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By

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# Childhood Sexual Abuse and Comorbid PTSD and Depression in Impoverished Women

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Posttraumatic stress disorder (PTSD) and depression frequently co-occur, with the comorbid condition sometimes referred to as posttraumatic depression. Previous research has suggested that posttraumatic depression in women with a history of childhood sexual abuse (CSA) is associated with more severe psychiatric symptoms, impaired functioning, and suicidality, and it is thus imperative to study the specific elements that may contribute to the severity of this condition. The current study sought to determine the role of negative trauma-related cognitions and PTSD symptom clusters on depression severity for CSA survivors. Data were part of a larger archival database from a randomized controlled trial of the Trauma Recovery and Empowerment Model (TREM) group intervention. All participants in the current study ( $N = 235$ ) were female survivors of CSA and suffered from comorbid PTSD and depression, and the majority (88%) were African American. At the time of the study, most of these women were unemployed and many were either homeless, lived with family or friends, or lived independently in their own rented home. Participants were given a full battery of measures by means of an interview, including assessments of demographics and trauma history, recent trauma, levels of depressive symptoms, PTSD symptom cluster severity, and negative distorted beliefs following trauma. Results indicated that a more extensive history of CSA was associated with more severe PTSD symptoms. Women who experienced limited CSA reported less severe PTSD symptoms than women who experienced both moderate and severe CSA. There were no significant differences in PTSD and depressive symptoms

between moderate and severe CSA. As predicted, there were strong correlations between trauma-related cognition subscales, PTSD symptom clusters, and depression severity.

Recent trauma was associated with negative thoughts about the world, but counter to prediction, was not related to PTSD and depression severity. A multiple regression analysis indicated that trauma-related negative cognitions about the self and more severe PTSD arousal and avoidant symptoms significantly predicted depression severity.

Findings suggest that although many factors may impact the severity of depression, it is important to focus on trauma-related negative cognitions about the self, PTSD arousal, and PTSD avoidant symptoms when treating female survivors of CSA.

This dissertation by Lillian A. De Petrillo fulfills the dissertation requirements for the doctoral degree in Psychology approved by Diane B. Arnkoff, Ph.D., as Director, and by Carol R. Glass, Ph.D., and Roger D. Fallot, Ph.D. as Readers.

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## **Chapter 1: Concurrent Posttraumatic Stress Disorder and Major Depression: Implications for Diagnosis and Treatment**

Depression and posttraumatic stress disorder (PTSD) are similar in that both often result from cumulative stress, whether due to a single uncontrollable traumatic event or a series of stressful events. The comorbid condition of PTSD and depression elicits questions regarding the complex relationship between these two disorders when both diagnoses occur simultaneously. What do we know about what happens when one disorder develops first? How does the initial diagnosis contribute to the development of the other? What happens when these diagnoses develop in tandem? Can the comorbidity best be described as its own diagnosis, posttraumatic depression (e.g., Allen, 2001, Sher, 2004), or as two diagnoses that exist together? It is imperative to note individual client characteristics as well as risk and protective factors to better determine the etiology. A greater understanding of the relationship and etiology behind the comorbidity can inform modifications to diagnosis and treatment, maximizing their effectiveness for this severe condition.

The inclusion of PTSD in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III*; American Psychiatric Association [APA], 1980) was prompted by the high prevalence of Vietnam veterans seeking treatment (APA, 1980). Exposure to a traumatic event is the first criterion delineated in the *DSM* fourth edition text revision (*DSM-IV-TR*; APA, 2000), followed by three clusters of symptoms associated with PTSD, which include arousal, avoidance, and reexperiencing. Extensive



findings about negative mood in PTSD have led to the inclusion of a criterion for “[n]egative alterations in cognitions and mood” in the proposed 5<sup>th</sup> edition of the *DSM* (*DSM-V*; APA, 2010b). Major Depressive Disorder (MDD) is characterized by pervasive low mood, diminished ability to experience pleasure, and loss of interest in an individual’s formerly pleasurable activities (APA, 2000), with some overlap in symptoms between MDD and PTSD as defined in *DSM-IV*, and even more overlap in the proposed *DSM-V*.

