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Associations Between Childhood Trauma, Childhood Sexual Abuse, and Adult Psychological Symptomatology

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Abstract

The study explores the association between potentially traumatic childhood events (PTEs), childhood sexual abuse (CSA), and adult psychological symptoms, measured by specific posttraumatic stress symptoms (PTS), general psychological distress (GPD), interpersonal problems (IP), and emotion regulation problems (ERP). *Method.* Self-report questionnaires were used to collect data about exposure to childhood PTE (Childhood Trauma Questionnaire – Short Form; CTQ-SF), current symptoms of PTS (Impact of Even Scale-Revised; IES-R), and GPD, IP, and ERP (Symptom Checklist-90-Revised; SCL-90-R). Respondents (N = 425; 214 males, and 211 females) were recruited from samples of at-risk individuals (foster children, patients in mental health and drug addiction treatment, and incarcerated men), mean age was 28 years (range 14-65). *Results.* Childhood PTE, and CSA in particular, was associated with elevated scores on PST, GPD, IP, and ERP (all $p < .01$, small to medium effect sizes). In the female subgroup childhood PTE was associated with elevated scores on all symptom variables (all $p < .01$, medium to large ES), while CSA had a significant impact on only PTS ($p < .01$, medium ES). Conversely, for the male subgroup childhood PTE was associated with elevated scores only on PTS ($p < .01$, medium ES), while CSA was associated with elevated scores on all symptom variables (all $p < .01$, small to medium ES). These results indicate that childhood PTE in general affects adult symptomatology. Furthermore, CSA has an additional impact on adult symptomatology, and this impact is more pronounced for male than for female victims.

Sammendrag

Studien undersøker sammenhengen mellom barndomstraumer, seksuelle overgrep i barndommen (CSA) og psykiske symptomer i voksen alder. De aktuelle symptomvariablene er spesifikke posttraumatiske symptomer (PTS), generelle psykiske symptomer (GPD), interpersonlige vansker (IP) og emosjonsreguleringsvansker (ERP). *Metode.* Selvrapporteringsskjemaer ble benyttet for å samle data om eksponering for barndomstraumer (Childhood Trauma Questionnaire-Short Form; CTQ-SF), nåværende PTS (Impact of Even Scale-Revised; IES-R) og GPD, IP og ERP (Symptom Checklist-90-Revised; SCL-90-R). Informanter (N = 435; 214 menn og 211 kvinner) ble rekruttert fra risikogrupper (fosterbarn, pasienter i psykisk helsevern og rusbehandling og mannlige innsatte). Gjennomsnittsalder var 28 år, med et spenn på 14-65 år. *Resultater.* Barndomstraumer, og spesielt CSA, var assosiert med forhøyede skårer på PST, GPD, IP og ERP ($p < .01$ for alle, svake til moderate effektstørrelser). For kvinnene var barndomstraumer assosiert med forhøyede skårer på alle symptomvariablene ($p < .01$ for alle, moderate til høye effektstørrelser), mens CSA bare var assosiert med forhøyet skåre på PTS ($p < .01$, moderat effektstørrelse). For mennene var barndomstraumer bare assosiert med forhøyet skåre på PTS ($p < .01$ moderat effektstørrelse), mens CSA var assosiert med forhøyede skårer på alle symptomvariablene ($p < .01$ for alle, svake til moderate effektstørrelser). Disse resultatene indikerer at barndomstraumer påvirker psykiske symptomer i voksen alder. Videre medfører CSA en tilleggseffekt på psykiske symptomer i voksen alder, og denne effekten er tydeligst for mannlige ofre.

Childhood Psychological Trauma

The word *trauma* originates from Greek and denotes a physical wound (Brette, 2004). In the field of psychology, however, the word trauma refers to psychological, rather than physical, harm. In modern psychological research and practice, the term *psychological trauma* pertains to both the traumatic event itself, as well as the development of negative psychological consequences succeeding the traumatic event. First, there are several definitions of traumatic events, and one of the most frequently employed definition in international psychological research is the definition of extreme traumatic stressors, as depicted in the Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev.; DSM–IV–TR; American Psychiatric Association, 2000). This definition includes different forms of experience, such as witnessing or personal experience with threatened death or serious injury, or learning about such events happening to a close associate. Hence, a traumatic stressor is a broad term that can encompass a multitude of experiences and situations, such as experiencing accidents, assaults, war, incarceration, torture, natural disasters, kidnapping, and illness, as well as witnessing murder, accidents, and dead bodies. Contemporary research on trauma psychology has also included childhood experiences of abuse and neglect as traumatic stressors. Furthermore, to be perceived as traumatic, the experience must be sufficiently intense to defeat defense mechanisms (Brette, 2004), and shatter fundamental assumptions one has about oneself and the world (Janoff-Bulman, 1992).

From mental health research on trauma related disorders and symptomatology, it is possible to examine some of the consequences following traumatic experiences. Individuals who have experienced traumatic events, and subsequently developed trauma related difficulties, often display an array of symptoms that can be categorized within

three symptom clusters, namely specific posttraumatic stress symptoms (PTS), interpersonal problems (IP), and emotion regulation problems (ERP; Cloitre, Cohen, & Koenen, 2006). To be able to understand when emotion regulation and interpersonal relations become problematic it is important to have an understanding of which aspects are included in the two terms. Emotion regulation is defined as "the capacity to modulate emotional reactions and expressions" (Cloitre et al., 2006, p. 46). Based on Cloitre et al.'s (2006) presentation, interpersonal relation is defined as the way a person relates to actual and perceived relationships to other people. The respective contributions of these clusters on functional impairment have also been examined: PTS account for 20%; ERP account for 4%; and IP account for 18% (Cloitre, Miranda, Stovall-McClough, & Han, 2005). Cloitre et al. (2006) have also generated a general symptom profile of childhood abuse survivors: PTS are re-experiencing symptoms, avoidance, emotional numbing, and hyperarousal; ERP are emotional reactivity to minor stimuli, difficulty in *getting back down to baseline* or restoring a sense of equilibrium, tendency to dissociate under stressful circumstances, engaging in self-injurious behaviors, and coping through excessive use of alcohol or drugs; and IP are difficulties with intimacy and trust, sensitivity to criticism, inability to hear other viewpoints, difficulty in standing up for oneself, tendency to quit jobs and relationships without negotiation, and a history of victimization.

While working in the field of psychological trauma it is important to keep in mind that incidents and situations are not traumatizing in themselves, but that they are rather potentially traumatizing. In fact, most people who experience such events do not develop mental health problems (Frueh, Elhai, & Acierno, 2010). Whether or not the individual develops trauma related problems is dependent upon several characteristics

innate to the individual as well as the situation (van der Hart, Nijenhuis, & Steele, 2006). Hence, the term childhood potentially traumatic event (PTE) will be used throughout the paper when addressing potentially traumatic events occurring in childhood or adolescence.

PTEs can be divided into three subcategories based on intentional or volitional value: first, there are events occurring without human involvement, such as natural disasters; second, there are events caused by humans, but without intent, such as car accidents; and third, there are events caused by humans with the intention of inflicting pain, fear, injury, or death, such as assault and terrorism (Thomas, 2006). Also incidents where the perpetrator does not intend to cause harm, but where the victim perceives the behavior as intentionally harmful, will be incorporated in the latter category in the present paper. Examples of such occurrences might be child-rearing methods involving physical punishment, neglect as a result of caregiver's depression, or instances of caregivers with diminished cognitive capacities causing a lack of understanding of the negative impact of their harmful behaviors. The vast majority of literature in this field seems to support the assumption that there is a positive relationship between the degree of intention or volition and the degree of emotional and psychological costs related to the events (e.g., Baum, Fleming, Israel, & Okeeffe, 1992; Baum, Fleming, & Davidson, 1983; Norris, Friedman, Watson, Byrne, Diaz, & Kaniasty, 2002; Thomas, 2006). However, it is important to note that incidents that are not perceived by the victim as intentionally harmful might also be harmful (Erickson & Egeland, 2011).

Attachment and Childhood Psychological Trauma

According to Bessel van der Kolk (2005a), PTEs occurring within the family, such as physical and emotional abuse, neglect and exposure to domestic violence, seems to be more prevalent than non-interpersonal PTEs. The perpetrators in 80% of these incidents were the children's own caregivers (van der Kolk, 2005b). This bestows an additional variable, namely the quality of the relationship between perpetrator and victim. It is therefore necessary to take a closer look at the attachment bond that will be present in families that suffer from PTE within the family, to understand the effects these events might have on children's development.

Attachment is the emotional bond between a child and its caregivers (Bowlby, 1969). The attachment bond provides future expectations about one's own and other's role in relationships, and it is a source for development of a self-concept (Alexander, 1992; Bowlby, 1969; Iwaniec, 2006). Attachment can be either secure or insecure (Ainsworth, Blehar, Waters, & Wall, 1978). A secure attachment, especially to both caregivers, predicts the best outcome later on (Alexander, 1992), and processes such as emotion regulation, the ability to develop healthy relationships with others, and the development of self seems to depend on the formation of a secure attachment bond (Putnam, 2006). Development of secure attachment will depend on the primary caregivers' emotional availability and sensitivity (Iwaniec, 2006). Caregiver sensitivity can be understood as the ability to perceive and interpret children's attachment signals correctly, and to respond appropriately to those signals. Conversely, insecure attachment styles might have negative long-term effects (Iwaniec, 2006). Early attachment problems can cause later IP, disturbance in self (such as low self-esteem), and ERP, and insecure attachment is associated with diminished capacity to handle

one's needs, to monitor oneself or others, and to display help seeking behaviors (Alexander, 1992).

