forensic patients. Mental health workers, and specifically professionals in charge of forensic patients, should acknowledge these high rates of trauma exposure and PTSD. In addition, forensic patients should be thoroughly assessed for histories of trauma exposure and for the presence of PTSD. Assessing the prevalence of exposure to traumatic events among forensic patients could help identifying those who are at a higher risk for developing PTSD. Second, PTSD seems to be a frequently neglected comorbid diagnosis among the studied forensic patients. Failure to diagnose PTSD as a comorbid disorder in forensic patients could have important implications for assessment and management of their other psychiatric illnesses. Assessing the prevalence of PTSD, and hence early detection and management, may prevent further sequelae of PTSD from developing. Third, the rate of anxiety and depression is also high among these patients. The clinical evaluation of forensic patients exposed to trauma should include specific evaluation of anxiety and depression and that intervention strategies should address these coexisting symptoms. Early mental health intervention may serve to prevent the chronicity of these reactions among such victims of extreme trauma (Goenjian, A. K., 2000). Fourth, the TAQ presented itself as a reliable instrument for assessing lifetime trauma exposure among the German subjects. Finally, because of the small size of the sample, the results of this study have to be regarded as preliminary. Replication of this study with a large sample will yield more conclusive results that could aid in the development of effective management strategies in the field of forensic psychiatry.

## 7. Limitations

The interpretation of the results of this study should take into account several methodological limitations. First, the sample was small. When subgroups were categorized according to the presence of PTSD or its absence, the groups were too small for adequate final statistical comparisons and conclusions, however, many results cross-validated well. This relative lack of statistical power does not cancel out the findings of this study, but it does suggest the need for larger sample size to allow for more confident interpretation. Second, the participants in the study were not randomly selected and simply obtained from consecutive admissions to the two forensic wards. Such method of selection may influence the results (Pollock, P. H., 1999). Third, all subjects reported a history of trauma and the majority reported more than three traumatic events. This created a ceiling effect, requiring a bigger effect size in an already small sample. Moreover, it was difficult to ascertain which traumatic event was actually responsible for the development of PTSD. Fourth, the use of self-report questionnaires, with their established cut-off points, for the assessment of anxiety and depression might have led to over estimation of the rates of anxiety and depression. The use of cut-off points for establishing psychiatric diagnoses must be carefully used because they can mask differences in underlying psychiatric symptomatology between the different subgroups in a sample under study (Mollica et al., 1998). Moreover, the use of structured diagnostic measures generally minimizes the clinical judgement (Gibson et al., 1999).

Despite these limitations, however, the study has a number of points of strength. First, it sheds light on trauma and its adverse psychological sequelae in a population at high risk. Second, it explores some of the psychiatric disorders that tend to co-occur with PTSD among forensic patients. Third, it explores some cultural aspects with regard to trauma-reporting in general and sexual trauma-reporting in particular. Finally, the revealed comparability in many aspects of the results within the two subsamples lends support to the cultural validity of PTSD.

## 8. Zusammenfassung

Traumatische Erlebnisse können verheerende Wirkungen auf die betroffenen Opfer haben. Beispielsweise stehen Gewalttaten und Kriminalität, die ein Traumaopfer zu einem späteren Zeitpunkt verübt, häufig in Verbindung mit der eigenen vorangehenden Traumatisierung. In diesem Kontext wird die vermittelnde Rolle von PTSD (Post-traumatische Belastungsstörung) diskutiert. Der Zusammenhang zwischen kriminellem Verhalten und traumatischen Stressoren wurde bereits in einigen Studien aus verschiedenen Perspektiven erforscht.

PTSD impliziert eine Reihe Symptome, welche nach einer Traumatisierung entstehen können. PTSD soll jedoch nicht nur als eine übliche Folge wiederholt erlebter Gewalt betrachtet werden, denn sie kann wiederum zu kriminellem Verhalten führen, da ihre inhärenten Symptome wie z.B. Erregung, Angriffsbereitschaft, Wutausbrüche und Flashbacks einen Risikofaktor für die Entstehung einer unkontrollierten und heftigen Handlung darstellen können. Flashbacks können durch Zustände ausgelöst werden, welche eine gewisse Ähnlichkeit mit jenen Zuständen haben, die zum Zeitpunkt des Traumas vorlagen. Darüber hinaus können manche kriminelle Delikte eine Verbindung zu einem spezifischen Trauma haben, welches der Delinquent zu einem früheren Zeitpunkt erlitten hat. Über die komorbide Psychopathologie bei forensischen Patienten ist jedoch bis jetzt nur wenig bekannt.

In der vorliegenden Studie haben wir die eben geschilderten Fakten zum Anlass genommen, das Spektrum Trauma bedingter Störungen bei forensischen Patienten aus zwei ziemlich unterschiedlichen Kulturkreisen zu untersuchen, die nach kriminellen Taten einer psychiatrischen Behandlung zugewiesen waren. Dabei wurden Traumata und Trauma bezogene Störungen in beiden Patientengruppen ermittelt und miteinander verglichen.

Die Prävalenz von PTSD im Hinblick auf die charakteristischen Merkmale traumatischer Erlebnisse sowie auf die komorbiden Symptome von Angst und Depression wurde in sechzehn deutschen und fünfzehn sudanesischen Patienten in forensischen Abteilungen zwei psychiatrischer Zentren untersucht, wobei folgende Instrumente verwendet wurden: Structured Clinical Interview für DSM-IV: P-Modul (SCID) und Posttraumatic Diagnostic Scale (PDS) für PTSD und Traumaprävalenz; Hopkins Symptom Checklist-25 (HSCL-25)

und Beck Depression Inventory (BDI) für die Prävalenz komorbider Symptome. Zusätzlich wurden positive und negative Lebenserfahrungen querdurch vier Entwicklungsphasen des Lebens mit Hilfe des Traumatic Antecedents Questionnaire (TAQ) retrospektiv beurteilt. Alle Patienten gaben ausnahmslos an, mindestens ein traumatisches Erlebnis im Laufe ihres Lebens gehabt zu haben. Dieses war schwerwiegend genug, um eventuell ein PTSD hervorrufen zu können. Die Ergebnisse dieser Studie bestätigen diejenigen aus früheren Berichten, die höhere Quoten von PTSD bei forensischen Patienten im Vergleich zu der Allgemeinbevölkerung oder zu Gefängnisinsassen aufwiesen. Im Durchschnitt gaben unsere Patienten fünf traumatische Erlebnisse an, wobei das erste bereits in der Kindheit lag. Dementsprechend waren die PTSD-Diagnosen in der gesamten Stichprobe häufig (39% aktuelle PTSD und 55% Lebenszeit-PTSD). Ferner, waren PTSD-Diagnosen eher zu stellen, je größer die angegebene Zahl traumatischer Erlebnisse war. Darüber hinaus waren Vernachlässigung in der frühen Kindheit (Alter von 0 bis 6 Jahren) und emotionale Misshandlung in der darauffolgenden Entwicklungsphase (Alter zwischen 7 und 12 Jahren) mit der Diagnose einer aktuellen PTSD signifikant verbunden. Das Verhältnis von komorbiden Angstsymptomen (60%) und Depression (64%) war wesentlich. Unterschiede hinsichtlich der psychiatrischen Profile konnten in beiden Kulturkreisen nicht ermittelt werden.

Abschließend sei daraufhingewiesen, dass die Ergebnisse dieser Studie zum Teil auf retrospektive Selbstberichte der Patienten, insbesondere hinsichtlich ihrer Kindheitserlebnisse, basieren. Die Validität retrospektiver Selbstberichte wird kontrovers in der einschlägigen Literatur diskutiert. Deshalb ist es nicht ohne Weiteres möglich, verbindliche Rückschlüsse mit letzter Sicherheit daraus ziehen zu können. Ferner sei erwähnt, dass die Zahl der Patienten in unseren Stichproben relativ klein war. Dadurch waren die Untergruppen bei der Klassifizierung nach Vorhandensein bzw. Nichtvorhandensein von PTSD zu klein, um Rückschlüsse vorbehaltlos ziehen zu können. Dennoch belegen die Ergebnisse der Studie, dass forensischen Patienten im Laufe ihres Lebens multiple traumatische Erlebnisse in hohem Ausmaß ausgesetzt waren. Da sie häufige Traumatisierungen bereits während ihrer Kindheit aufweisen, sind sie besonders hoch gefährdet, ein Spektrum Trauma bedingter Störungen zu entwickeln. Als Konsequenz dieser Studie sollte bei einer klinischen Beurteilung von forensischen Patienten eine Auswertung von PTSD zusätzlich zu Angst und Depression einbezogen werden. Darüber hinaus sollten etwaige Interventionsstrategien diese koexistierenden Symptome ansprechen.

## 9. References

Allen, J. G. (1995). *Coping with Trauma*. American Psychiatric Association Press, Washington, DC.

American Psychiatric Association (1952). *Diagnostic and Statistical Manual of Mental Disorders* (1st edn.) (DSM-I). Washington, DC: APA.

American Psychiatric Association (1968). *Diagnostic and Statistical Manual of Mental Disorders* (2<sup>nd</sup> edn.) (DSM-II). Washington, DC: APA.

American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders* (3<sup>rd</sup> edn.) (DSM-III). Washington, DC: APA.

American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders* (3<sup>rd</sup> edn., revised) (DSM-III-R). Washington, DC: APA.