Although first conceptualized as a consequence of combat, PTSD has increasingly been diagnosed as well in female victims of physical or sexual abuse, who are more likely to develop PTSD than men (Tolin & Foa, 2006). Even though exposed to fewer traumatic events, women experience more events that have a high probability of leading to PTSD, such as rape, sexual abuse, and physical abuse in both childhood and adulthood (Tolin & Foa, 2006). In turn, women with PTSD are at risk for depression, substance abuse, revictimization, and poor overall health (Foa, Rothbaum, Riggs, & Murdock, 1991).

Roughly 50% of those with PTSD report a history of major depression in their lifetime (Kessler, Berglund, Demler, Jin, & Walkers, 2005). This finding exists for both children and adults, and there is often a history of child maltreatment (Sher, 2004; Thabet, Abed, & Vostanis, 2004). In addition, a large epidemiological study found that those with both depression and PTSD exhibit more severe impairment in social and occupational functioning compared to those with only one diagnosis (Mollica et al., 1999). Depressed individuals with comorbid PTSD also experience an earlier first

hospitalization and a greater number of hospitalizations (Sher, 2004). The presence of both depression and PTSD increases the risk of suicidal behavior, and individuals with both disorders are at highest risk of attempted and completed suicide (Oquendo et al., 2003). Due to the severity and high rates of both PTSD and depression, attention should be paid to understanding the relationship of these disorders.

### **Relationship Between PTSD and Depression**

The current review examines the relationship between PTSD and depression by addressing the circumstances under which these disorders develop. In the first scenario, PTSD is the initial disorder and depression later develops and in the second instance, depression is the initial disorder and PTSD is the subsequent diagnosis. In a third scenario, the two disorders develop in tandem and neither can be considered the initial diagnosis. It is important to recognize psychobiological and environmental factors, as well as differences between individuals that may predict the course for a particular person. The goal of the current review is to evaluate the research findings on the circumstances under which these diagnoses develop.

#### **PTSD as the Initial Disorder**

Both theory and empirical literature support the hypothesis that when PTSD develops first, depression may then develop as a reaction or subsequent diagnosis. The National Comorbidity Survey found that PTSD is more likely to precede than follow depression (Kessler, McGonagle et al., 1995). Depression can develop subsequent to a disabling anxiety disorder, including PTSD (Blanchard, Buckley, Hickling, & Taylor, 1998).

A history of traumatic exposure is a risk factor for both PTSD and depression, where survivors of trauma experience more severe symptoms of both disorders (e.g., Pribor & Dinwiddie, 1992). Several researchers have found that following trauma, PTSD often develops as the initial psychiatric consequence and depression as a subsequent diagnosis (e.g., Bleich, Koslowsky, Dolev, & Lerer, 1997).

Allen (2001) proposed the conservation-withdrawal hypothesis, that after exposure to trauma and development of PTSD symptoms, people feel fearful and depression initially develops to serve an adaptive function. As depressed individuals withdraw from the environment and thus avoid environmental stressors, they feel safe and can conserve resources and energy until the stress subsides. Dubovsky (1997) argues that this conservation is mediated by the parasympathetic nervous system, which counterbalances the fight-or-flight reaction of the sympathetic nervous system. Although partially adaptive, depression is also maladaptive because instead of retreating and resting, those with depression are often fidgety, restless, and have difficulty sleeping (Dubovsky, 1997). While disengaging from difficult situations, the depressed person will subsequently become “stuck” and both PTSD and depressive symptoms will intensify.