Further, exposure to PTEs might lead to a disorganized type of insecure attachment (Courtois, 2004). Disorganized attachment is characterized by increased susceptibility to stress, ERP, and problems with help-seeking (van der Kolk, 2005a), and is associated with negative outcomes (Putnam, 2006). Carlson, Cicchetti, Barnett, and Braunwald (1989) studied 43 American mother-infant dyads, including 22 families receiving protective services for issues of child abuse and/or neglect. They found that up to 85% of the maltreated children had a disorganized attachment style. Hence, psychosocial development will, in many cases, be negatively affected by maltreatment and will, to a certain degree, depend on attachment.

Although maltreated children often develop long-term psychological problems, such as mental illness and substance abuse, several PTE victims do not experience any long lasting problems (Putnam, 2006). Support from caregivers and adequate emotional functioning in the caregiver might prevent later problems (van der Kolk, 2005a, 2005b), and in these situations the child might have a secure attachment to significant others, which could make childhood PTEs less frightening and harmful. The child might also acquire functional coping strategies from these significant others to cope with their adverse experiences.

Research comparing harmful effects of adulthood and childhood PTEs yields support to the assumption that PTEs have more severe consequences when they occur in childhood than when they occur in adulthood, specially regarding affect modulation, anger management, and interpersonal relationships (Cloitre et al., 2006).

Different Types of Childhood Trauma

One normally distinguishes between four main types of childhood maltreatment: sexual abuse, physical abuse, emotional/psychological abuse, and neglect (Iwaniec, 2006). In the following section, these types of maltreatment will be described, starting with sexual abuse.

Childhood sexual abuse. There are numerous definitions of childhood sexual abuse (CSA) in existing literature. Rind and Tromovitch (1997) define CSA in the following manner: "sexual interaction involving either physical contact or no contact (e.g., exhibitionism) between either a nonadult (i.e., child or adolescent) and someone significantly older (e.g., an older adolescent or adult), or between two nonadults in which coercion is employed" (p. 237). *The Adverse Childhood Experiences* (ACE) *Study* is one of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being (Centers for Disease Control and Prevention, 2011). The study is a collaboration between the Centers for Disease Control and Prevention and Kaiser Permanente's Health Appraisal Clinic in San Diego. The total number of respondents is above 17,000 (54% females; 74.8% Caucasian; 84.9% older than 40). In the ACE study, CSA is defined as "an adult or person at least 5 years older ever touched or fondled you in a sexual way, or had you touch their body in a sexual way, or attempted oral, anal, or vaginal intercourse with you or actually had oral, anal, or vaginal intercourse with you" (Centers for Disease Control and Prevention, (n.d.)). To define CSA, the American psychologist and author of *The Trauma Myth*, an insightful investigation of CSA, Susan Clancy (2009), simply includes all "sexual experiences between adults and children" (p. 1). The Norwegian Directorate of Health (2003) has compiled existing psychological definitions of CSA,

and suggests some common elements in the various definitions, such as "the child has been subjected to a sexual act that it does not comprehend, that it is not ready for, and that it cannot consent to; the act violates the child's integrity; the adult perpetrator exploits the child's dependency on the adult, or the adult's authority; the act is dependent on the adult's needs; the act breaches social taboos in the family, or it is illegal" (p. 9; authors' translation). Thus, CSA is not exclusively penetration, but often involves touching or indecent exposure (Tromovitch & Rind, 2008).

It is assumed that there are large numbers of unreported cases of CSA, and it is therefore challenging to estimate prevalence. National samples in the US report a prevalence of 19% for women and 11% for men (Rind & Tromovitch, 1997; Tromovitch & Rind, 2008); while the ACE-study reports a prevalence of 24.7% for women, 16% for men, and an overall prevalence of 20.7% (Centers for Disease Control and Prevention, (n.d.)). Pereda, Guilera, Forns, and Gomez-Benito (2009) compared results from a prevalence study conducted by Finkelhor (1994) with 38 later prevalence studies of CSA from 21 countries, and they concluded that CSA prevalence is relatively stable.

Rind and Tromovitch (2008) found that intercourse contributes to worsened outcome, and that intercourse was present in 16% of the female CSA victims, and 13% of the male CSA victim. Of the female CSA victims in the same study, 15% were abused by immediate family members, i.e., the people they live with. For the male victims in the study, the corresponding number was 4%.

Contrary to popular beliefs, children and adolescents might not always perceive sexual contact with adults as negative experiences (Rind, 2003, 2005; Rind, Tromovitch, & Bauserman, 1998; Tromovitch & Rind, 2008). On that note it is

important to emphasize that this knowledge does not legitimize CSA or alleviate the perpetrator of his or her responsibility. In fact, the process of gaining credibility among the lay population (and even some professionals) might be difficult for researchers discovering and publishing such scientific results. An example of the potential turmoil such research might yield can be found in the so-called *Rind et al. controversy*. Rind et al. (1998) conducted a meta-analysis of several studies on CSA, challenging popularly held beliefs on the subject. In short, the meta-study did not support the belief that CSA typically cause pervasive harm to the victims. Critics claim that such scientific results might be used to legitimize childhood sexual relations between children and adults (Lilienfeld, 2002). The article, and its findings, caused so much uproar that the debate eventually ended up in the US government; in 1999 the article became historical, as it was the first article to be condemned by the US Congress (Con. Res. 107, 1999).

Later, Clancy (2009) conducted a study where over 200 non-clinical self-referred victims of CSA (65% women; 35% men) were interviewed. The inclusion criterion was that the participant had been sexually touched as a child. As a result of these interviews, Clancy (2009) hypothesized that the victims' reactions to the abuse at the time of the event seems to be misunderstood, and rarely taken into account by professionals working with these victims. What Clancy (2009) coins "the trauma myth" is the belief that CSA is damaging for the child because it is traumatizing at the time of the event. This explanatory assumption, which is called the *traumatogenic model* (Finkelhor, 1988), has dominated CSA research and practice for decades. According to the traumatogenic model, the abuse causes psychological changes at the time of the event, which might result in later behavioral problems (Mullen & Fleming, 1998). It is thereby implied that CSA causes similar pathology as other childhood PTEs. According

to Clancy (2009), the traumatogenic model postulates that the effects of CSA can be explained by the belief that sexual abuse is traumatizing in itself. The model also assumes that there is a direct link between the trauma of CSA and well being, and that there is a dose-response relationship between stress experienced by being sexually abused and long-term consequences. Thus, the experience of different symptoms later in life might be attributed to the degree of traumatic stress experienced at the time of the sexual abuse. In earlier years of trauma research, Browne and Finkelhor (1986) found that the use of force, genital contact, and abuse by a father figure appeared to have an impact on the level of traumatization. Clancy's (2009) research reveals different results, and she presents an alternative model for understanding the trauma of CSA. In the following section the research leading up to Clancy's (2009) model will be explored.

First, it might be necessary to distinguish between clinical and non-clinical populations when addressing this issue, since it is natural to assume that severe CSA is more common in clinical than non-clinical samples. On that note, Clancy's (2009) research is based mostly on non-clinical samples, while Browne and Finkelhor's (1986) meta-study consists mostly of research on clinical samples.

Contrary to Browne and Finkelhor's (1986) findings, Clancy (2009) found that force might lead to less guilt and self-blame, which in turn might result in fewer problems later on, and that penetration, or the use of force, is not typical in CSA. Clancy (2009) states that "less than 10 percent of the participants reported experiencing their abuse as traumatic, terrifying, overwhelming, life-threatening, or shocking at the time it happened" (p. 37). Furthermore, in the cases of CSA, the perpetrator is often someone the child trusts from outside the core family, and the typical CSA does not involve coercion, physical pain or psychological threats (Clancy, 2009). Most of the

children did not disclose the abuse after it had happened, because they did not understand what was happening at the time.

Basing her statements on earlier research, Clancy (2009) questions whether or not CSA can be understood through the traumatogenic model. As an alternative, she postulated that the child might not experience the CSA as traumatic at the time of the abuse, but that it becomes traumatic when the victim reconceptualizes the abuse at an older age (Clancy, 2009). In other words, the child might not understand what is going on at the time of the abuse, due to a lack of knowledge about e.g., sexuality. Thus, the child will comprehend the abuse only when he/she becomes older and acquire knowledge about sexual behavior. According to Clancy (2009), it is at this point the abuse might become traumatic for the victim. In this sense, CSA is different from other types of PTEs.

When reconceptualizing the abuse the victims often feel betrayed, and the level of betrayal depends on the emotional proximity to the perpetrator and the experienced degree of manipulation involved (Clancy, 2009). Several of the victims seem to blame both themselves and the perpetrator, and "almost 80% felt both were at fault" (Clancy, 2009, p. 129). This might be stemming from the victims not actively objecting to the abuse at the time it happened, which in turn might foster a subjective belief that they had consented to the abuse. According to this, there is a relationship between lack of traumatization at the time of the event, lack of resistance from the child, and later experience of self-blame and guilt. Level of self-blame varied according to the level of conviction that they could have prevented or avoided the abuse (Clancy, 2009). Furthermore, shame, as well as feeling of betrayal, guilt and self-blame, seem to be better predictors of later problems than the details surrounding the CSA.

Developmental and life course models have been proposed to account for the deficiencies in the traumatogenic model. Some of them claim that early sexual experiences serve as scripts that might distort, for instance, later sexual behavior, and that this might have an effect on general well being (Browning & Laumann, 1997). One tentative conclusion might be that Clancy's (2009) model, the traumatogenic model (Finkelhor, 1988), and developmental and life course models (Browning & Laumann, 1997) complement each other, and that they contribute to a broad understanding of the concept of the trauma of CSA. According to Mullen and Fleming (1998) the traumatogenic model might be applicable in the more severe cases of CSA, where force and penetration are involved, while the developmental and socially oriented models will be applicable in other cases.