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4<sup>th</sup> edn.) (DSM-IV). Washington, DC: APA.

Andreasen, N.C.(1980): Posttraumatic stress disorder; in: *Comprehensive Textbook of Psychiatry*, 3<sup>rd</sup> ed., vol. 2. Edited by Kaplan, HI, Freedman AM, Sadock BJ. Baltimore, Williams & Wilkins, 1980, pp. 1517-1525.

Appelbaum, P. S., Jick, R. Z., Grisso, T., Givelber, D. Silver, E., & Steadman, H. J. (1993). Use of posttraumatic stress disorder to support an insanity defense. *American Journal of Psychiatry*, 150 (2), 229-234.

Arensman, E. (1997). *Attempted suicide: Epidemiological and classification*. Leiden: Leiden University.

Angold, A., & Costello, E. G. (1995). A test-retest reliability study of child-reported psychiatric symptoms and diagnosis using the Child and Adolescence Psychiatric Assessment (CAPA-C). *Psychological Medicine*, 25, 755-762.

Atkinson, R. M., Sparr, L. F., Sheff, A. G., et al. (1984). Diagnosis of of post-traumatic stress disorder in Vietnam veterans. *American Journal of Psychiatry*, 141, 694-696.

Basoglu, M., Paker, M., Paker, O., Özman, E., Marks, I., Incesu, C., Sahin, D., Sarimurat, N. (1994a). Psychological effects of torture: A comparison of tortured with nontortured political activists in Turkey. *American Journal of Psychiatry*, 151 (suppl. 1), 76-81.

Basoglu, M., Paker, M., Tasdemir, Ö., Özman, E., Sahin, D., Sarimurat, N. (1994b). Factors related to long-term traumatic stress responses in survivors of torture in Turkey. *JAMA*, 272, 357-363.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., Erbaugh, J. (1961): An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.

Beck, A. T., & Steer, R. A. (1987). *Beck Depression Inventory Manual*. San Antonio, TX: The Psychological Corporation.

Ben-David, S. (1992). Crime as an immune device against traumatic intrusive recollections. Paper presented at the World Conference of the ISTSS, Trauma and Tragedy.

Berliner, L., & Williams, L. M. (1994). Memories of childhood sexual abuse: Response to Linsay and Read. *Applied Cognitive Psychology*, 8, 376-387.

Bernat, J. A., Ronfeldt, H. M., Galhoum, K. S. & Arias, I. (1998). Prevalence of Traumatic Events and Peritraumatic Predictors of Posttraumatic Stress Symptoms in a Nonclinical Sample of College Students. *Journal of Traumatic Stress*, 11 (suppl. 4), 645-664.

Black, D., Newman, M., Hindrick, J. H. & Mezey, G. (1997). *Psychological trauma: A developmental approach*. London: Gaskell, Royal College of Psychiatrists.

Bleich, A., Siegal, B., Garb, R., et al. (1986). Post-traumatic stress disorder following combat exposure: Clinical features and psychopharmacological response. *British Journal of Psychiatry*, 149, 365- 369.

Bleich, A., Koslowsky, M., Dolev, A., et al. (1997). Post-traumatic stress disorder and depression. An analysis of comorbidity. *British Journal of Psychiatry*, 170, 479-482.

Bradburn, N. M., Rips, L. J., & Shevell, S. K. (1987). Answering autobiographical questions: The impact of memory and inference on surveys. *Science*, 236 (4798), 157-161.

Brady, K. T., Killeen, T. K., Brewerton, T., & Lucerini, S. (2000). Comorbidity of psychiatric disorders and posttraumatic stress disorder. *Journal of Clinical Psychiatry*, 61, (suppl. 7), 22-32.

Breslau, N. & Davis, G. C. (1987). Posttraumatic stress disorder: The stressor criterion. *Journal of Nervous and Mental Disease*, 175, 255-256.

Breslau, N., Davis, G.C., Andreski, P., & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, 48, 216-222.

Breslau, N., Davis, G. C., Peterson, E. L. and Schultz, L. (1997). 'Psychiatric Sequele of Post-traumatic Stress Disorder in Women'. *Archives of General Psychiatry*, 54, 81-87.

Breslau, N., Kessler, R.C., Chilcoat, H.D., Schultz, L.R., Davis, G.C.& Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit area survey of trauma. *Archives of General Psychiatry*, 55, 626-632.

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, 902-907.

Brett, E. A., Spitzer,, R. L., & Williams, J. B. W. (1988). DSM-III-R criteria for posttraumatic stress disorder. *American Journal of Psychiatry*, 145, 1232-1236.

Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin*, 113, 82-98.

Brewin, C. R., Andrews, B., Rose, S, et al. (1999). A dual representation theory of post-traumatic stress disorder. *Psychological Review*, 103, 670- 686.

Brewin, C. R. B., B. Andrews, & J. D. Valentine (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68 (suppl. 5), 748-766.

Briere, J., & Conte, J. (1993). Self-reported amnesia for abuse in adults molested as children. *Journal of Traumatic Stress*, 6, 21-31.

Britt, A. & McFarlane, M. B. (1988). The phenomenology of post-traumatic stress disorders following natural disasters. *Journal of Nervous and Mental Disease*, 176, 22-29.

Bryant, R. A. (2000). Cognitive behavior therapy of violence-related posttraumatic stress disorder. *Aggressive Violent Behavior*, 5, 79-97.

Bryant, R. A. & Friedman, M. (2001). Medication and non-medication treatments of post-traumatic stress disorder. *Current Opinion in Psychiatry*, 14, 119- 123.

Bursztajn, H. J. (1993): From PSDA to PTSD: The patient self-determination act and post-traumatic stress disorder. *Journal of Clinical Ethics*, 4 (suppl.1), 1- 4.

Bursztajn, H. J., Scherr, A. E. & Brodsky, A.(1993). The Rebirth of Forensic Psychiatry in Light of Recent Historical Trends in Criminal Responsibility:

<http://www.forensic-psych.com/articles/artRebirth.html>

Callahan, L. A., Steadman, H. J., McGreevy, M. A., & Robinson, P. C. (1991). The volume and characteristics of insanity defense pleas: An eight-state study. *Bulletin of the American Academy of Psychiatry and the Law*, 19, 331-338.

Cauffman, E., Feldman, S. S., Waterman, J., & Steiner, H. (1998).“Post-traumatic Stress Disorder among Female Juvenile Offenders“. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 1209-1216.

Cascardi, M., Mueser, K. T., DeGirolomo, J., Murrin, M., 1996. Physical aggression against psychiatric inpatients by family members: a descriptive study. *Psychiatric Services*, 47, 531-533.

Centers for Disease Control (1988). Health status of Vietnam veterans. *Journal of the American Medical Association*, 259, 2701-2724.

Coid, J. W. (1999). Aetiological risk factors for personality disorders. *British Journal of Psychiatry*, 174, 530-538.

Chiles, J. A., Von Cleve, E., Jemelka, R. P., & Trupin, E. W. (1990). Substance abuse and psychiatric disorder in prison inmates. *Hospital and Community Psychiatry*, 41, 1132-1134.

Collins, J., & Bailey, S. (1990). Traumatic stress disorder and violent behavior. *Journal of Traumatic Stress*, 3, 203-220.

Craine, L. S., Henson, C. E., Colliver, J. A., McLean, D. C. 1988. Prevalence of a history of sexual abuse among female psychiatric patients in a state hospital system. *Hospital and Community Psychiatry*, 39, 300-304.

Daly, R. J. (1983). Samuel Pepys and post-traumatic stress disorder. *British Journal of Psychiatry*, 143, 64-68 .

Davidson, J. Swartz, M.& Storck, M. (1985). A diagnostic and family study of posttraumatic stress disorder. *American Journal of Psychiatry*, 142, 90-93.

Davidson, J., Kudler, H. S., Saunders, W. B., et al. (1990). Symptom and comorbidity pattern in World War II and Vietnam veterans with posttraumatic stress disorder. *Comprehensive Psychiatry*, 32, 162-170.

Davidson, J. R. T. & Smith, R. D. (1990). Traumatic experiences in psychiatric outpatients. *Journal of Traumatic Stress*, 3, 459-476.

- Davidson, J. R. T. & Foa, E. B. (1991). Diagnostic issues in posttraumatic stress disorder: considerations for the DSM-IV. *Journal of Abnormal Psychology*, 100, 436-456.
- Davidson, J. R. T., Hughes, D., Balzer, D.G., & George, L.K. (1991). Post-traumatic stress disorder in the community: An epidemiological study. *Psychological Medicine*, 21, 713-721.
- Davidson, J. R. T. (1992). Drug Therapy of Post-traumatic Stress Disorder. *British Journal of Psychiatry*, 160, 309-314.
- Davidson, M. J. (1988). Post-traumatic stress disorder: A controversial defense for veterans of a controversial war. *William and Mary Law Review*, 29, 415-440.
- Della Femina, D., Yeager, C. A., & Lewis, D. O. (1990). Child abuse: Adolescent records versus adult recall. *Child Abuse and Neglect*, 14, 227- 231.
- DeMartino, R., Mollica, R. F., & Wilk, V. (1995). Monoamine oxidase inhibitors in posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 183, 510-515.
- Derogatis, L.R., Lipman, R.S., Rickels, K., et al. (1974). The Hopkins Symptom Checklist (HSCL): a measure of primary symptom dimensions, in *Modern Problems in Pharmacopsychiatry*. Edited by Pichot P. Basel, Karger.
- Dutton, D. G., & Hart, S. D., (1994). Evidence for long-term, specific effects of childhood abuse and neglect on criminal behavior in men. *International Journal of Offender Therapy and Comparative Criminology*, 36, 129-137.
- Erikson, K. T. (1979). *In the Wake of the Flood*. London: Allen and Unwin.
- Erlinder, C. P. (1984). Paying the price of Vietnam: Post-traumatic stress disorder and criminal behavior. *Boston College Law Reviews*, 25, 305-347.
- Escobar, J. I., Randolph, E. T., Puente, G., et al. (1983). Post-traumatic stress disorder in Hispanic Vietnam veterans: Clinical phenomenology and sociocultural characteristics. *Journal of Nervous and Mental Disease*, 171, 585-596.