Subsequently, Allen (2005) modified his conservation-withdrawal hypothesis and posited that when the flight or fight stress response is not an option, depression may arise as an involuntary subordination strategy in an attempt to avoid additional trauma. As in the PTSD avoidant symptom cluster, this strategy forces the individual into submission and is aimed to protect him or her from additional trauma and danger (Allen, 2005). Allen’s theory, while intriguing, has yet to be empirically evaluated.

Zlotnick, Warshaw, Shea, and Keller (1997) found that significantly more inpatients with PTSD than participants without PTSD suffered from depression, experienced longer-lasting episodes and more frequent recurrences of depression, and had higher rates of hospitalization. Results from this study support the claim that trauma and subsequent PTSD serve a dual relationship with depression by being associated with increased risk of chronic depression as well as exacerbating the symptoms of depression.

In a study involving female rape victims, PTSD was a strong mediator between trauma and depression, such that more severe PTSD following a traumatic event led to more severe depression (Boudreaux, Kilpatrick, Resnick, Best, & Saunders, 1998). A follow-up study with trauma survivors also found that after 3.5 years, 21% of those with PTSD at the initial assessment showed depression, compared to only 5% of those without PTSD (Breslau et al., 1998). Studies such as these imply that exposure to trauma, without a subsequent PTSD diagnosis, has not been shown to significantly predict depression.

**PTSD symptomatology and depression severity.** When reviewing certain *DSM-IV* PTSD symptom clusters, it becomes clear that having PTSD and feeling chronic fear may contribute to depression severity. Allen (2005) suggests that there is a connection between PTSD and the theory of learned helplessness (Seligman & Beagley, 1975). By inducing shocks in lab animals, Seligman and Beagley (1975) found that repeated and inescapable stress induced diminished drive and motivation to escape the shocks, which they termed “learned helplessness” and associated with depression. Similarly, repeated and inescapable trauma induces fear and subsequent PTSD. The intrusive and reexperiencing symptoms of PTSD serve to keep the trauma salient and act as continued

uncontrollable stress. The inescapable and distressing memories of the trauma tend to be recurrent, evoking the same feelings of fear, horror, helplessness and depression.

Additionally, those who suffer from the severe avoidance and/or hypervigilant symptoms of PTSD may feel fearful of others and avoid social situations. PTSD can also make a person more irritable and emotionally unavailable to others (Allen, 2001).

Relationship problems may ensue, which can additionally lead to depression.

Furthermore, intrusive rumination about the traumatic event is a common symptom of PTSD and may foster emotional disorders. Kuyken and Brewin (1995) found that in those with a history of depression and trauma, greater levels of avoidant and intrusive symptoms of PTSD were associated with more severe depression. These authors argue that avoidance and rumination keep the negative memories salient, thus intensifying depressive symptoms.

The arousal symptoms of PTSD may also indirectly produce or intensify depression. In a study with female college students, Risser, Hetzel-Riggin, Thomsen, and McCanne (2006) found that the arousal symptoms of PTSD mediated the relationship between childhood sexual abuse (CSA) severity and adult sexual assault severity, thereby playing a role in revictimization. These researchers argue that arousal symptoms may interfere with a survivor's judgment in risky situations, thus inhibiting safety cues and putting him or her at risk for revictimization. Repeated trauma is a chronic stressor, and like other repeated and uncontrollable stressors, can lead to feelings of hopelessness, which according to Abramson, Metalsky, and Alloy (1989) are precursors to depression.

**PTSD neurophysiological activity contributing to depression severity.** There is evidence that PTSD impacts neurophysiological activity, particularly in the hippocampus and in the amygdala. The amygdala plays a role in experiencing emotional intensity and also aids in forming and storing emotional memories in the hippocampus. Ganzel, Casey, Glover, Voss, and Temple (2007) conducted a study with healthy adults who witnessed the traumatic events of September 11th, 2001. Participants' bilateral amygdala activity was measured by functional magnetic imaging while they viewed fearful or calm faces. Results indicated that for the fearful faces, significantly higher bilateral amygdala activity was experienced by individuals who were closer to the World Trade Center compared to individuals who were further from the attacks.