There is an ongoing debate on the causal relationship between CSA and later problems, where there might be third and confounding variables, such as family environment (Rind & Tromovitch, 1997, 2007; Rind et al., 1998). Growing up in socially deprived or disorganized families seem to be risk factors for later problems; and conversely, a supporting relationship with the mother seems to moderate problems following CSA (Mullen & Fleming, 1998). Most epidemiological studies on CSA find that the perpetrators are predominantly male (e.g., Finkelhor, 1994; Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002), and a close relationship between the perpetrator and the victim's mother, especially in cases with male perpetrators, may compromise the maternal support (Elliott & Briere, 1994; Gomes-Schwartz, Horowitz, & Cardarelli, 1990).

In addition, there is a general association between poor caregiver-child attachment and CSA, but the direction of this association is not always clear, and

according to Mullen and Fleming (1998), "given the majority of abusers are not immediate family members, it is more likely that the linkage reflects a lack of adequate care, supervision and protection that leaves the child exposed to the approaches of molesters, and vulnerable to offers of apparent interest and affection" (p. 4).

Regardless of causality and confounding variables, CSA is related to a number of psychological problems and seems to be a significant risk factor for later pathology, such as posttraumatic stress disorder (PTSD), depression, anxiety, alcohol and drug abuse, and sexual behavior problems (e.g., Browne & Finkelhor, 1986; Clancy, 2009; Mullen & Fleming, 1998; Putnam, 2003).

Childhood physical abuse. Physical abuse can be defined as "nonaccidental injury inflicted by a caregiver" (Crosson-Tower, 2008, p. 96). In the previously mentioned ACE study (Centers for Disease Control and Prevention, (n.d.)), physical abuse is defined as "sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at you or ever hit you so hard that you had marks or were injured". Thus, victims of physical abuse might suffer injuries, such as bruises, cuts, fractures, and burns, inflicted by their caregivers.

In the ACE study, 28.3% of the participants had experienced physical abuse (Centers for Disease Control and Prevention, (n.d.)). In a UK study from 2005, of 2,869 randomly sampled young adults, aged 18-24, a total of 21% had suffered from some form of physical abuse; 7% satisfied the criteria for severe physical abuse; whereas 78% of the victims experienced physical abuse at home, with a caregiver being the most frequent abuser (May-Chahal & Cawson, 2005). In research on childhood physical abuse there is a lack of consensus regarding which elements should be incorporated in

the term physical abuse, and it is especially hard to distinguish between childhood physical abuse and domestic violence.

Children who have been physically abused or neglected often have an insecure attachment (Alexander, 1992). Caregivers might have a reduced emotional availability, which might lead to disorganized attachment, since the same caregiver simultaneously represents both safe and dangerous qualities. If only one caregiver is abusive, the other caregiver might also be victimized and unable to provide a secure base (Margolin & Vickerman, 2007).

Some long-term consequences suffered by victims of physical abuse are trust-issues, anger, relational imbalances, low self-esteem, inappropriate coping skills (e.g., substance abuse), a feeling of powerlessness, internalization of aggression, depression, and anxiety (Crosson-Tower, 2008).

Childhood emotional abuse. Emotional abuse and emotional neglect will present itself in the relationship between child and caregiver, and are often grouped together in the term *psychological maltreatment*. The American Professional Society on Abuse of Children (Hart, Brassard, Davidson, Rivelis, Diaz, & Binggeli, 2011) define psychological maltreatment as "a repeated pattern of extreme incident(s) … [that] convey the message that the child is worthless, flawed, unloved, endangered, or only valuable in meeting someone else's needs" (p. 127). This includes spurning, terrorizing, isolating, exploiting/corrupting, denying emotional responsiveness, and mental health, medical, and educational neglect (Hart et al., 2011).

In the present paper, emotional abuse and emotional neglect will be addressed separately. In the ACE study emotional abuse is defined as "often or very often a parent or other adult in the household swore at you, insulted you, or put you down and

sometimes, often or very often acted in a way that made you think that you might be physically hurt" (Centers for Disease Control and Prevention, (n.d.)). The abusing caregivers often have negative attitudes towards the child, and seem to attribute the poor caregiver-child relationship to the child's behavior (Iwaniec, 2006).

In the ACE study, 10.6% of the participants reported emotional abuse (Centers for Disease Control and Prevention, (n.d.)), while in the previously mentioned UK-study, 6% of the participants reported emotional maltreatment (May-Chahal & Cawson, 2005).

According to Iwaniec (2006) emotional abuse and neglect might be the most pervasive forms of child maltreatment, due to the fact that caregivers both cause the abuse and become unavailable at the same time. This will be harmful at least in the formation of a secure attachment bond (Thompson & Kaplan, 1996).

Some long-term effects of childhood emotional abuse are IP, emotional instability, self-harm, low self-esteem, social phobias, disordered eating, depression, somatization, suicidal behavior, anxiety, and substance abuse (Iwaniec, 2006; Zurbriggen, Gobin, & Freyd, 2010). Symptoms of emotional maltreatment might easily be attributed to other causes, and it is often omitted from studies even though it can be a contributing third variable (Zurbriggen et al., 2010). However, studies show that it is as harmful as the other types of maltreatment (Burns, Jackson, & Harding, 2010; Kaplan, Pelcovitz, & Labruna, 1999). Zurbriggen et al. (2010) found that the association between childhood emotional abuse and later depression is stronger than the association between childhood sexual or physical abuse and later depression, and Kaplan et al. (1999) found that emotional abuse might be a stronger predictor of later psychological problems than physical maltreatment. Additionally, emotional abuse generally have a

higher frequency of delivery than other types of maltreatment, as victims of emotional abuse often are abused every day for several years (Burns et al., 2010; Zurbriggen et al., 2010). This might cause ERP, which in turn might maintain other trauma related symptoms (Burns et al., 2010).

Childhood emotional and physical neglect. There are fewer studies on neglect than on other types of maltreatment (Crosson-Tower, 2008), and in existing literature different types of neglect, like physical, emotional, educational, and medical, are often subsumed. Thus, an attempt to find a consensual definition of neglect poses a problem, but Polansky, Hally, and Polansky (as cited in Crosson-Tower, 2008) define neglect as "a condition in which a caretaker responsible for the child either deliberately or by extraordinary inattentiveness permits the child to experience available present suffering and/or fails to provide one or more of the ingredients generally deemed essential for developing a person's physical, intellectual, and emotional capacities" (p. 69).

In the present study the general term *neglect* is broken down into two main types of neglect, specifically *physical* neglect and *emotional* neglect. Since literature often is unclear on what types of neglect are included in the respective studies, in the present paper the term neglect will be used to address neglect in general, while the specific types of neglect will be addressed explicitly.

Physical neglect might be defined as "parental failure to protect a child from harm or to provide the child with basic necessities including adequate food, shelter, and clothing" (Erickson & Egeland, 2011, p. 104). Further, Erickson and Egeland (2011) claim that this is potentially harmful because it might affect behavior and academic performance, which in turn might influence self-esteem, and interpersonal relationships with peers. The ACE study collected information about physical and emotional neglect

only in the second survey wave, and the prevalence numbers are therefore based on a reduced number of respondents (n = 8,667; Centers for Disease Control and Prevention, (n.d.)). In the study physical neglect was explained by the following sentences: "Respondents were asked whether there was enough to eat, if their caregivers drinking interfered with their care, if they ever wore dirty clothes, and if there was someone to take them to the doctor. Physical neglect was defined using scale scores that represent moderate to extreme exposure on the Physical Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form constituted physical neglect" (Centers for Disease Control and Prevention, (n.d.)). The CTQ-Short Form will be addressed and explained later.

There appears to be some consensus that emotional neglect is related to dysfunctions in the attachment bond between child and caregiver. In the ACE study, emotional neglect is explained by the following sentences: "Respondents were asked whether their family made them feel special, loved, and if their family was a source of strength, support, and protection. Emotional neglect was defined using scale scores that represent moderate to extreme exposure on the Emotional Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form" (Centers for Disease Control and Prevention, (n.d.)).

It is challenging to find literature or prevalence rates on the specific types of neglect. The UK study found that 6% of the participants satisfied the criteria for serious absence of physical care, whilst 5% satisfied the criteria for serious lack of supervision (May-Chahal & Cawson, 2005); while in the ACE study, 9.9% of the participants reported physical neglect, and 14.8% reported emotional neglect (Centers for Disease Control and Prevention, 2011).

There are some known long-term consequences of growing up in a neglecting family. Some of these consequences are trust-issues, low self-esteem, anger, relationship imbalances, impaired social skills, substance abuse, and physical problems (Crosson-Tower, 2008).

It is interesting to note that in most cases of physical neglect, emotional neglect is also present (Erickson & Egeland, 2011). This contributes to the difficulties of separating the effects of physical neglect from the effects of emotional neglect. On the other hand, emotional neglect might occur without physical neglect. Emotional neglect appears to be associated with some of the problems experienced by victims of other types of maltreatment (Wark, Kruczek, & Boley, 2003). The different types of neglect could similarly be associated with different types of abuse, and might contribute to a worsened outcome when combined with such abuse, and it is also interesting to note that CSA appears to be more harmful when combined with emotional neglect (Ney, Fung, & Wickett, 1994).

Trauma Combinations

Most of the literature we have found on trauma psychology primarily address one specific type of PTE at a time, and its consequences. However, the different types of abuse have a tendency to co-occur, rather than being isolated events of specific abuse (Kessler, 2000; Tromovitch & Rind, 2008). More specifically, exposure to CSA is associated with the experience of additional types of childhood PTEs (Dong, Anda, Dube, Giles, & Felitti, 2003).

Dong et al. (2004) analyzed data from 8,629 participants from the previously mentioned ACE study, all adult members of the Kaiser Health Plan in California. Of the respondents who had experienced one *adverse childhood experience* (operationalized as

emotional, physical, and sexual abuse, emotional and physical neglect, domestic violence, household substance abuse, mental illness in household, parental separation or divorce, and criminal household member), 81%-98% reported at least one additional adverse childhood experience.