Fairbank, J. A., Langley, K., Jarvie, G. L. & Keane, T. M. (1981). A selected bibliography on PTSD in Vietnam veterans. *Professional Psychology*, 12, 578-586.

Fairbank, J. A., Kaene, T. M., & Malloy, P. F. (1983). Some preliminary data on the psychological characteristics of Vietnam veterans with PTSD. *Journal of Consulting and Clinical Psychology*, 51, 912-919.

Fairbank, J. A., Schlenger, W. E., Saigh, P. A. & Davidson, J. R. T. (1995). An epidemiologic profile of post-traumatic stress disorder: Prevalence, comorbidity, and risk factor. In M. J. Friedman, D. S. Charney & A. Y. Deutch (Eds.). *Neurobiological and clinical consequences of stress: From normal adaptation to post-traumatic stress disorder*, pp. 415-427. Philadelphia, PA: Lippincott-Raven.

Fierman, E. J., Hunt, M. F., Pratt, L. A., Warshaw, M. G., Yonkers, K. A., Peterson, L. G., Epstein-Kaye, T. M. and Norton, H. S. (1993). 'Trauma and Post-traumatic Stress Disorder in Subjects with Anxiety Disorders'. *American Journal of Psychiatry*, 150, 1872- 1874.

First, M. B., Spitzer, R. L., Gibon, M., & Williams, J. B. W. (1996). *Structured Clinical Interview for Axis I and II DSM-IV Disorders - Patients Edition (SCID-I/P)*. New York State Psychiatric Institute.

Fitzpatrick KM, Boldizar JP: The prevalence and consequences of exposure to violence among African-American youth (1992). *Journal of American Academy of Child and Adolescent Psychiatry*, 32, 424-430.

Foa, E. B. (1995): *Posttraumatic Stress Diagnostic Scale: Manual*. Minneapolis, National Computer Systems 1995.

Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-report measure of posttraumatic stress disorder: The Posttraumatic Diagnostic Scale. *Psychological Assessment*, 9, 445-451.

Foa, E. B., & Rothbaum, B. O. (1999). Exposure Therapy For PTSD. *The National Center for PTSD: PTSD Research Quarterly*, 10 (suppl. 2), 1-3.

Foa, E. B. (2000). Psychosocial treatment of posttraumatic stress disorder. *Journal of Clinical Psychiatry*, 61 (suppl. 5), 43-48.

Follette, M., Polusny, M., Bechtle, A. E. & Naugle, A. E. (1996). Cumulative trauma: The impact of child sexual abuse, adult sexual assault, and spouse abuse. *Journal of Traumatic Stress*, 9, 25-35.

Fondacaro, K., M., Holt, J. C., & Powell, T., A. (1999). Psychological impact of childhood sexual abuse on male inmates: The importance of perception. *Child Abuse and Neglect*, 23, 361-369.

Foy, D. W., Sippelle, R. C., Rueger, D. B., & Carroll, E. M. (1984). Etiology of PTSD in Vietnam veterans: Analysis of premilitary, military, and combat exposure influences. *Journal of Consulting and Clinical Psychology*, 52, 79- 87.

Freud, S. (1893). The psychical mechanism of hysterical phenomena. Reprinted (1953-1974) in the *Standard Edition of the Complete Psychological Works of Sigmund Freud* (trans. and ed. J. Stachy), Vol. 2, pp. 3-17. London: Hogarth Press.

Friedman, M. J., Rosenheck, R. A. (1996). PTSD as a persistent mental illness. In S. Soreff (Ed.). *The seriously and persistently mentally ill: The state-of-the-art treatment handbook* (pp. 369-389). Seattle, WA: Hogrefe & Huber.

Friedman, M. J. (2000). *Post-Traumatic Stress Disorder: The latest Assessment and Treatment Strategies*. Published by: Compact Clinicals, 7205 NW Waukomis Dr., Suite A, Kanas City, MO 64151.

Faustman, W. O., & White, P. A. (1989). Diagnostic and psychopharmacological treatment characteristics of 536 inpatients with posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 177, 154- 159.

Friedman, M. J., Charney, D. S., & Deutch, A. Y. (Eds.) (1995). *Neurobiological and Clinical Consequences of Stress: From Normal Adaptation to PTSD*; pp.507-526. Philadelphia, PA: Lippincott-Raven Press.

- Friedman, M. J. (2000). A guide to the literature on pharmacotherapy for PTSD. *PTSD Research Quarterly*, 11, 1-7.
- Gerson, B., P. R. & Carlier, I. E. (1992). Post-traumatic Stress Disorder: The History of a Recent Concept. *British Journal of Psychiatry*, 161, 742-748.
- Gibbs, J., J.(1991). Environmental congruence and symptoms of psychopathology: A further exploration of the effects of exposure to the jail environment. *Criminal Justice and Behavior*, 18, 351-374.
- Gibson, L. E., Holt, J. C., Fondacaro, K. M., Tang, T. S., Powell, T. A. and Turbitt, E. L. (1999). An Examination of Antecedent Traumas and Psychiatric Comorbidity Among Male Inmates with PTSD. *Journal of Traumatic Stress*, 12 (suppl. 3), 473- 484.
- Goenjian, A. K., Steinberg, A. M., Najarian, L. M., Fairbanks, L. A., Tashjian, M. & Pynoos, R. S. (2000). Prospective Study of Posttraumatic Stress, Anxiety, and Depressive Reactions After Earthquake and Political Violence. *American Journal of Psychiatry*, 157, 911-916.
- Goodwin, J. (1988). Post-traumatic symptoms in abused children. *Journal of Traumatic Stress*, 1, 475-488.
- Grant, B. L. & Coons, D. J. (1983). Guilty verdict in a murder committed by a veteran with post-traumatic stress disorder. *Bulletin of the American Academy of Psychiatry and the Law*, 11, 355-358.
- Green, B. L., Lindy, J. D. & Grace, M. C. (1985). Posttraumatic stress disorder: Towards DSM-IV. *Journal of Nervous and Mental Disease*, 173, 406-411.
- Green, B. L., Lindy, J. D. & Grace, M. C. (1989). Multiple diagnosis in posttraumatic stress disorder: The role of war stressors. *Journal of Nervous and Mental Disease*, 177, 329-335.
- Green , B.L., Lindy, J. D., Grace, M.C., &Leonard, A.C. (1992). Chronic posttraumatic stress disorder and diagnostic comorbidity in a disaster sample. *Journal of Nervous and Mental Disease*, 180, 70-76.

Green, B. L. (1996). Trauma History Questionnaire. In : B. H. Stamm (Ed.). *Measurement of Stress, Self-Report Trauma, and Adaptation*. Sidran Press, Lutherville, MD. Pp. 366-368.

Greenfield, S.F., Strakowski, S.M., Tohen, M., Batson, S.C., & Kolbrener, M. L. (1994). Childhood abuse in first-episode psychosis. *British Journal of Psychiatry*, 164, 831-834.

Gunn, J., Robertson, G., Dell, S., Way, C. (1978). *Psychiatric aspects of imprisonment*. London: Academic Press.

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry*, 23, 56-62.

Health Status of Vietnam Veterans (1988)1: Psychosocial characteristics: the Centers for Disease Control Vietnam Experiences Study. *Journal of the American Medical Association*, 259, 2701-2707.

Helzer, J. E., Robins, L. N. & McEvoy, L. (1987). Post-traumatic stress disorder in the general population: Findings of the Epidemiological Catchment Area Survey. *New England Journal of Medicine*, 371, 1630-1634.

Hembree, E. A. & Foa, E. B. (2000). Posttraumatic stress disorder: Psychological factors and psychosocial intervention. *Journal of Clinical Psychiatry*, 61 (suppl. 7), 33-39.

Herman, J. L., & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychologist*, 4, 1-14.

Herman, J. L., & Van der Kolk, B. A. (1987). Traumatic origins of borderline personality disorder. In B. A. Van der Kolk (Ed.), *Psychological Trauma*. Washington, DC: American Psychiatric Press.

Herman, H., McGorry, P., Mills, J., & Singh, B. (1991). Hidden severe psychiatric morbidity in sentenced prisoners: An Australian study. *American Journal of Psychiatry*, 148, 236-239.

Herman, J. L. (1992). *Trauma and Recovery*. Basic Books, New York.

Herman, J. L., Perry, J. C., & Van der Kolk, B. A. (1998). Childhood trauma in borderline personality disorder. *American Journal of Psychiatry*, 146, 490-495.

Hesbacher, P. T., Rickels, K., Morris, R. J., et al. (1980). Psychiatric illness in family practice. *Journal of Clinical Psychiatry*, 41, 6-10.