Because the amygdala is the emotional fear response area of the brain, Ganzel and colleagues argued that exposure to traumatic events was associated with an anxious emotional response 4 years later. This heightened amygdala activity may help to explain a more intense response to everyday stresses, demands, and emotional stimuli, which in turn may make an individual more sensitive to the negative impacts of stress, leading to anger, depressed mood, and eventually major depression.

Thus theories as well as empirical findings support PTSD as the initial and underlying disorder in comorbid PTSD and depression. The symptoms of PTSD can play a role in the etiology and maintenance of depression, which in some individuals may prove to be a reactive response to and consequence of PTSD. Whether this role is direct and explained by theories such as conservation-withdrawal and learned helplessness, or

indirect through the specific symptom clusters of PTSD, is still unknown and requires further investigation.

### **Depression as the Initial Disorder**

Conversely, for some individuals depression may be the initial disorder, with PTSD as a subsequent diagnosis. Although Breslau et al. (1998) found that PTSD more often precedes depression, they also found that in some cases depression precedes PTSD. A patient may suffer from an underlying depression and then, after experiencing trauma, be more vulnerable to developing PTSD. Alternatively, a trauma survivor may develop depression in response to the trauma and the depressive symptoms may then foster PTSD symptomatology.

When comparing female rape survivors who developed PTSD to those who did not, Davidson, Tupler, Wilson, and Connor (1998) found that more than half of those with PTSD had a history of major depression, whereas less than a quarter of those without PTSD suffered from depression in the past. In addition, these authors found that a family history of depression was strongly associated with developing PTSD, whereas there was a weak association between a family history of anxiety and PTSD. There are several reasons for the vulnerability to PTSD, which can best be explained through cognitive and neurophysiological models of major depression.

**Depressive cognitions contributing to the development of PTSD.** The cognitive model of depression posits that depressed individuals focus on the negative aspects of the self, world, and future (A. T. Beck, 1976). Stress and trauma are thus internalized and personalized, putting a more negative meaning on the trauma, and the

meaning and interpretation of trauma in turn is important for the development of PTSD. Shalev and colleagues (1998) found that PTSD did not often develop in victims of accident-related trauma. These authors argued that PTSD was less likely a consequence when people made fewer internalized negative appraisals about the trauma. On the other hand, they found that those with depression had an increased likelihood of developing a recurrence of depression as well as PTSD following trauma. Those with depression applied their depressive cognitions to the trauma, interfering with recovery. One of the new criteria of PTSD in the proposed *DSM-V* includes negative cognitions such as exaggerated negative expectations and distorted self-blame.

The meaning behind trauma is especially salient for women with a history of physical and sexual assault, because the abuse is such a personally violating experience (Fallot, 1997). Following trauma, a survivor's basic assumptions that she is worthy and that the world is safe, good, and meaningful are challenged (Janoff-Bulman, 1992). A survivor may then feel vulnerable and if she is already depressed at the time of the abuse, a more negative interpretation may be given to the trauma, putting her at higher risk for developing PTSD.

Thus depressed mood may act as a risk factor for developing trauma-related cognitions and maladaptive appraisals of the event, which then can lead to PTSD. Trauma-related appraisals are similar to depressive cognitions and include guilt, self-blame, and negative attributions about one's self and the world (Cieslak, Benight, & Lehman, 2008). Foa and Rothbaum (1998) conceptualized these thoughts as signs of negative schemas that the world is extremely dangerous and that the self is incompetent.



Encoded memories and negative interpretations of the trauma may also play a role in the development of PTSD (Brewin, Dalgleish, & Joseph, 1996). Although Ehrling, Ehlers, and Glucksman (2006) found an association between PTSD attributions and PTSD diagnosis, limited additional research exists investigating the relationship between depression and trauma-related cognitions, warranting further study.