Another study found that 65% of the participants reported PTE, while 38% reported multiple trauma types (Green, Goodman, Krupnick, Corcoran, Petty, Stockton, & Stern, 2000). Thus, 27% of the participants had experienced only one type of PTE. The participants reported exposure to predetermined specific PTEs, and there was also an "other"-category. This category was excluded before calculating the percentage of participants who had experienced either one or accumulated PTEs.

Ney et al. (1994) examined the correlations between different types of abuse and neglect in a sample of 167 Canadian children and adolescents (aged 7-18). The participants came from both clinical and non-clinical populations and answered questions about exposure to five different types of childhood PTEs: physical abuse, physical neglect, verbal abuse, emotional neglect, and sexual abuse. They were then asked to answer questions regarding, among others, feelings of enjoyment, life purpose, future expectations, world problems, and reflections about their own childhood. The results indicate that the mentioned childhood PTEs rarely occur in isolation; in fact, less than 5% of the events occurred in isolation in this particular sample.

These findings suggest that future research on the relationship between childhood PTE exposure and the development of trauma related symptoms and disorders should take into account that their respondents probably have experienced more than just one type of childhood PTE. Furthermore, it will be of importance to

examine the clinical implications of having experienced more than one type of childhood PTE. In the following section we will address this issue.

Herman (1992) was the first to describe the term *complex trauma*. She did not consider the PTSD diagnosis as adequately embracing all aspects of PTEs and subsequent symptoms. Complex trauma is described as both the individual's experiences and symptomatology. As such, complex trauma represents prolonged and repeated exposure to one or multiple PTEs, as well as more complex and diffuse symptoms than those described in PTSD. In fact, Herman (1992) argues that the symptoms of complex trauma may be misinterpreted as symptoms of personality disorders.

To avoid further confusion, the present paper will be consistent in addressing number of *types* of trauma as *accumulated trauma*, and several *incidences* (i.e., regardless of specific type) as *serial trauma*. Additionally, number and severity of symptoms will be referred to as *symptom complexity*. See Appendix 1 for a list of important terms and abbreviations used in the present paper.

Ney et al. (1994) also investigated the effects of different childhood PTE types, examined both individually and in combinations. When childhood PTE types were examined separately, physical abuse and verbal abuse had most impact on the children's subjective outlook on life. When constellations of childhood PTE types were examined, the combination of physical abuse, physical neglect, and verbal abuse had the most impact on the children's subjective outlook on life, while the combination of physical neglect, verbal abuse, and CSA had the worst outcome in regard of lack of enjoyment of living.

Cloitre et al. (2009) conducted a study on the relationship between childhood trauma accumulation and symptom complexity. The sample consisted of 582 self-referred female American citizens who answered questions regarding exposure to the following five types of childhood PTEs, with respective percentages of the participants that have experienced the stressor in parentheses: sexual abuse (67.98%), physical abuse (77.62%), emotional abuse (77.22%), neglect (45.56%), and "not living with mother" (due to impairment or absence/abandonment; 34.21%). Further, they reported symptoms on three dimensions: PTS, ERP (general emotion regulation self-efficacy, depression, anger expression difficulties, and dissociation), and IP (by assessing sociability, intimacy, assertiveness, submissiveness, responsibility, and control). The results show a significant association between childhood trauma accumulation and symptom complexity ($Z = 2.51$, $p < .01$). It is interesting to notice that this article also assessed PTEs in adulthood, but there was no significant association between adulthood trauma accumulation and symptom complexity (Cloitre et al., 2009).

Briere et al. (2008) also conducted a study of the relationship between childhood trauma accumulation and symptom complexity. Their sample consisted of 2,496 female college students, with an average age of 19.4, who answered two questionnaires that assessed stressful life events and trauma related symptoms. On the surveys 12 types of PTEs were assessed, with respective percentages of the sample that have experienced the stressor in parentheses: rape (8.3%), attempted rape (8.1%), other sexual contact during childhood (14.7%), physical abuse (15%), physical assault (13.1%), threat or violence (5.2%), witness to traumatic event (12.7%), life-threatening illness (7%), life-threatening accident (9.6%), robbery or mugging with weapon (2.1%), other life-threatening event (2.6%), and traumatic bereavement (9.6%). Ten symptoms were

assessed: anxious arousal, depression, anger-irritability, intrusive experiences, defensive avoidance, dissociation, sexual concerns, dysfunctional sexual behavior, impaired self reference, and tension reduction behavior. The results were statistically significant and showed a positive correlation between childhood trauma accumulation and symptom complexity (F (7, 2400) = 13.79, $p < .001$).

In addition to these studies other researchers have discovered that adolescents who have experienced accumulated trauma are at greater risk of developing more severe PTSD and depression symptoms than adolescents who have experienced only one type of childhood PTEs (Suliman, Mkabile, Fincham, Ahmed, Stein, & Seedat, 2009). Another interesting study compared the predictive value of PTE exposure and PTS on medical problems (Cloitre, Cohen, Edelman, & Han, 2001). According to this study, PTE exposure is a stronger predictor than PTS on medical problems.

Another related topic of interest is the distinction between trauma accumulation and serial trauma. In psychological trauma literature this distinction is not always clear. Above we have focused on the relationship between trauma accumulation and symptom complexity, but it is worth mentioning that individuals who have experienced serial trauma report higher symptom complexity than individuals who have experienced a single PTE (Green et al., 2000).

The Significance of Childhood Trauma and Childhood Sexual Abuse

After reviewing existing literature on childhood trauma, it is apparent that there is a need for further research on the relationship between psychological trauma and symptomatology, and the role of CSA in particular. Hence, the paper will first explore the significance of childhood trauma on symptom complexity. Further, it will explore the specific role that CSA plays in adult trauma related symptomatology, based on

recent discoveries in the field of CSA, which portray CSA as different from physical and emotional abuse and neglect (e.g., Clancy, 2009). We will approach this challenge by examining the significance of childhood PTE and CSA on general psychological distress (GPD), PTS, ERP, and IP. Finally, we will examine potential gender specific effects of childhood PTE and CSA on the same symptomatology.

Method

The present paper, and its data, is part of an ongoing research project run by the Trauma Psychology Research Group at the Department of Clinical Psychology, University of Bergen. The project is approved by the Norwegian Social Science Data Services, and the Regional Committee for Medical and Health Research Ethics, Health Region West, Norway.

Participants

By November 2011 a total of 555 respondents had participated in the study. After omitting 130 respondents with missing variables, a total of 425 respondents were included in the study, 214 men, and 211 women, aged 14-65 (M = 28.06, SD = 11.28). The participants were recruited from four Norwegian subgroups: present and previous child protective service clients (n = 53); in- and outpatients at drug addiction treatment centers (n = 111); in- and outpatients at psychological treatment clinics (n = 180); and incarcerated men under low or high security prison conditions (n = 81).

Instruments

The respondents answered three self-report questionnaires: Childhood Trauma Questionnaire Short Form (CTQ-SF) to assess exposure to childhood PTE; Symptom Checklist-90-Revised (SCL-90-R) to measure GPD; and Impact of Event-Scale-90-Revised (IES-90-R) to measure PTS.

Childhood Trauma Questionnaire-Short Form. The CTQ-SF was developed by Bernstein and Fink (1998) and assesses exposure to five types of childhood PTEs by a retrospective self-report questionnaire which consists of 28 items (see Appendix 2). CTQ-SF assesses exposure to physical, sexual, and emotional abuse, and physical, and emotional neglect. The 28 items are formulated as statements, and the respondents answer each statement on a five-point Likert scale. The response options are *Never True* (1); *Rarely True* (2); *Sometimes True* (3); *Often True* (4); and *Very Often True* (5). Each type of childhood PTE is represent by five items. In addition there are three minimization/denial items for detecting false-negative trauma testimonies.

According to the CTQ-SF manual (Bernstein & Fink, 1998), "*emotional abuse* refers to verbal assaults on a child's sense of worth or well-being, or any humiliating, demeaning or threatening behavior directed toward a child by an older person. *Physical abuse* refers to bodily assaults on a child by an older person that pose a risk of, or result in, injury. *Sexual abuse* refers to sexual contact or conduct between a child and older person; explicit coercion is a frequent but not essential feature of these experiences. *Emotional neglect* refers to the failure of caretakers to provide a child's basic psychological and emotional needs, such as love, encouragement, belonging, and support. *Physical neglect* refers to the failure of caretakers to provide a child's basic physical needs, such as food, shelter, safety and supervision, and health" (p. 2).

The threshold levels for exposure to the different PTEs are provided by the CTQ-SF manual (Bernstein & Fink, 1998), and exposure is determined on four levels: *none*, *low*, *moderate*, and *severe*.

Several studies have conducted factor analyses that found satisfactory support to the five-factor model on the 25 main items of the CTQ-SF (Bernstein & Fink, 1998;

Thombs, Lewis, Bernstein, Medrano, & Hatch, 2007), also using the Norwegian version (Dovran, Winje, Overland, Breivik, Arefjord, Dalsbo, Jentoft, Hansen, & Waage, 2012), and the Swedish version (Gerdner & Allgulander, 2009), except for the physical neglect subscale in the Swedish study.

To assess internal consistency of the entire CTQ-SF in the present sample a test of reliability was conducted. The standardized alpha for the entire CTQ-SF is .94, and the internal consistency is considered excellent. Standardized alpha scores for the separate subscales in the present sample have not been calculated.

Symptom Checklist-90-Revised. The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1992) is a self-report inventory that assesses symptomatology on nine clinical dimensions. It is constructed of 90 items, on which the respondents are asked to rate the severity of each symptom experienced within the time frame of the last seven days. The respondents answer each item on a five-point Likert scale ranging from 0 = *Not at all to* 4 = *Extremely*. In addition to the clinical dimensions, the SCL-90-R also has three global indices: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST). In the present paper we have used only the SCL-90-R GSI (sum score/90), which reveals information about GPD.