Higgins, S. A. (1991). Post-traumatic stress disorder and its role in the defense of Vietnam veterans. *Law and Psychology Review*, 15, 259-276.

Horowitz, M. J. (1974). Stress response syndrome: Character style and dynamic psychotherapy. *Archives of General Psychiatry*, 31, 768-781.

Horowitz, M. J. (1975). Intrusive and repetitive thoughts after experimental stress. *Archives of General Psychiatry*, 32, 223-228.

Horowitz, M. J. (1976). *Stress Response Syndrome*. New York. Jason Aronson.

Horowitz, M. J., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine*, 41, 209-218.

Horowitz, M. J. (1986): *Stress response Syndromes*, 2<sup>nd</sup> ed. Jason Aronson, New York.

Hutchings, P.S., & Dutton, M. A. (1993). Sexual assault history in a community mental health center clinical population. *Community Mental Health Journal*, 29, 59-63.

Irwin, J., & Austin, J. (1994). *It's about time. America's imprisonment binge*. Belmont, CA: Wadsworth.

Janet, P. (1889) : *L' Automatism Psychologique*, Paris, Alchon.

Jacobson, A., & Richardson, B. (1987). Assault experiences of 100 psychiatric inpatients: Evidence of the need for routine inquiry. *American Journal of Psychiatry*, 144, 508-513.

Jankowski, M., S. (1991). *Islands in the street: Gangs and American urban society*. Brekeley, CA: University of California Press.

Jessor, R., & Jessor, S., L. (1977). *Problem behavior and psychosocial development*. New York: Academic Press.

Jordan, B. K., Schlenger, W. E., Fairbank, J. A., & Caddel, J. M. (1996). Prevalence of psychiatric disorders among incarcerated women: Convicted felons entering prison. *Archives of General Psychiatry*, 53, 513-519.

Keane, T. M. & Wolf, J. (1990). Comorbidity in post-traumatic stress disorder: An analysis of community and clinical studies. *Journal of Applied Social Psychology*, 20, 1776-1788.

Keane, T. M., Kaloupek, D. G., (1997). Comorbid psychiatric disorders in PTSD: Implications for research. *Annals of the New York Academy of Sciences*, 821, 24-34.

Keane, T. M., Kolb, L. C., Kaloupek, D. G., Orr, S. P., Blanchard, E. B., Thomas, R. G., Hsieh, F. W., & Lavori, P. W. (1998). Utility of psychophysiological measurement in the diagnosis of post-traumatic stress disorder: Results from a Department of Veterans Affairs Cooperative Study. *Journal of Consulting and Clinical Psychology*, 66, 914-923.

Kessler, R.C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C.B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1060.

Klipatrick, D., Edmonds, C.N., & Sseymour, A.K. (1992). *Rape in America: A report to the nation*. Arlington, VA: National Victims Center.

Kruppa, I., Hickey, N. & Hubbard, C. (1995). The prevalence of post-traumatic stress disorder in a special hospital population of legal psychopaths. *Psychology, Crime and Law*, 2, 131-141.

Kruttschnitt, C., & Dornfeld, M. (1992). Why they tell? *Journal of Research in Crime and Delinquency*, 29, 136-147.

Kulka, R.A., Schlenger, W.E., Fairbank, J.A., Hough, R.L., Jordan, B.K., & Marmer, C.R. (1990). Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study. New York: Brunner / Mazel.

Lauterbach, D., Vrana, S. (1996). Three studies on the reliability and validity of a self-report measure of posttraumatic stress disorder. *Assessment*, 3, 17-26.

Lerer, B., Bleich, A., Kotler, M., et al. (1987). Posttraumatic stress disorder in Israeli combat veterans: effects of Phenelzine treatment. *Archives of General Psychiatry*, 44, 976-981.

Lewis, D. O., Yeager, C. A., Swica, Y., Pincus, J. H., & Lewis, M. (1997). Objective documentation of child abuse and dissociation in 12 murderers with dissociative identity disorder. *American Journal of Psychiatry*, 154 (suppl. 12), 1703- 1710.

Loftus, E. (1993). The reality of repressed memories. *American Psychologist*, 48, 518-537.

Lundy, M. S. (1992). Psychosis-induced posttraumatic stress disorder. *American Journal of Psychotherapy*, 46, 485-491.

March, J. S. (1993). What constitute a stressor? The "Criterion A" issue. In: Davidson, J. R. T., Foa, E. B. (Eds.). *Post-Traumatic Stress Disorder: DSM-IV and Beyond*. Washington, DC: American Psychiatric Press, 37-54.

Marsella, A. J., Friedman, M. J., Gerrity, E., & Scurfield, R. M. (Eds.) (1996). *Ethnocultural Aspects of Post-Traumatic Stress Disorder: Issues, Research and Applications*. Washington: American Psychological Association.

Masuda, M., Cutler, D., L., Hein, L., & Holmes, T., H. (1978). Life events and prisoners. *Archives of General Psychiatry*, 35, 197-203.

McCaulay, J., Kern, D. E., Kolonder, K., Dill, L., Schroeder, A. F., DeChant, H. K., Ryden, J., Derogen, L., R., & Bass, E. B. (1997). Clinical Characteristics of women with a history of childhood abuse: Unhealed wounds. *Journal of the American Association*, 277, 1362- 1368.

McFarlane, A. C. (1989). The aetiology of post-traumatic morbidity: Predisposing, precipitating and perpetuating factors. *British Journal of Psychiatry*, 154, 221-228.

McFarlane, A. C. & Papay, P. (1992). Multiple diagnoses in posttraumatic stress disorder in the victims of a natural disaster. *Journal of Nervous and Mental Disease*, 180, 498-504.

McFarlane, A. C. (1996). Resilience, vulnerability, and the course of posttraumatic reactions. In: Van der Kolk, B. A., McFarlane, A. C., Weisaeth, L. (Eds.). *Traumatic Stress: The Effects of Overwhelming Experience on Mind, Body, and Society*. The Guilford Press, New York, pp. 155-181.

McFarlane, A. C., Bookless, C., & Air, T. (2001). Posttraumatic Stress Disorder in a General Inpatient Population. *Journal of Traumatic Stress*, 14 (suppl. 4), 633-645.

McNally, R. J. (1999). EMDR and mesmerism: a comparative historical analysis. *Journal of Anxiety Disorders*, 13, 225-236.

Mellman, T.A., Randolph, C.A., Brawman-Mintzer, O., et al. (1992). Phenomenology and course of psychiatric disorders associated with combat-related stress disorders. *American Journal of Psychiatry*, 149, 1568-1574.

Miranda, J. M., Green, B. L., & Krupnick, J. (1997). Mental disorders in disadvantaged gynaecology patients. Paper presented at the North American Meeting of the Society for Chemotherapy Research, Tucson, AZ.

Mollica, R. F., Wyshak, G., deMarneffe, D., et al. (1987). Indochinese versions of the Hopkins Symptom Checklist-25 : a screening instrument for the psychiatric care of refugees. *American Journal of Psychiatry*, 144, 497-500.

Mollica, R. F., Donelan, K., Tor, S., Lavelle, J., Elias, C., Frankel, M., & Blendon, R., J. (1993). The effect of trauma and confinement on functional health and mental health status of Cambodians living in Thailand-Cambodia border camps. *JAMA*, 270, 581-586.

Mollica, R. F., McInnes, K., Poole, C., & Tor, S. (1998). Dose-effect relationships of trauma to symptoms of depression and post-traumatic stress disorder among Cambodian survivors of mass violence. *British Journal of Psychiatry*, 173, 482-488.

Mollica, R. F., McInnes, K., Pham, T., Fawzi, M., Murphy, E., & Lin, L. (1998). The Dose-Effect Relationships between Torture and Psychiatric Symptoms in Vietnamese Ex-Political Detainees and a comparison Group. *Journal of Nervous and Mental Disease*, 186 (suppl. 9), 543-553.

Motiuk, L. L., & Porporino, F. J. (1991). The prevalence, nature and severity of mental health problems among federal male inmates in Canadian penitentiaries. Ottawa: Correctional Services of Canada

Mueser, K. T., Goodman, L. B., Trumbetta, S. L., Rosenberg, S. D., Osher, F. C., Vidaver, R., Auciello, P., & Foy, D. W. (1998). Trauma and posttraumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology*, 66, 493- 499.

Mueser, K. T., Rosenberg, S. D., Goodman, L. A., & Trumbetta, S. L. (2002). Trauma, PTSD, and the course of severe mental illness: an interactive model. *Schizophrenia research*, 53, 123-143.

Mullen, P. E. (2000). Forensic mental health. *British Journal of Psychiatry*, 176, 307-311.

Murphy, J.M. (1981). Psychiatric instrument development for primary care research: patient self-report questionnaire. Rockville, Md, NIMH Division of Biometry and Epidemiology.

Neighbors, H. W., Williams, D. H., Gunnings, T. S., Lipscomb, W. D., Broman, C., & Lepowski, J. (1987). The Prevalence of Mental Disorders In Michigan Prisons. Final Report submitted to the Michigan Department of Corrections.

Neuner, F., Schauer, M., Karunakara, U., Klaschik, C., Robert, C., Elbert, T. Psychological trauma and evidence for enhanced vulnerability for PTSD through previous trauma in West Nile Refugees. *BMC Psychiatry* (in press).

Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology*, 60, 409-418.

Norris, F. H., & Kaniasty, K. (1994). Psychological distress following criminal victimization in the general population: Cross-section, longitudinal, and prospective analyses. *Journal of Consulting and Clinical Psychology*, 62, 111-123.

Norris, F. H., & Perilla, J. L. (1996). The Revised Civilian Mississippi Scale for PTSD: Reliability, validity, and cross-language stability. *Journal of Traumatic Stress*, 9, 285-298.

Norris, F. H., & Riad, J. K. (1997). Standardized self-report measures of civilian trauma and posttraumatic stress disorder. In J. P. Wilson & T. M. Keane (Eds.). *Assessing psychological trauma and PTSD* (pp. 7-42). New York: Guilford Press.

Ozer, E. J., et al. (2003). Predictors of posttraumatic stress disorder and symptoms in adults : a meta-analysis. *Psychological Bulletin*, 129 (suppl. 1), 52-73.

Perry, J. C., & Herman, J. L. (1993). *Trauma and defences in the etiology of borderline personality disorder. Etiology and treatment.* Washington, DC: American Psychiatric Press.

Pitman, R. K., & Orr, S. P. (1993). Psychophysiologic testing for post-traumatic stress disorder: Forensic psychiatric application. *Bulletin of American Academy of Psychiatry and the Law*, 21, 37-52.

Pollock, P. H. (1999). When the killer suffers: Post-traumatic stress reactions following homicide. *Legal and Criminological Psychology*, 4, 185-202.

Powell, T. A., Holt, J. C., & Fondacaro, K. M. (1997). The prevalence of mental illness among inmates in a rural state. *Journal of Law and Human Behavior*, 21, 427-438.

Pynoos, R. S., Eth, S. (1985) : Children traumatized by witnessing acts of personal violence: homicide, rape, or suicide behavior, in *Post-Traumatic Stress Disorder in Children*. Edited by Eth S, Pynoos R. Washington, DC, American Psychiatric Press, pp 19-43.

Raifman, I. J. (1983). Problems of diagnosis and legal causation in courtroom use of post-traumatic stress disorder. *Behavioural Science and the Law*, 1, 115-131.

Raphael, B. (1986). *When Disaster Strikes*. London, England: Hutchinson.

Resnick, H.S., Kilpatrick, D.G., Dansky, B.S., Saunders, B.E., & Best, C.L. (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology*, 61, 984-991.

Resnick, H. S., Falsetti, S. A., Kilpatrick, D. G., and Foy, D.W. (1994). Association between panic attacks and dissociative responses to rape. Paper presented at the International Society for Traumatic Stress Studies. Chicago, IL.

Ressler, R. K., Burgess, A. W., Douglas, J. E., Hartman, C. R. & D'Agostino, R. B. (1986). Sexual killers and their victims: Identifying patterns through crime scene analysis. *Journal of Interpersonal Violence*, 1, 288-308.

Rickels, K., Garcia, C.R., Lipman, R.S., et al. (1976). The Hopkins Symptom Checklist (HSCL): a self-report symptom inventory. *Behavioral Science*, 3, 751-764.

Rivera, B., & Widom, C. S. (1990). Childhood victimization and violent offending. *Violence and Victims*, 5, 19-35.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review*, 96, 341-357.

Ross, C. A., Anderson, G., & Clark, P. (1994). Childhood abuse and positive symptoms of schizophrenia. *Hospital and Community Psychiatry*, 45, 489-491.

Roszell, D. K., McFall, M. E. & Malls, K. L. (1991). Frequency of symptoms and concurrent psychiatric disorder in Vietnam veterans with chronic PTSD. *Hospital and Community Psychiatry*, 42, 293-296.

Schauer, M., Neuner, F., Karunakara, U., Klaschik, C., Robert, C., & Elbert, T. (2003). PTSD and the “building block” effect of psychological trauma among West Nile Africans. *ESTSS (European Society for Traumatic Stress Studies) Bulletin*, 10 (suppl. 2), 5-6.

Scodol, A. S., Schwartz, S., Dohrenwend, B., Levav, I., Shrout, P., & Reiff, M. (1996). PTSD Symptoms and Comorbid Mental Disorders in Israel War Veterans. *British Journal of Psychiatry*, 169, 717-725.

Shalev, A.Y., et al. (1988a). Prospective study of PTSD and depression following trauma. *American Journal of Psychiatry*, 155, 630-637.

Shapiro, F. (1999). Eye movement desensitization and reprocessing (EMDR) and the anxiety disorders: clinical and research implications of an integrated psychotherapy treatment. *Journal of Anxiety Disorders*, 13, 35-67.

Shore, J. H., Tatum, E. L., & Vollmer, W. M. (1986): Psychiatric reactions to disaster: the Mount St. Helens experience. *American Journal of Psychiatry*, 143, 590-595.

Shore, J. H., Vollmer, W.M. & Tatum, E. L. (1989). Community pattern of posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 177, 681-685.

Sierles, F.S., Chen, J., McFarland, R.E., et al. (1983). Posttraumatic stress disorder and concurrent psychiatric illness: a preliminary report. *American Journal of Psychiatry*, 140, 1177-1179.

Sierles, F.S., Chen, J., Messing, M. L., Besyner, J. K., & Taylor, M. A. (1986). Concurrent psychiatric illness in non-Hispanic outpatients diagnosed as having posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 174, 171-173.

Silva, R. R., Alpert, M., Munoz, D. M., Singh, S. & Dummit, S. (2000). Stress and Vulnerability to Posttraumatic Stress Disorder in Children and Adolescents. *American Journal of Psychiatry*, 157, 1229- 1235.

Silver, R. L., Wortman, C. B., & Klos, D. S. (1982). Cognitions, affect, and behavior following uncontrollable outcomes: A response to current human helplessness research. *Journal of Personality*, 50, 480-514.

Skre, I., Onstad, S., Torgersen, S., Lygren, S., Kriglen, E. (1993). A twin study of DSM-III-R anxiety disorders. *Acta Psychiatrica Scandinavica*, 88, 85-92.

Snaith, R. P. (1996). Present Use of the Hamilton Depression Rating Scale: Observations on Method of Assessment in Research of Depressive Disorders. *British Journal of Psychiatry*, 168, 594-597.

Southwick, S. M., Yahuda, R., Giller, E. L. (1994). Use of tricyclics and monoamine oxidase inhibitors in the treatment of PTSD: A quantitative review. M. M. Murburg (Ed.). *Catecholamine function in post-traumatic stress disorder: Emerging concepts* (pp. 293-305). Washington, DC: American Psychiatry Press.

Southwick, S. M., Paige, S. R., Morgan, C. A., Bremner, J. D., Krystal, J. H., & Charney, D. S. (1999). Adrenergic and serotonergic abnormalities in PTSD: Catecholamines and serotonin. *Seminars in Clinical Neuropsychiatry*.

Sparr, L. F., & Atkinson, R. M. (1986). Posttraumatic stress disorder as an insanity defense: Medicolegal quicksand. *American Journal of Psychiatry*, 143, 608-613.

Sparr, L. F., Reaves, M. E. & Atkinson, R. M. (1987). Military combat, posttraumatic stress disorder, and criminal behavior in Vietnam veterans. *Bulletin of the American Academy of Psychiatry and the Law*, 15, 141- 162.

Speir, D. E. (1989). Application and use of posttraumatic stress disorder as a defense to criminal conduct. *Army Lawyer*, 17-22.

Spitzer, R. L., Williams, J. B. W., & Gibbon, M. (1994). *Structured Clinical Interview for DSM-IV (SCID-P)*. New York: Biometrics Research Department, New York State Psychiatric Institute.

Spitzer, C., Abraham, G., Reschke, K., Michels, F., Siebel, U. and Freyberger H. J. (2000). 'Post-traumatic Stress Disorder following High-and Low magnitude Stressors in Psychotherapeutic Inpatients'. *Clinical Psychology and Psychotherapy*, 7, 379-384.

Spitzer, C., Dudeck, M., Liss, H., Orlob, S., Gillner, M. & Freyberger, H. (2001). Post-traumatic stress disorder in forensic inpatients. *The Journal of Forensic Psychiatry*, 12,(suppl. 1), 63-77.

Squire, L. R. (1989). On the course of forgetting in very long-term memory. *Journal of experimental Psychology Learning, Memory, and Cognition*, 15(suppl. 2), 241-245.

Steiner, H., Garcia, I. G., & Matthews, Z. (1997). 'Post-traumatic Stress Disorder in Incarcerated Juvenile Delinquents'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 357-365.

Stone, A. A. (1993). Post-traumatic stress disorder and the law: Critical review of the new frontier. *Bulletin of the American Academy of Psychiatry and the Law*, 21, 23-36.

Stone, M. H. (1993). Long-term outcome in personality disorders. *British Journal of Psychiatry*, 162, 299-313.

Stone, M. H. (1994). Early traumatic factors in the lives of serial murderers. *American Journal of Forensic Psychiatry*, 15, 5-26.

Sullivan V. *Boston Gas Co.* (1993). 605 N. E. 2d 805.

Switzer, G. E., Dew, M.A., Thompson, K., Goycoolea, J. M., Derricott, T., Mullins, S. D., (1999). Posttraumatic stress disorder and service utilization among urban mental health center clients. *Journal of Traumatic Stress*, 12, 25-39.