To assess internal consistency of the entire SCL-90-R in the present sample a test of reliability has been conducted. The standardized alpha for the entire SCL-90-R is .95, and the internal consistency is considered excellent.

Consensus group. Based on Cloitre et al. (2006) and the SCL-90-R items (Derogatis, 1992), we developed two categories called *interpersonal problems* (*IP*) and *emotion regulation problems* (*ERP*). On the assumption that there are different ways of perceiving what should be incorporated in these terms we decided to assemble a

consensus group consisting of five students from the clinical psychology program at the University of Bergen. The group members were first briefly informed of contemporary trauma knowledge and given definitions of emotional regulation and interpersonal relations, according to Cloitre et al. (2006). Emotion regulation was defined as "the capacity to modulate emotional reactions and expressions" (p. 46), and interpersonal relation was defined as the way a person relates to actual and perceived relationships to other people. They were then asked to read all of the items in the SCL-90-R and label each item as pertaining to IP, ERP, or neither. Secondly, they were asked to collectively discuss and agree on a label for each item. The inclusion criterion was that an item must be labeled similarly by at least four of the participants in the consensus group after the collective discussion, as well as by both authors. The ERP category consists of 12 items, while the IP category consists of 13 items. See Appendix 3 for an exhaustive list of included items.

To assess internal consistency of the IP and ERP subscales in the present sample, tests of reliability have been conducted. The standardized alpha for the IP subscale is .91, and the internal consistency is considered excellent. The standardized alpha for the ERP subscale is .85, and the internal consistency is considered good.

Impact of Event-Scale-Revised. The IES-R is one of the most commonly used instruments to measure symptoms of traumatic stress (Elhai, Gray, Kashdan, & Franklin, 2005), and it is made up of 22 items on which respondents are asked to rate the severity of each symptom over the last seven days (Weiss, 2004). The respondents answer each item on a five-point Likert scale ranging from 0 = *Not at all*, to 4 = *Extremely*. The IES-R has three clinical indices: Intrusion, Avoidance, and Hyperarousal. Hence, the IES-R symptoms correspond to the symptoms of

posttraumatic stress disorder as described by the *DSM-IV-TR* (4th ed., text rev.; DSM–IV–TR; American Psychiatric Association, 2000). According to recommendations from the developers of the revised version, the response format has been modified to 0-4 with equal intervals. These changes make the IES-R format similar to that of the SCL-90-R and allow for the comparison of symptom levels across PTS (IES-R) and GPD (SCL-90-R; Weiss, 2004; Weiss & Marmar, 1997). Therefore, IES-R data may be scored similar to SCL-90-R with an IES-R Global Severity Index (GSI), Positive Symptom Distress Index, and Positive Symptom Total. In the present study the IES-R GSI (sum score/22) has been used to assess PTS.

To assess internal consistency of the entire IES-R in the present sample a test of reliability has been conducted. The standardized alpha for the entire IES-R is .95, and the internal consistency is considered excellent.

Statistical Analyses

The Trauma Psychology Research Group at the Department of Clinical Psychology, University of Bergen, has collected the data. All statistical analyses were conducted using Statistica, version 10.

As mentioned, a total of 555 respondents participated in this part of the research project. Since each subtype in the CTQ-SF is measured by five questions, missing data was imputed by the subtype mean when participants had three or fewer missing answers (< 11% missing data) on the CTQ-SF. Other respondents (a total of 130) with missing data were excluded. Finally, a total of 425 respondents were included in the study. Of the excluded participants, 15 were excluded because of missing data on the CTQ-SF, two were excluded because of missing data on the SCL-90-R, and 123 were excluded due to missing data on the IES-R. Separate analyses were conducted on each measure

using the excluded participants, to investigate potential differences between the included and the excluded group. Because only six of the excluded participants had answered the IES-R, it was impossible to conduct analyses on this group based on their IES-R scores.

For all analyses, dichotomized variables were created. In the first number of analyses the dichotomized variables were called “no trauma” and “trauma”. According to the manual, “trauma” indicates low to severe scores on the CTQ-SF (Bernstein & Fink, 1998).

All “no trauma” participants were omitted from the subsequent analyses of the significance of CSA. The “trauma” participants were divided into “no sexual abuse” and “sexual abuse”.

Separate variable t-tests were conducted in all analyses, as it was assumed that there were variance differences between the compared groups in each analysis. This assumption was supported by Levene’s tests.

Hedges *g* effect sizes have been calculated in the analyses of the significance of childhood PTE. Cohen’s *d* effect sizes have been calculated in the analyses of the significance of CSA.

Multiple regression analyses have been performed, with CSA and trauma accumulation as predicting variables. Separate analyses have been conducted to determine their effect on the symptom variables.

Results

Excluded Participants

130 participants were excluded from the final analyses. See Tables 1-4 for a detailed investigation of the differences between the excluded and included group. More

men than women have been excluded (81 vs. 48), there is a higher percentage of participants from the child protective service group that has been excluded, the included participants report significantly higher scores on the CTQ-SF, $t(203.25) = -6.31$, $p < .01$, however there is no difference between the groups on the SCL-90-R GSI. To answer the IES-R the participant must disclose at least one specific incident the symptoms might be related to. 123 of the 130 excluded participants did not disclose a specific incident. This might explain the group differences on CTQ-SF scores, since many of the excluded participants might not have experienced childhood PTEs. Figure 1 shows that when it comes to the subgroup-participation the included group resembles the group total. The mean age of the excluded group is 26.05, which is not significantly different from the mean age in the included group. The remaining analyses have been conducted without the 130 excluded participants.

Childhood Trauma and Adult Symptomatology

Participants ranged from having experienced no childhood PTEs as measured by the CTQ-SF, to having experienced all five types of childhood PTEs (see Figure 2); 68 (16%) of the participants report that they have not experienced childhood PTEs; 79 (19%) report having experienced one childhood PTE type; 71 (17%) report having experienced two types of childhood PTEs; 76 (18%) report having experienced three types of childhood PTEs; 68 (16%) report having experienced four types of childhood PTEs; and 63 (15%) report having experienced all five types of childhood PTEs. This means that 68 (16%) report that they have not experienced childhood PTEs, while 357 (84%) report that they have experienced one or more childhood PTEs on low to severe level. 189 men and 168 women report having experienced childhood PTEs. Women report an average of 2.51 childhood PTE types, while men report an average of 2.37

childhood PTE types, there is no significant difference between these means, as can be seen in Table 5.

The results show that trauma accumulation correlates with increased scores on both the IES-R GSI and on the SCL-90-R GSI (Figure 2).

Table 6 shows that there is a significant difference between the "no trauma" and "trauma" groups on the IES-R GSI, $t(108,38) = 4.44$, $p < .01$ and on the SCL-90-R GSI, $t(129.02) = 5.93$, $p < .01$, both showing medium effect sizes. There is also a significant difference between the groups regarding ERP, $t(105.41) = 3.56$, $p < .01$, with a small effect size; and IP, $t(143.72) = 6.99$, $p < .01$, with a medium effect size.

When the data has been reanalyzed while controlling for gender, the results differ. For the male subgroup there is a significant difference between the "no trauma" and "trauma" group on IES-R GSI, $t(34.50) = 3.06$, $p < .01$, with a medium effect size. On the other hand, there are no significant differences between the groups regarding SCL-90-R GSI, ERP or IP.

However, for the female subgroup there is a significant difference between the "no trauma" and "trauma" group on IES-R GSI, $t(76.04) = 3.78$, $p < .01$, with a medium effect size, the SCL-90-R GSI, $t(98.53) = 6.91$, $p < .01$, with a large effect size; the ERP, $t(82.70) = 5.65$, $p < .01$, with a large effect size; and the IP, $t(110.57) = 7.48$, $p < .01$, with a large effect size.

Childhood Sexual Abuse and Adult Symptomatology

68 (16%) of the participants report not having experienced any childhood PTE ("no trauma"). 201 (47%) report having experienced childhood PTE without sexual abuse ("no sexual abuse"), and 156 (37%) of the participants report having experienced childhood PTEs including sexual abuse ("sexual abuse"). Of the 156 that report having

experienced childhood PTEs including sexual abuse, 62 are men and 94 are women. Table 5 shows that there is a significant gender difference when it comes to reporting CSA, $t (344.83) = 4.63$, $p < .01$; the female subgroup report more sexual abuse than the male subgroup.

Table 7 shows a significant difference between the "no sexual abuse" and "sexual abuse" groups regarding IES-R GSI, $t (327.62) = 5.44$, $p < .01$, with a medium effect size; SCL-90-R GSI, $t (306.03) = 4.66$, $p < .01$, with a medium effect size; ERP, $t (313.45) = 4.01$, $p < .01$, with a small effect size; and the IP, $t (303.19) = 4.17$, $p < .01$, with a small effect size.

In the male subgroup, there is a significant difference between the "no sexual abuse" and "sexual abuse" groups regarding IES-R GSI, $t (108.85) = 3.01$, $p < .01$, with a small effect sized; SCL-90-R GSI, $t (92.04) = 3.57$, $p < .01$, with a medium effect size; ERP, $t (94.09) = 3.40$, $p < .01$, with a medium effect size; and IP, $t (91.22) = 3.52$, $p < .01$, with a medium effect size.

In the female subgroup there is no significant differences between the "no sexual abuse" and "sexual abuse" groups regarding SCL-90-R GSI, ERP, or IP, but there is a significant difference regarding IES-R GSI, $t (152.30) = 3.79$, $p < .01$, with a medium effect size.