Teplin, L. A., Abram, McClelland, G. M. (1996). Prevalence of psychiatric disorders among incarcerated women: 1. Pretrial jail detainees. *Archives of General Psychiatry*, 53, 505-512.

The National Center for PTSD (1998). VA Medical and Regional Office Center (116D)-215 North Main Street-White River Junction-Vermont 05009-0001USA.

The National Center for PTSD (2000). VA Medical and Regional Office Center (116D)-215 North Main Street-White River Junction-Vermont 0559-0001USA.

Thomson, J. (1991). Post-traumatic stress disorder and criminal defenses. *University of Western Australia Law Review*, 21, 279-304.

Timmerman, I. G., & Emmelkamp, P. M. (2001). The relationship between traumatic experiences, dissociation, and borderline personality pathology among male forensic patients and prisoners. *Journal of Personality Disorders*, 15(suppl. 2), 136-149.

Trimble, M. R. (1985). Post-traumatic stress disorder : History of a concept. In: *Trauma and its Wake: The Study and Treatment of Post-Traumatic Stress Disorder* (Ed. C. R. Figley), pp. 5-14. New York: Brunner/Mazel.

True, W. R., Rice, J., Eisen, S. A., Heath, A. C., Goldberg, J., Lyons, M. J., & Nowak, J. (1993). A twin study of genetic and environmental contributions to liability for posttraumatic stress symptoms. *Archives of General Psychiatry*, 50, 257-264.

Taylor, P. J., Leese, M., Williams, D., Butwell, M., Daly, R., & Larkin, E. (1998). Mental disorder and violence. *British Journal of Psychiatry*, 172, 218-226.

Uhlenhuth, E. H., Rickels, K., Fisher, S., et al. (1966). Drug, doctor's verbal attitude and clinic setting in the symptomatic response to pharmacotherapy. *Psychopharmacologica (Berlin)*, 9, 392-418.

Ulzen, T. P. & Hamilton, H. (1998). 'The Nature and Characteristics of Psychiatric Comorbidity in Incarcerated Adolescents'. *Canadian Journal of Psychiatry*, 43, 57-63.

Van der Kolk, B. A., Greenberg, M., & Boyd, H. (1985). Inescapable shock, neurotransmitters, and addiction to trauma: toward a psychobiology of post-traumatic stress disorder. *Biological Psychiatry*, 20, 314-325.

Van der Kolk, B. A. (1987). The psychological consequences of overwhelming life experiences. In: Van der Kolk, B. A. (Ed.), *Psychological Trauma*. American Psychiatric Press, Washington, DC.

Van der Kolk, B. A., Van der Hart, O. (1989): Pierre Janet and the breakdown of adaptation in psychological trauma. *American Journal of Psychiatry*, 146, 1530-1540.

Van der Kolk, B. A., Perry, J. C., & Herman, J., L. (1991). Childhood origins of self-destructive behavior. *American Journal of Psychiatry*, 148, 1665- 1671.

Van der Kolk, B.A., Roth, S., Pelcovitz, D., & Mandel, F. (1993). *Disorders of extreme stress. Results of the DSM-IV Field Trials for PTSD*. Washington, DC: American Psychiatric Association.

Van der Kolk, B. A., McFarlane, A. C., Weisaeth, L. (1996). *Traumatic Stress: The effects of overwhelming experiences on mind, body and society*. New York/London: The Guilford Press.

Van der Kolk, B. A., Pelcovitz, D., Roth, S., Mandel, F. S., McFarlane, A. C., & Herman, J. L. (1996). Dissociation, somatization and affect dysregulation: The complexity of adaptation to trauma. *American Journal of Psychiatry*, 153, 83-93.

Van der Kolk, B. A. (2001). *Bessel van der Kolk's Psychological Trauma Assessment Package*. The Trauma Center / Arbour Health System. In: <http://www.traumacenter.org>.

Weeks , R., & Widom, C. S. (1998). Self-reports of early childhood victimization among incarcerated adult male felons. *Journal of Interpersonal Violence*, 13, 346-361.

Weisaeth, L. (1984). *Stress Reactions to an Industrial Accident*. MD thesis, Oslo University.

Widom, C. S. (1989a). Does violence beget violence? A critical examination of the literature. *Psychological Bulletin*, 106(1), 3-28.

Widom, C. S. (1998). Child abuse, neglect, and adult behavior: Research design and findings on criminality, violence, and child abuse. *American Journal of Orthopsychiatry*, 59, 355-367.

Widom, C. P., & Ames, M. A. (1994). 'Criminal Consequences of Childhood Sexual Victimization'. *Child Abuse and Neglect*, 18, 303-318.

Williams, L. M. (1994). Recall of childhood trauma: A prospective study of women's memories of child sexual abuse. *Journal of Consulting and Clinical Psychology*, 62 (suppl. 6), 1167-1176.

Winkel, F. W. (1999). Repeated victimization and trauma susceptibility: Prospective and longitudinal analyses. In J. J. M. Van Dijk, G. H. Van Kaam, & J. Wemmers (Eds.), *Caring for crime victims* (pp. 207-221). Monsey, NY: Criminal Justice Press.

Winokur, A., Winokur, D.F., Rickels, K., et al. (1984). Symptoms of emotional distress in a family planning service: Stability over a four week period. *British Journal of Psychiatry*, 144, 395-399.

World Health Organization (WHO) (1992). *Mental disorders: glossary and guide to their classification in accordance with the tenth revision of the International Classification of Diseases*. World Health Organization, Geneva, Switzerland.

Yule, W. (2001). Posttraumatic Stress Disorder in the General Population and in Children. *Journal of Clinical Psychiatry*, 62 (suppl. 17), 23-28.

Zlotnick, C., Shea, M. T., Begin, A., Pearlstein, Simpson, E. and Costello, E. (1996). 'The Validation of the Trauma Symptom Checklist-40 (TSC-40) in a sample of Inpatients'. *Child Abuse and Neglect*, 20, 503-510.



(7) Was you ever forced by somebody to sleep with him/her because he/she became manually aggressive or threatened you (e.g., to hurt you or to hold you tightly, etc.)?. In this case it does not matter if the person was foreign or known to you.

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

(8) Was you ever forced by somebody to practice definite sexual matters with him/her, in condition that he or she was forciful or threatened you (e.g., to hurt you or hold you tightly, etc.)?. In this case, it has no role if the person was strange or known to you.

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

(9) Has somebody tried to exchange sexual tenderness with you against your will (e.g., kissing, sleeping) while he or she became manually aggressive or had threatened you (e.g., to hurt you or hold you tightly, etc.)? In this case, it has no role if the person was strange or known to you.

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

(10) As a child or a youth (till 18 years) have you practiced any sexual experiences (e.g., tenderness exchange, touching body parts, etc.) with a man or a woman, he/she at least 5 years older than you?. In this case, it has no role if the person was strange or known to you.

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

(11) As a child, have you been physically abused/assaulted by somebody?

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

(12) Have you ever been witness to the occurrence of any of the above mentioned experiences to somebody else?

- No  
 Yes  
 Many times
- Age:  
 Age: (first time) \_\_\_\_ (last time)

Who:

.....

Which one of the above mentioned traumatic experiences?

Number: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

(13) Is there any traumatic experience which was not mentioned?

- No
- Yes
- Many times

Age:  
 Age: (first time) \_\_\_\_ (last time)

Specify:

.....

If Any Event Listed: Sometimes these things keep coming back in nightmares, flashbacks, or thoughts that you can not get rid of. Has that ever happened to you?

If No: What about being very upset when you were in a situation that reminded you of one of these terrible things?

Write:

.....  
 .....  
 .....

If no events listed or answer to both of the above questions is no, stop here.

Explanation of each rating code:

- ? = inadequate information / do not know
- 1 = not present / false
- 2 = below threshold
- 3 = threshold / true

For Following Questions, Focus on Traumatic Event(s) Mentioned in Screening Questions Above.

**Criteria For PTSD**

A. The person has been exposed to a traumatic event in which both of the following were present:

If more Than One Trauma Is Reported: which of these do you think affected you the most?

(1) the person experienced, witnessed, ?123 or was confronted with an event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.

If unclear: How did you react when (Trauma)

(2) the person's response involved ?123

happened? (Were you very afraid or did you feel terrified or helpless?)

fear, helplessness, or horror.

Now I would like to ask you few questions about specific ways that it may have affected you.

(B) The traumatic event is persistently reexperienced in one (or more) of the following ways:

For example...

...did you think about (Trauma) when you did not want to or did thoughts about (Trauma) come to you suddenly when you did not want them to?

(1) recurrent and intrusive distressing ?123 recollections of the event including images, thoughts, or perceptions.

...what about having dreams about (Trauma)?

(2) recurrent distressing dreams of ?123 the event.

...what about finding yourself acting or feeling as if you were back in the situation?

(3) acting or feeling as if the traumatic ?123 event was recurring (including a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episode, including those that occur on awakening or intoxication)

...what about getting very upset when something reminded you of (Trauma)?

(4) intense psychological distress at ?123 exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

...what about having physical symptoms – such as breaking out in a sweat, breathing heavily or irregularly, or your heart pounding or racing?

(5) physiological reaction on exposure ?123 to internal or external cues that symbolize or resemble an aspect of the traumatic event

Judge/ code

**At least 1 symptom to be coded with 3**

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma) as indicated by three or more of the following:

Since (Trauma)...

...have you made a special effort to avoid thinking or talking about what happened?

(1) effort to avoid thoughts, feelings, ?123 or conversations associated with the trauma

...have you stayed away from things or people that reminded you of (Trauma)?

(2) efforts to avoid activities, places, ?123 or people that arouse recollections of the trauma

...have you been unable to remember some

(3) inability to recall an important ?123

important part of what happened?	aspect of the trauma	
...have you been much less interested in doing things that used to be important to you, such as seeing friends, reading books, or watching TV?	(4) markedly diminished interest or participation in significant activities	?123
...have you been distant or cut off from others?	(5) feeling of estrangement or detachment from others	?123
...have you felt "numb" or is it if you no longer had strong feelings about anything or loving feelings for anyone?	(6) restricted range of affect (e.g., unable to have loving feelings)	?123
...did you notice a change in the way you think about plan for the future?	(7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or normal life span)	?123

Judge / code

**At least 3 symptoms to be coded with 3**

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

Since (Trauma)

...have you had trouble sleeping (what kind of trouble?)	(1) difficulty falling or staying asleep	?123
...have you been unusually irritable? what about outbursts of anger?	(2) irritability or outbursts of anger	?123
...have you had trouble concentrating?	(3) difficulty concentrating	?123
...have you been watchful or on guard even when there was no reason to be?	(4) hypervigilance	?123
...have you been jumpy or easily startled, such as by sudden noise?	(5) exaggerated startle response	?123

Judge / code

**At least 2 symptoms to be coded with 3**

Judge / code

If unclear: about how long did these problems, such as (PTSD symptoms), last?

E. The disorder (symptoms in criteria B, C, and D) present for more than 1 month ?123

Judge / code

F. The disorder causes a clinically significant distress or impairment in social, occupational, or other ?123

important areas of functioning.

Judge / code

**Criteria A, B, C, D, E, and F  
are coded with 3**

**1 3**

### **Chronology**

If unclear: Have you had (PTSD symptoms) during the last month?

**Fulfilled the criteria for PTSD during ? 1 3  
the last month**

If unclear: how old was you when you had (PTSD symptoms) for the first time?

Age at beginning of PTSD                    \_\_/ \_\_

When did you had (PTSD symptoms) last time?

Number of months before the interview, \_\_/ \_\_  
when symptoms occurred last time

When the question “Did you have (PTSD symptoms) during the last month?” coded with 3, determine the current degree of severity:

- 1 Mild: If at all, the symptoms scarcely exceed the required symptoms for PTSD diagnosis and they cause only minimal clinical distress or impairment in social, occupational, or other important areas of functioning.
- 2 Moderate: The symptoms or the impairment in social/occupational functioning are between mild and severe.
- 3 Severe: The symptoms markedly exceed the required symptoms for PTSD diagnosis, or some of the symptoms are very severe, or the symptoms cause very marked impairment in social and occupational functioning.

Nr. \_\_\_\_\_

When the question “Did you have (PTSD symptoms) during the last month?” coded with 1 and the the current criteria for PTSD not fully (or not at all) fulfilled:

- 4 Partial remission: The criteria for PTSD were previously fulfilled but now there are only few symptoms or signs of the disorder.
- 5 Full remission: There is no any symptoms or signs of the disorder but a mention of the disorder is always meaningful.
- 6 Past history: There is a past history of fulfilling the criteria, however, the disorder is considered as remittent.

Nr. \_\_\_\_\_

**Posttraumatic Stress Diagnostic Scale (PDS)**

**Part 1**

Many people have lived through or witnessed a very stressful and traumatic event at some point in their lives. Below is a list of traumatic events. Put a checkmark in the box next to ALL of the events that have happened to you or that you have witnessed.

- (1)  Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident).
- (2)  Natural disaster (for example, tornado, hurricane, flood, or major earthquake).
- (3)  Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint).
- (4)  Non-sexual attack by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint).
- (5)  Sexual assault by a family member or someone you know (for example, rape or attempted rape).
- (6)  Sexual assault by a stranger (for example, rape or attempted rape).
- (7)  Military combat or war zone.
- (8)  Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breast).
- (9)  Imprisonment (for example, prison inmate, prisoner of war, hostage).
- (10)  Torture.
- (11)  Life-threatening illness.
- (12)  Other traumatic event.
- (13)  If you marked item 12, specify the traumatic event below.


**If you marked any of the items above, continue, if not, stop here.**

**Part 2**

(14) If you marked more than one traumatic event in part 1, put a checkmark in the box next to the event that bothers you most. If you marked only one traumatic event in part 1, mark the same one below.

- Accident
- Disaster
- Non-sexual assault/someone you know
- Non-sexual assault/stranger
- Sexual assault/someone you know
- Sexual assault/stranger

- Combat
- Sexual contact under 18 with someone 5 or more years older
- Imprisonment
- Torture
- Life-threatening illness
- Other

**In the box below, briefly describe the traumatic event you marked above.**


**Below are several questions about the traumatic event you just described above.**

(15) How long ago did the traumatic event happen?

(circle one)

- 1 Less than 1 month.
- 2 1 to 3 months
- 3 3 to 6 months
- 4 6 months to 3 years
- 5 3 to 5 years
- 6 More than 5 years

**For the following questions, circle Y for Yes or N for No.**

**During the traumatic event:**

- (16) Y N Were you physically injured?
- (17) Y N Was someone else physically injured?
- (18) Y N Do you think that your life was in danger?
- (19) Y N Did you think that someone else's life was in danger?
- (20) Y N Did you feel helpless?
- (21) Y N Did you feel terrified?

### Part 3

Below is a list of problems that people sometimes have after experiencing traumatic events. Please read each one carefully and mark with a cross the number (0-3) that best describes how often that problem has bothered you in the past month. Rate each problem with respect to the traumatic event that bothered you the most.

- 0 Not at all or only one time
- 1 Once a week or less / once in a while
- 2 2 to 4 times a week / half the time
- 3 5 or more times a week / almost always
- |    |   |     |     |     |     |
|----|---|-----|-----|-----|-----|
| 1  | Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to                               | [0] | [1] | [2] | [3] |
| 2  | Having bad dreams or nightmares about the traumatic event   | [0] | [1] | [2] | [3] |
| 3  | Reliving the traumatic event, acting or feeling as if it was happening again  | [0] | [1] | [2] | [3] |
| 4  | Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc.)                   | [0] | [1] | [2] | [3] |
| 5  | Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)          | [0] | [1] | [2] | [3] |
| 6  | Trying not to think about, talk about or have feelings about the traumatic event  | [0] | [1] | [2] | [3] |
| 7  | Trying to avoid activities, people, or places that remind you of the traumatic event  | [0] | [1] | [2] | [3] |
| 8  | Not being able to remember an important part of the traumatic event   | [0] | [1] | [2] | [3] |
| 9  | Having much less interest or participating much less often in important activities  | [0] | [1] | [2] | [3] |
| 10 | Feeling distant or cut off from people around you   | [0] | [1] | [2] | [3] |
| 11 | Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)   | [0] | [1] | [2] | [3] |
| 12 | Feeling as if your future plans or hopes will not come true (for example, you not have a career, marriage, children, or a long life)              | [0] | [1] | [2] | [3] |
| 13 | Having trouble falling or staying asleep  | [0] | [1] | [2] | [3] |
| 14 | Feeling irritable or having fits of anger   | [0] | [1] | [2] | [3] |
| 15 | Having trouble concentrating (for example, drifting in and out of conversations, losing track of a story on television, forgetting what you read) | [0] | [1] | [2] | [3] |
| 16 | Being overly alert (for example, checking to see who is around you, being uncomfortable with your back to a door, etc.)                           | [0] | [1] | [2] | [3] |
| 17 | Being jumpy or easily startled (for example, when someone walks behind you)   | [0] | [1] | [2] | [3] |

How long have you experienced the problems that you reported above?

- [1] Less than 1 month
- [2] 1 – 2 months
- [3] 3 or more months

How long after the traumatic event did these problems begin?

- [1] Less than 6 months after the traumatic event
- [2] Six or more months after the traumatic event

#### Part 4

The following questions are about whether the Symptoms you just rated have interfered with any of the following areas of your life *during the past month*.

Have these symptoms caused you serious problems in your...

- |   |  |                             |                              |   |
|---|--|-----------------------------|------------------------------|---|
| 1 | Work                                   | <input type="checkbox"/> NO | <input type="checkbox"/> YES | <input type="checkbox"/> have no work                                 |
| 2 | Houshold chores and duties             | <input type="checkbox"/> NO | <input type="checkbox"/> YES | <input type="checkbox"/> do no housholdchores                         |
| 3 | Relationship with friends              | <input type="checkbox"/> NO | <input type="checkbox"/> YES |   |
| 4 | Fun and leisure activities             | <input type="checkbox"/> NO | <input type="checkbox"/> YES |   |
| 5 | Schoolwork                             | <input type="checkbox"/> NO | <input type="checkbox"/> YES | <input type="checkbox"/> don't go to school                           |
| 6 | Relationship with your familiy         | <input type="checkbox"/> NO | <input type="checkbox"/> YES | <input type="checkbox"/> live seperated from family or have no family |
| 7 | General satisfaction with life         | <input type="checkbox"/> NO | <input type="checkbox"/> YES |   |
| 8 | Overall functions in all areas of life | <input type="checkbox"/> NO | <input type="checkbox"/> YES |   |

### Traumatic Antecedents Questionnaire

Name/Code No :

Date:

Age:

Sex:

Marital Status:

Education:

Occupation:

**Instruction:** This questionnaire asks you to describe experiences you may have had as a young child (ages 0-6 years), as a school age child (ages 7-12), as adolescent (ages 13-18), and as adult. For each item, indicate the degree to which the statement describes your experience at each different age period. The scale has both frequency and intensity words; please choose the highest applicable number. If there are any age periods for an item that you are unable to answer, please indicate this by choosing “don’t know”.