Gender Differences

As Table 8 shows, when all participants are included, there are significant gender differences regarding IES-R GSI, $t (422.78) = 2.63$, $p < .01$; SCL-90-R GSI-R, $t (422.26) = 2.53$, $p < .01$; and ERP, $t (422.04) = 3.12$, $p < .01$; the female subgroup report more symptoms than the male subgroup. There is no significant gender difference on IP.

In the "trauma" group there is a significant gender difference regarding IES-R GSI, $t(349.34) = 2.88$, $p < .01$; SCL-90-R GSI, $t(349.92) = 3.66$, $p < .01$; ERP, $t(347.85) = 4.42$, $p < .01$; and IP, $t(351.55) = 2.61$, $p < .01$; the female subgroup report more symptoms than the male subgroup.

In the "sexual abuse" group there is no significant gender difference.

Additional Analyses

According to multiple regression analysis, where trauma accumulation and CSA have been used as predictors on IES-R GSI, CSA significantly predicts IES-R GSI, ($R^2 = .13$, $F(2,354) = 26.55$, $p < .01$).

According to multiple regression analysis, where trauma accumulation and CSA have been used as predictors on SCL-90-R GSI, CSA significantly predicts SCL-90-R GSI ($R^2 = .10$, $F(2,354) = 20.01$, $p < .01$).

Discussion

Our results indicate that childhood PTE in general affects adult symptomatology. Furthermore, CSA has an additional impact on adult symptomatology, and this impact is more pronounced for male than for female victims.

Effects of Childhood Trauma on Adult Symptomatology

The present study found that having experienced childhood PTEs increases PTS and GPD in adulthood. These results support established knowledge and earlier research in the field of childhood trauma (e.g., Briere et al., 2008; Cloitre et al., 2006; Cloitre et al., 2009; Suliman et al., 2009). This is also in line with the fact that childhood PTEs might cause posttraumatic stress disorder, as depicted by DSM-IV-TR (4th ed., text rev.; DSM–IV–TR; American Psychiatric Association, 2000).

In our sample the vast majority of the trauma victims has experienced more than one type of childhood PTE (77.87%). This result supports findings in the majority of studies on psychological trauma, which have found that it is more common to experience more than one type of childhood PTE (e.g., Spinazzola, Ford, Zucker, van der Kolk, Silva, Smith, & Blaustein, 2005). It is important to acknowledge that our sample comes from populations in need of care or social correction, i.e., patients in treatment for mental health problems and/or drug addiction, and populations at risk of childhood PTE exposure, i.e., incarcerated (e.g., Harlow, 1999) and foster children (e.g., Dorsey, Burns, Southerland, Cox, Wagner, & Farmer, 2012; Stein, Zima, Elliott, Burnam, Shahinfar, Fox, & Leavitt, 2001). Hence, our findings might not be generalizable. Our sample will from now on be referred to as *clinical*.

According to earlier research, we also know that different childhood PTEs potentially cause different symptoms in adulthood (e.g., Crosson-Tower, 2008; Hund & Espelage, 2005; Zurbriggen et al., 2010). Furthermore, the assumption that combinations of these childhood PTEs might affect symptom complexity naturally follows. As an example, neglect has been found to influence symptoms following other childhood PTE types, and particularly it appears to worsen the outcome of CSA (Ney et al., 1994).

Overall, we found a dose-response relationship between trauma accumulation and symptom complexity. This finding is consistent with several studies on accumulated trauma (e.g., Briere et al., 2008; Cloitre et al., 2009). Accumulated trauma might not only produce more severe symptoms than the symptoms following the different types of childhood PTE, but might in fact cause a synergy effect (Cloitre et al., 2009).

Knowledge about the development of trauma related symptoms is also necessary, and attachment is possibly the most important mediating factor of trauma related symptomatology (e.g., Cook, Spinazzola, Ford, Lanktree, Blaustein, Cloitre, DeRosa, Hubbard, Kagen, Liautaud, Mallah, Olafson, & van der Kolk, 2005; van der Kolk, 2005a, 2005b). Secure attachment might act as a prevention against later problems (van der Kolk, 2005a, 2005b). In a dysfunctional family environment there might be an absence of individuals who can help the child handle its negative experiences. Emotional neglect and abuse, in particular, might render both caregivers unavailable (Thompson & Kaplan, 1996), and might increase the risk of insecure attachment. In this regard, the child's support system is compromised. In addition to adult symptomatology following childhood PTEs, it is important to note that childhood PTEs might also cause initial symptomatology, i.e., symptoms occurring in childhood, which in turn might persist into adulthood (e.g., Cook et al., 2005; Jones, 2008; van der Kolk, 2005b; Wekerle & Wolfe, 2003).

We found that childhood PTEs increase ERP and IP in our sample. Other studies have found that symptomatology, and specifically ERP and IP, are predicted by both PTEs (Cook et al., 2005) and insecure attachment (Putnam, 2006). These findings have been developed further to comprise an entire treatment model of childhood traumatization (Cloitre et al., 2006).

Gender specific effects. What came as a surprise was that the effects of childhood PTEs are contingent on the victim's gender. In the female subgroup of our sample the results remain significant. In the male subgroup, however, only PTS is significantly affected by childhood PTEs. Childhood PTEs do not affect the scores of GPD, IP or ERP in our analyses. In other words, the male childhood PTE victims in our

sample are not affected in regard of general, interpersonal or emotional problems, but they do experience more specific PTSD symptoms, such as intrusion, hyperarousal, and avoidance.

Other researchers have also found gender differences in trauma related symptomatology. Tolin and Foa (2006) conducted a meta-study of 290 articles on PTEs (i.e., both in child- and adulthood) and posttraumatic stress disorder (PTSD), to investigate potential gender differences in exposure and reaction to PTEs. All of the articles included were written in English between the years 1980 and 2005, and all contained samples of both genders. The meta-study includes the childhood PTEs investigated in the present paper, but it also includes other PTEs, such as adult experiences, accidents, injuries, natural disasters, combat, war, and terrorism. The study has a wider scope than the present paper, and therefore only results relevant to the paper are presented. The meta-study found that females were twice as likely to develop PTSD as males; in general, males were more likely to experience PTEs than females; there were no gender differences in exposure to nonsexual abuse or neglect; females were more likely to experience CSA; and there were no gender differences in the development or severity of PTSD following CSA or nonsexual abuse or neglect.

Tolin and Foa (2006) point out that females and males might differ in other trauma related symptoms. For instance, females present more internal symptomatology, such as depression and anxiety, compared to males. Conversely, males present more external symptomatology, such as aggression, violence, conduct disorders, and drug abuse, than females. Although they discovered interesting gender differences, Tolin and Foa (2006) have difficulties explaining why these differences occurred.

Similar to Tolin and Foa (2006), we find it difficult to adequately explain the gender specific effects of childhood PTEs on symptom complexity occurring in our research. One possible explanation to the gender specific effects might be that there are general gender differences in reporting of childhood PTEs or symptoms. In our research there are no significant differences in reporting of childhood PTEs. However, the female subgroup reports higher scores than the male subgroup on PTS, GPD, and ERP. Within the "trauma" group, the female subgroup report higher scores on all four symptom clusters.

So far we have focused on actual gender differences, but it is also possible that the gender specific effects are contingent upon variables innate to the specific sample in our research. To examine this notion further it is helpful to look closer at the participants in the male gender subgroup. In this group we find 21 present or previous child protective services clients, 63 drug treatment patients, 49 psychiatric patients, and 81 incarcerated men. Thus, the incarcerated comprise the largest subgroup in our male sample (close to 38%). Prison incarceration is a consequence of criminal acts. Criminal acts are antisocial behavior, and antisocial behavior is naturally included in IP. Thus, it will be natural to assume that the majority of the incarcerated subgroup will have substantial IP, which might affect the results in the present study. However, after conducting additional analyses, we found that there are no significant differences between the incarcerated group and the rest of the sample regarding PTS, GPD, ERP or IP ($p > .21$ on all).

It is important to note that the gender specific effects we have identified do not necessarily imply that there are differences in how proficient either of the genders are at

coping with childhood PTEs, but rather that there might be gender differences in how the occurrence of childhood PTEs affects adult symptomatology.

Effects of Childhood Sexual Abuse on Adult Symptomatology

The participants included in this part of the analyses have experienced childhood PTEs. Thus, when addressing the significance of CSA it is important to remember that the specific effects of CSA are compared to the effects of childhood PTEs in general, and not to the participants without childhood PTE exposure.

Our research shows that CSA contributes to symptom complexity in adult clinical samples; i.e., victims of CSA report higher scores on GPD, PTS, IP and ERP. It is important that efforts are made to understand the effects of the different types of abuse on adult symptomatology. Based on contemporary research on CSA (e.g., Clancy, 2009; Rind et al., 1998), we assume that CSA is different from other types of childhood PTE.

According to Clancy (2009), CSA is typically not experienced as traumatic at the time of the event. Therefore, it might not be subject to the dose-response relationship associated with traumatization in general (Finkelhor, 1988). In the cases of other types of childhood PTE, there is a clear dose-response relationship between severity of the childhood PTE and the severity of the symptoms, as depicted by the traumatogenic model (Finkelhor, 1988). We have not investigated the specific symptoms associated with CSA compared to specific symptoms of other types childhood PTEs. Hence, our results do not give information about whether or not CSA has a different impact than other types of childhood PTE, but they show that CSA has a specific effect on the symptoms measured, compared to childhood PTE victims who

have not experienced CSA. The type specific significance of other childhood PTE types on symptomatology should be explored explicitly in future research.

Our regression analyses show that PTS and GPD seem to be significantly predicted by the presence of CSA, also when the results have been corrected for number of childhood PTEs experienced. When addressing the results, it is important to be especially aware of the group of participants reporting exposure to all five types of childhood PTEs. In this group it is difficult to know whether the results stem from the presence of CSA in the constellation, or simply the fact that there is one more childhood PTE type included in the group. In other words, it is difficult to isolate the type specific significance of CSA in this group, since it is not possible to compare the group to another group without CSA, but with equal number of childhood PTE types. However, it seems that CSA has a significant impact on symptomatology, and other researchers have also conducted analyses supporting our findings (Briere et al., 2008).

Gender specific effects. As for childhood PTE in general, we found gender specific effects of CSA. In the male subgroup of our sample, the results remained significant. In the female subgroup, however, only PTS is significantly affected by CSA. CSA does not affect GPD, ERP or IP. In other words, the female CSA victims in our sample were not affected in regard of general interpersonal or emotional problems, but they do experience more specific PTSD symptoms. In our sample there are no significant gender differences in symptomatology within the “sexual abuse” group. These results suggest that gender differences in reporting of symptoms in the “sexual abuse” group in our sample cannot explain the gender specific effects of CSA. Also, the fact that the female subgroup is not significantly affected by CSA does not necessarily

imply that females are resilient against CSA, but that there are no differences in how CSA, compared to childhood PTEs in general, affects GPD, IP and ERP.

There might be gender differences in reporting of CSA. In the present paper, the female subgroup reports significantly higher scores on the CSA subscale on CTQ-SF. A possible explanation might be that the male subgroup underreports cases of CSA. Possible underreporting might stem from gender-specific, cultural and societal expectations to how one should cope with PTEs, which in turn might create different prerequisites for dealing with negative experiences. Pino and Meier (1999) examined reports from 897 rape victims (9.10% males) from the National Crime and Victimization Survey (NCVS) in USA, collected between 1979 and 1984. The main interest of the study was whether or not the victim reported the rape to the police. As it turns out, gender and reporting are associated variables; male rape victims fail to report the rape significantly more often than female victims. Furthermore, men assess the seriousness of the rape only according to whether or not the rape caused bodily harm (increased the odds of reporting by more than five times), and that medical assistance was necessary (increased the odds of reporting by more than eight times). The authors speculate whether these findings might suggest that men are more willing to report the rape if there are objective evidence that they could not protect themselves.

As mentioned in the context of childhood trauma, it is important to note that these findings do not necessarily imply that there are differences in gender specific proficiency of coping with CSA.

Limitations

When assessing the scientific value of the present study there are some limitations that must be taken into consideration.

First, the study does not address the type specific significance of other childhood PTE types than CSA. Other childhood PTE types might cause some of the same problems as CSA, and they might influence the results.

Second, another challenge when working in the field of trauma psychology is the lack of consensus regarding operationalizing the different PTE types, which makes it difficult to accurately compare results from different studies.

Third, the present paper's objective is to understand the influence of CSA on symptom complexity. It is difficult to isolate the effects of one particular childhood PTE type, when the majority of the participants has experienced accumulated trauma.

Fourth, the sample comes from populations either with existing psychiatric disorders, or with backgrounds that predispose them to developing subsequent difficulties. The data is thus compared between groups with existing problems.

Implications

Needless to say, these findings should foster a growing interest in the field of childhood trauma and lay grounds for further research. Research and practice must take into account that most childhood PTE victims have experienced accumulated trauma, which in turn demand specific competency on complex symptomatology following multiple victimization. Additionally, the gender specific effects of childhood trauma and CSA might indicate that there are actual gender differences in how victims are affected by the incidents described in the present paper. Thus, our findings should spur a debate on how psychologists, medical practitioners, school nurses, teachers, and caregivers, among many others, should relate to victims of CSA, as well as be humble when dealing with each patient's individual story, symptomatology, and needs.

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Tables

Table 1.

Gender Differences in the Included and Excluded Groups.

	Male	Female	Total
Excluded group	81	48	129
Percentage of total	27.46%	18.53%	23.29%
Gender percentage in excluded group[1]	62.79%	37.21%	
Included group	214	211	425
Percentage of total	72.54%	81.47%	76.71%
Gender percentage in included group[1]	50.35%	49.65%	
Total	295	259	554

Note. Participants are excluded due to missing data.

[1]Pearson Chi-Square = 6.15, $p < .05$ (i.e., there is a significant difference in the distribution of men and women in the included vs. the excluded group).

Table 2.

Subgroup Distribution in the Included and Excluded Groups.

	Child protective service clients	Patients in drug addiction treatment	Patients in psychiatric treatment	Incarcerated	Total
Excluded group	27	16	59	28	130
% of total	33.75%	12.60%	24.69%	25.69%	23.42%
% of excluded group[1]	20.77%	12.31%	45.38%	21.54%	
Included group	53	111	180	81	425
% of total	66.25%	87.40%	75.31%	74.31%	76.58%
% of included group[1]	12.47%	26.12%	45.35%	19.06%	
Total	80	127	239	109	555

Note. Participants are excluded due to missing data. [1]Pearson Chi-Square = 13.58, $p < .01$ (i.e., there is a significant difference in the distribution of subgroup membership in the included vs. the excluded group).

Table 3.

Mean Score Differences (CTQ-SF) between Included and Excluded Groups.

	Excluded (n = 114)		Included (n = 425)			
	M	*SD*	*M*	*SD*	*t*-test	*df*
CTQ-SF	1.45	1.43	2.44	1.67	-6.31**	203.25

Note. Participants are excluded due to missing data. * p < .05.
** p <.01. Separate t-tests used throughout the analyses.

Table 4.

Mean Score Differences (SCL-90-R GSI) between the Included and the Excluded Groups.

	Excluded (n = 127)		Included (n = 425)			
	M	*SD*	*M*	*SD*	*t*-test	*df*
SCL-90-R GSI	.83	.63	1.19	.73	-5.47	236.21

Note. Participants are excluded due to missing data.

Table 5.

Gender Differences on CTQ-SF and Childhood Sexual Abuse (CSA).

	Female (n = 211)		Male (n = 214)			
	M	*SD*	*M*	*SD*	*t*-test	*df*
Sum CTQ-SF	2.51	1.80	2.37	1.53	.85	410.35
CSA (CTQ-SF)	9.37	6.69	6.89	4.05	4.63**	344.83

Note. * p < .05. ** p <.01. Separate t-tests used throughout the analyses.

Table 6.

Mean Symptom Scores, Standard Deviations, t-tests, and Effect Sizes for Participants in the "Trauma" and "No Trauma" Groups.

		"Trauma" (n=357)		"No Trauma" (n = 68)					
		M	*SD*	*M*	*SD*	*t*-test	*df*	Hedges' *g*	ES
All	IES-R GSI	1.70	1.00	1.19	.82	4.44**	108.38	.51	M
(N = 425)	SCL-90-R GSI	1.26	.75	.83	.51	5.93**	129.02	.61	M
	ERP	1.30	.80	.97	.69	3.56**	105.41	.42	S
	IP	1.33	.89	.76	.55	6.99**	143.72	.67	M
Male	IES-R GSI	1.55	.99	1.02	.80	3.06**	34.50	.55	M
(N = 214)	SCL-90-R GSI	1.13	.74	.92	.55	1.68	36.22	.29	S
	ERP	1.13	.77	1.14	.78	-.09	30.55	-.02	No
	IP	1.21	.89	.89	.59	2.41	40.32	.37	S
Female	IES-R GSI	1.86	.99	1.30	.83	3.78**	76.04	.58	M
(N = 211)	SCL-90-R GSI	1.41	.74	.77	.48	6.91**	98.53	.92	L
	ERP	1.50	.79	.87	.61	5.65**	82.70	.82	L
	IP	1.46	.87	.68	.52	7.48**	110.57	.95	L

Note. "Trauma" indicates low to severe scores on Childhood Trauma Questionnaire – Short Form (CTQ-SF), according to the CTQ-SF manual. ** $p < .01$, * $p < .05$. Separate t-tests used throughout the analyses.

Table 7.

Mean Symptom Scores, Standard Deviations, t-tests, and Effect Sizes for Participants in the "Without Sexual Abuse" and "With Sexual Abuse" Groups.

		"With sexual abuse" (n = 156)		"Without sexual abuse" (n = 201)					
		M	*SD*	*M*	*SD*	*t*-test	*df*	Cohen's *d*	ES
All	IES-R GSI	2.01	.98	1.45	.95	5.44**	327.62	.58	M
(N = 357)	SCL-90-R GSI	1.47	.79	1.10	.68	4.66**	306.03	.50	M
	ERP	1.49	.84	1.15	.75	4.01**	313.45	.43	S
	IP	1.55	.94	1.16	.80	4.17**	303.19	.45	S
Male	IES-R GSI	1.87	1.04	1.40	.92	3.01**	108.85	.48	S
(n= 189)	SCL-90-R GSI	1.42	.87	.98	.62	3.57**	92.04	.58	M
	ERP	1.42	.90	.98	.66	3.40**	94.09	.55	M
	IP	1.57	1.06	1.04	.74	3.52**	91.22	.58	M
Female	IES-R GSI	2.11	.93	1.54	.99	3.79**	152.30	.59	M
(n = 168)	SCL-90-R GSI	1.50	.73	1.30	.73	1.73	156.85	.27	S
	ERP	1.54	.79	1.44	.79	.82	155.90	.13	S
	IP	1.54	.87	1.35	.87	1.37	157.04	.21	S

Note. * p < .05. ** p < .01. Separate t-tests used throughout the analyses.

Table 8.

Mean Symptom Scores, Standard Deviations, and t-tests for the "Female" and "Male" Subgroups.