Use the highest  
applicable number

0 = never or not at all  
1 = rarely or a little bit  
2 = occasionally or moderately  
3 = often or very much  
don't know

1. I generally felt safe and cared for.

Age	Intensity / Frequency				
0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

2. Someone made sure that I got up in the morning and went to school.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know

3. I was really good at something/ (like sports, a hobby, school, work, or some creative activity).

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

4. I had good friends.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

5. I felt close to at least one of my brothers and sisters.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

6. Somebody in my family had so many problems that there was little left for me.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

7. I felt that nobody cared whether I lived or died.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

8. I had someone to talk to with outside my family when something was bugging me at home.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

9. There were secrets in my family that I was no supposed to know about.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

10. My parents confided things in me that made me feel uncomfortable.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

11. My parents were divorced or separated.

0-6	No	Yes
7-12	No	Yes
13-18	No	Yes
adult	No	Yes

12. I lived with different people at different times (like different relatives, or foster families).

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know

13. Somebody close to me died.

0-6	No	Yes
7-12	No	Yes
13-18	No	Yes
adult	No	Yes

14. I had a serious illness and/or had to be hospitalized for a medical problem.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

15. Someone I was close to was very sick, or in an accident for which he needed to be hospitalized.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

16. I received news that someone close to me had been seriously injured or violently killed during an accident, a fight, or a crime.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

17. In my parents' eyes, nothing I did was ever good enough.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

18. People in my family called me insulting names.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

19. The rules in my family were unclear and inconsistent.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

20. The punishment I received were unfair.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

21. My parents hurt each other physically when they argued and fought.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know

22. I spent time out of the house and no one knew where I was.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

23. People in my family were out of control.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

24. Nobody knew what really went on in my family.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

25. I witnessed physical violence in my family.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

26. Someone in my family got medical attention because of violence.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

27. Someone in my family had a problem with alcohol and /or drugs.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

28. I abused alcohol and /or drugs.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

29. My caregivers were so into alcohol or drugs that they couldn't take care for me.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know

30. I was beaten, kicked or punched by someone close to me.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

31. I was in a situation in which I was convinced that I would be physically injured or lose my life.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

32. Someone outside my family attacked me.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

33. I saw dead bodies.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

34. I was involved in a serious accident.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

35. I was in a natural disaster.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

36. I saw sexual things that scared me.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

37. Someone (older) touched me sexually, against my wishes or tried to make me touch them.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

38. Someone forced me to have sex against my will.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

39. Someone threatened me with physical harm unless I did something sexual.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

40. I believe that one of my brotheres or sisters was sexually molested.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

41. I have had another very frightening or traumatic experience where I felt intense fear, helpless, or horrified.

0-6	0	1	2	3	don't know
7-12	0	1	2	3	don't know
13-18	0	1	2	3	don't know
adult	0	1	2	3	don't know

42. Something terrible happened to me that still remains a mystery to me /that I still cannot remember/.

0-6            0 1 2 3 don't know  
 7-12           0 1 2 3 don't know  
 13-18         0 1 2 3 don't know  
 adult         0 1 2 3 don't know

### HOPKINS SYMPTOM CHECKLIST - 25

**Instructions:**

Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much the symptoms bothered or distressed you in the last week, including today. Place a check in the appropriate column.

**Part 1 – Anxiety Symptoms**

		1	2	3	4
		Not at all	A little	Quite a bit	Extremely
1.	Suddenly scared for no reason				
2.	Feeling fearful				
3.	Faintness, dizziness, or weakness				
4.	Nervousness or shakiness inside				
5.	Heart pounding or racing				
6.	Trembling				
7.	Feeling tense or keyed up				
8.	Headaches				
9.	Spells of terror or panic				
10.	Feeling restless, can't sit still				

**Part 2 – Depression Symptoms**

		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		<b>Not at all</b>	<b>A little</b>	<b>Quite a bit</b>	<b>Extremely</b>
11.	Feeling low in energy, slowed down				
12.	Blaming yourself for things				
13.	Crying easily				
14.	Loss of sexual interest or pleasure				
15.	Poor appetite				
16.	Difficulty falling asleep, staying asleep				
17.	Feel hopeless about the future				
18.	Feeling blue				
19.	Feeling lonely				
20.	Thoughts of ending your life				
21.	Feeling of being trapped or caught				
22.	Woorrying too much about things				
23.	Feeling no intrerest in things				
24.	Feeling everything is an effort				
25.	Feelings of worthlessness				

**Beck Depression Inventory (BDI)**

Name:

Gender:

Date of Birth:

Date:

**Instructions:**

This questionnaire contains 21 groups of statements. Please read each group carefully, then choose one statement which describes best how you have been feeling in this week including today. Then cross the appropriate numeral (0, 1, 2, 3). In case there are several statements in one group that are equally valid, then you may mark several numerals. At any rate please read all the statements in each group, before you mark your choice.

**A**

- 0 I am sad.
- 1 I am not sad.
- 2 I am sad all the time and I can not get rid of this feeling.
- 3 I am sad to to a degree which I can not bear.

**B**

- 0 I am not pessimistic about the future.
- 1 I am pessimistic abot the future.
- 2 I feel that there is nothing which is going to please me in the future.
- 3 I feel that the future is hopeless and things are not going to improve.

**C**

- 0 I do not feel that I am a failure.
- 1 I feel that I have failed more than usual.
- 2 When I look back into my previous years of life I see only the awfull failure.
- 3 I feel that I am completely a failed person.

**D**

- 0 I am enjoying life aspects sufficiently as before.
- 1 I am not enjoying life aspects sufficiently as before.
- 2 I am not enjoying life aspects really.
- 3 I am not enjoying life aspects at all.

**E**

- 0 I do not feel guilty.
- 1 I feel guilty most of the time.
- 2 I feel deeply guilty most of the time
- 3 I feel deeply guilty all the time.

**F**

- 0 I feel that I am receiving punishment.
- 1 I feel that I am going to be punished
- 2 I expected to be punished.
- 3 I feel that I am always receiving punishment.

**G**

- 0 I don't feel that I am disappointed.
- 1 I am disappointed.
- 2 I feel disgrd of myself.
- 3 I hate myself.

**H**

- 0 I do not feel that I am worse than others.
- 1 I am criticizing myself for my weakness and mistakes.
- 2 I blame myself.
- 3 I blame myself for everything happens.

**I**

- 0 I have no any thoughts of getting rid of myself.
- 1 I have thoughts to get rid of myself.
- 2 I will kill myself if I get a chance to do so.
- 3 I will kill myself.

**J**

- 0 I do not weep more than necessary.
- 1 I weep now more than necessary.
- 2 I weep all the time.
- 3 I was able to weep before but now I can not weep.

**K**

- 0 I am not irritated more than usual.
- 1 I am easily irritated than usual.
- 2 I feel that I am irritated all the time.
- 3 I lost the ability to be irritated even for things irritates me before.

**L**

- 0 I did not lose interest in others.
- 1 I am not interested in others as I used to be before.
- 2 I have lost most of my interest in other people.
- 3 I have lost all my interest in other people.

**M**

- 0 I take my decisions as I used to do before.
- 1 I stopped taking decisions as I used to do before.
- 2 I have difficulties in taking decisions as I used to do before.
- 3 I can not take decisions anymore.

**N**

- 0 I do not feel that I look worse than I used to feel before.
- 1 I am anxious because I look older and less attractive.
- 2 I feel that there are continuous changes in my appearance which make me less attractive.
- 3 I think that I look ugly.

**O**

- 0 I am capable to work as before.
- 1 Starting to work now demands more effort from me.
- 2 I have to collect myself vigorously to do anything.
- 3 I can not do anything.

**P**

- 0 I can sleep well as usual.
- 1 I can not sleep well as usual.
- 2 I wake up one or two hours earlier than usual and I face difficulties in continuing sleep.
- 3 I wake up many hours earlier and I can not continue sleeping.

**Q**

- 0 I do not feel tired more than usual.
- 1 I feel tired more than usual due to minor efforts.
- 2 I feel tired by doing any work.
- 3 I am very tired to a degree preventing me from doing work.

**R**

- 0 My appetite is not worse than usual.
- 1 My appetite is not so good as usual.
- 2 My appetit now is more worse than usual.
- 3 I have no any appetite.

**S**

- 0 I did not lose much weight.
- 1 I lost more than 2 kilos.
- 2 I lost more than 4 kilos.
- 3 I lost more than 6 kilos.

**T**

- 0 I am not worried more than should be about my health.
- 1 I am very worried about my physical health such as pains, gastric and intestinal disorders.
- 2 I am extremely worried because of my physical problems to such a degree that I can not think in other things.
- 3 I am extremely worried because of my physical problems to the degree that I can not think in any other matter.

**U**

- 0 I did not notice any recent changes with regard to my interest towards the opposite sex.
- 1 I am less interested in the opposite sex than I used to be.
- 2 I am interested very minimally in the opposite sex at present.
- 3 At present I am remarkably less interested in sex.