		Female		Male			
		M	*SD*	*M*	*SD*	*t*-test	*df*
All	IES-R GSI	1.74	.99	1.49	.98	2.63**	422.78
(*N* = 425)	SCL-90-R GSI	1.28	.74	1.10	.72	2.53*	422.26
	ERP	1.37	.80	1.12	.77	3.12**	422.04
	IP	1.30	.87	1.18	.86	1.47	422.82
With trauma	IES-R GSI	1.86	.99	1.55	.99	2.88**	349.34
(*n* = 357)	SCL-90-R GSI	1.41	.74	1.13	.74	3.66**	349.92
	ERP	1.50	.77	1.13	.77	4.42**	347.85
	IP	1.46	.89	1.21	.89	2.61**	351.55
Without trauma	IES-R GSI	1.30	.83	1.02	.80	1.37	51.93
(*n* = 68)	SCL-90-R GSI	.77	.48	.92	.55	-1.13	44.76
	ERP	.87	.61	1.14	.78	-1.51	40.92
	IP	.68	.52	.89	.58	-1.48	45.33

Mean Symptom Scores, Standard Deviations, and t-tests for the "Female" and "Male" Subgroups, continued.

		Female		Male			
		M	*SD*	*M*	*SD*	*t*-test	*df*
With sexual abuse	IES-R GSI	1.54	.87	1.57	1.06	-.18	113.07
(*n* = 156)	SCL-90-R GSI	1.54	.79	1.42	.90	.85	118.48
	ERP	1.50	.73	1.42	.87	.58	115.22
	IP	2.11	.93	1.87	1.04	1.45	120.26
Without sexual abuse	IES-R GSI	1.35	.87	1.04	.74	2.60*	133.92
(*n* = 201)	SCL-90-R GSI	1.44	.80	.98	.66	4.13**	130.61
	ERP	1.30	.73	.98	.62	3.15**	132.43
	IP	1.54	.99	1.40	.92	.99	144.36

Note. * $p < .05$. ** $p < .01$. Separate t-tests used throughout the analyses.

Figures

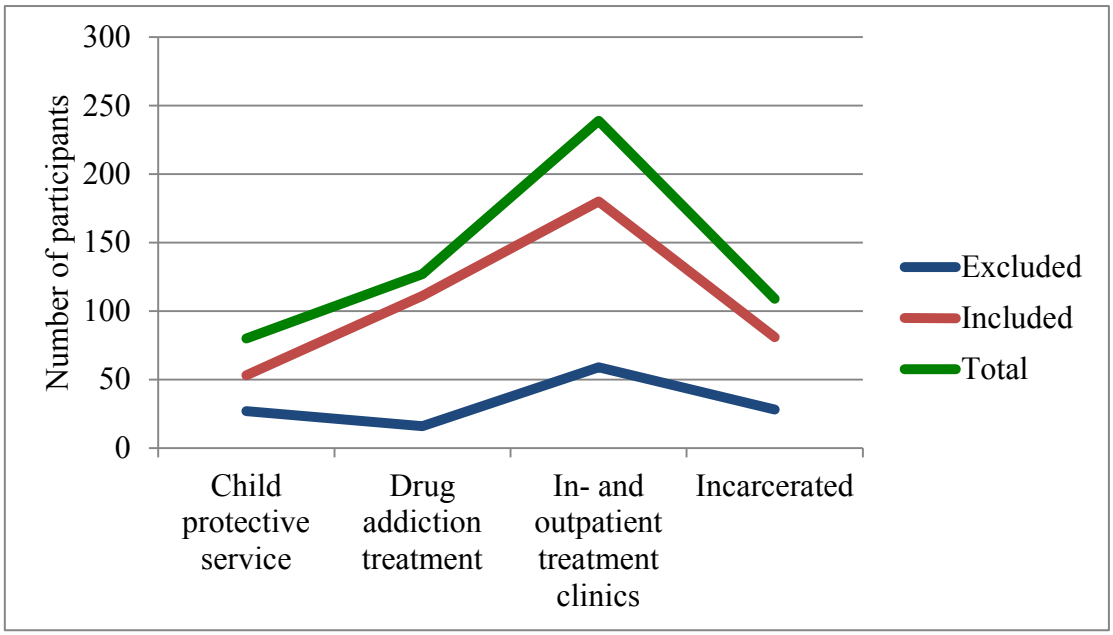

Figure 1. Distribution of Excluded and Included Participants in each Subgroup. Participants are excluded due to missing data.

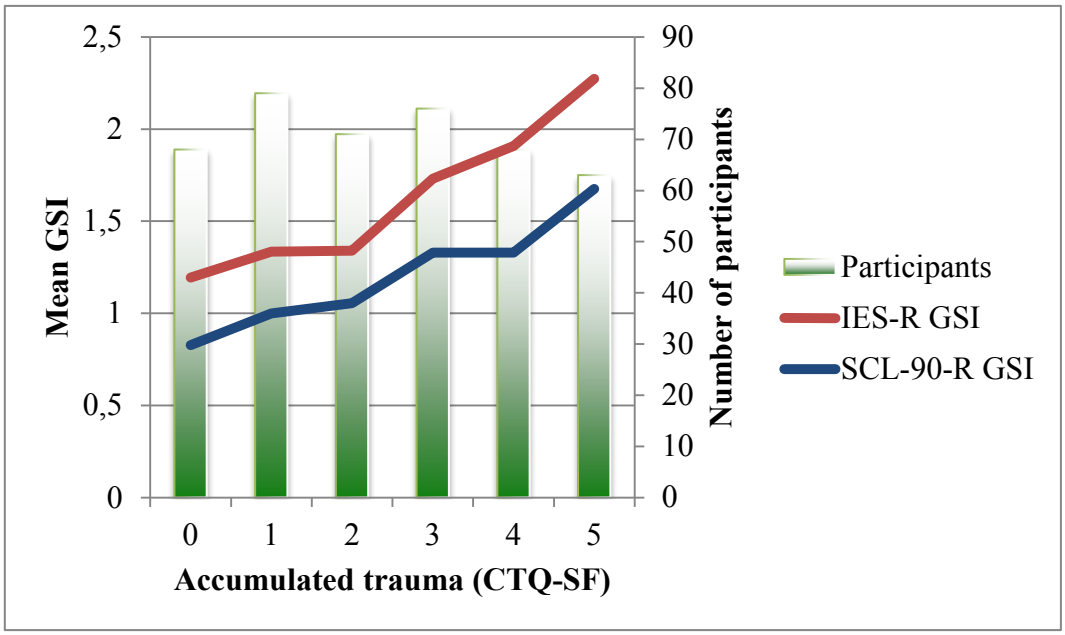

Figure 2. Number of Participants, Average Strength of IES-R and SCL-90-R GSIs, Related to the Number of Reported Trauma Types as Measured by the CTQ-SF.

Appendices

Appendix 1.

List of terms and abbreviations

Accumulated trauma:	More than one type of potentially traumatic event
PTE:	Potentially traumatic event
CSA:	Childhood sexual abuse
CTQ-SF:	Childhood Trauma Questionnaire – Short Form
GPD:	General psychological distress
ERP:	Emotion regulation problems (based on SCL-90-R items)
IES-R:	Impact of Event Scale-Revised
IP:	Interpersonal problems (based on SCL-90-R items)
SCL-90-R:	Symptom Checklist-90-Revised
Serial trauma:	Repeated incidents of childhood potentially traumatic events, regardless of type
PTS:	Specific posttraumatic stress symptoms
Symptom complexity:	Number and severity of trauma related symptomatology

Appendix 2.

Physical abuse
PA9: Hit hard enough to see doctor
PA10: Hit hard enough to leave bruises
PA11: Punished with hard objects
PA14: Was physically abused
PA15: Hit badly enough to be noticed
Emotional abuse
EA3: Called names by family
EA8: Parents wished subject was never born
EA13: Family said hurtful things
EA16: Felt hated by family
EA22: Was emotionally abuse
Sexual abuse
SA18: Was touched sexually
SA19: Hurt if subject did not do something sexual
SA20: Made to do sexual things
SA21: Was molested
SA24: Was sexually abused
Physical neglect
PN1: Not enough to eat
PN2: Got taken care of (R)
PN4: Parents were high or drunk
PN6: Wore dirty clothes
PN23: Got taken to a doctor (R)
Emotional neglect
EN5: Made to feel important (R)
EN7: Felt loved (R)
EN12: Was looked out for (R)
EN17: Family felt close (R)
EN25: Family was source of strength (R)

Referanse:

Thombs, B. D., Lewis, C.,Bernstein, D. P., Medrano, M. A., Hatch, J. P. (2007). An evaluation of the measurement equivalence of the Childhood Trauma Questionnaire—Short Form across gender and race in a sample of drug-abusing adults. Journal of Psychosomatic Research 63, 391– 398.

Appendix 3.

- The designated numbers of the 12 item included in the symptom category *Emotion Regulation Problems* (ERP), based on Symptom Checklist-90-Revised (SCL-90-R):
    - 2, 11, 20, 23, 24, 30, 31, 33, 63, 67, 72, 81
- The designated numbers of the 13 item included in the symptom category *Interpersonal Problems* (IP), based on SCL-90-R:
    - 6, 8, 18, 21, 34, 36, 37, 41, 61, 69, 74, 83, 88
- The items included in each symptom category, based on the SCL-90-R:
    - **Emotion Regulation Problems (ERP):**
        - Nervousness or shakiness inside
        - Feeling easily annoyed or irritated
        - Crying easily
        - Suddenly scared for no reason
        - Temper outburst you cannot control
        - Feeling blue
        - Worry too much about things
        - Feeling fearful
        - Urges to beat someone
        - Urges to break things
        - Spells of terror or panic
        - Shouting and throwing things
    - **Interpersonal Problems (IP):**
        - Feeling critical of others
        - Others to blame for troubles
        - Feeling people cannot be trusted
        - Shy with opposite sex
        - Feelings easily hurt
        - Others don't understand you
        - People unfriendly
        - Feeling inferior
        - Feeling uneasy when watched
        - Feeling self-conscious
        - Frequent arguments
        - People will take advantage
        - Never feeling close to another

Reference: Derogatis, L. R. (1992). *SCL-90-R Administration and Scoring & Procedures Manual*. Towson, MD: Clinical Psychometric Research, Inc.