**Depression neurophysiological activity contributing to PTSD severity.** There is evidence that the neurophysiological properties of major depression may also play a role in predisposing an individual to develop PTSD. Some depressed individuals have a functional deficiency in synaptic dopamine, a monoamine associated with reward and reinforcement (Meyer et al., 2006). Research has revealed that depressed individuals who have altered dopamine functioning may be more prone to developing negative cognitions, thus suggesting that dopamine plays a role in the cognitive symptoms of depression (see Nieoullon & Coquerel, 2003). These results contribute additional evidence that trauma-related cognitions may come more naturally to a trauma survivor with depression than to a survivor without depression who has normal dopamine functioning.

There appears to be a genetic and/or environmental vulnerability, as well, in that a family history of depression predicts PTSD in trauma survivors (Cleare, 2004). The physiological profile of some depressed individuals also appears to make people vulnerable to developing PTSD. Those with depression often exhibit hemispheric asymmetry with reduced left frontal lobe activity, which is involved in feeling positive emotions and interest, and intact right frontal lobe activity, which is involved in sadness and distress (Lefaucheur et al., 2008). By utilizing transcranial magnetic stimulation,

Lefaucheur and colleagues (2008) found that depressed participants show a reduced excitability and activation in the left hemisphere compared to healthy controls. It can be inferred that depressed individuals, who more readily experience sadness and distress as opposed to positive emotions, are in a more vulnerable state to suffer from additional disorders.

Research on cognitive as well as neurophysiological models of depression suggests that depression is the underlying disorder and serves as a risk factor, making an individual more vulnerable to developing PTSD after experiencing a traumatic event. Although persuasive, the research on this perspective remains limited, justifying continued investigation to better determine if and when depression is the initial disorder and how it contributes the development of comorbid PTSD.

### **Posttraumatic Depression as a Separate Diagnosis**

Family history records illuminate a shared liability of both depression and PTSD (Davidson et al., 1998). A review by Sher (2004) strongly suggests that individuals diagnosed with both depression and PTSD differ both biologically and clinically from individuals with either diagnosis alone. These individuals have distinct psychobiological traits and their condition can be termed posttraumatic mood disorder or posttraumatic depression.

**Neurophysiological activity of posttraumatic depression.** To fully understand the possibility of a separate diagnosis, it is imperative to review the probable biochemical imbalances associated with posttraumatic depression. The hypothalamic-pituitary-adrenal (HPA) axis system may play a role in the development of both PTSD and depression. The

HPA axis includes the hypothalamus, pituitary gland, and adrenal glands, which together govern a multitude of hormonal activations in the body (Meyers & Quenzer, 2005). In particular, when there is danger, the hypothalamus secretes a hormone vital for rousing the body, called corticotropin-releasing factor (CRF). CRF stimulates the pituitary gland to secrete adrenocorticotrophic hormone (ACTH). ACTH, in turn, travels throughout the body and activates the adrenal glands, triggering the release of cortisol, a hormone responsible for the “fight or flight” stress response. The hippocampus is involved in the feedback loop and inhibits this system by decreasing cortisol production (Meyers & Quenzer, 2005).

PTSD is a stress-related disorder that often increases the sensitivity of the HPA axis (Yehuda, Halligan, & Grossman, 2001). Studies have consistently shown lower levels of basal cortisol in participants with PTSD across all types of traumas, including in childhood and adulthood, and across genders (Yehuda et al., 2001). With lower levels of cortisol, sensitivity of cortisol receptors increases. When a stressful event occurs, cortisol is released and individuals with PTSD exhibit heightened reactions due to this exaggerated cortisol response and hypersensitivity of the HPA axis.

The HPA pathway and stress response in PTSD is different from that of major depression. Studies have shown that contrary to PTSD, participants suffering from depression are more prone to higher levels of cortisol and decreased responsiveness of the glucocorticoid receptors, such as CRF receptors (Allen, 2001). For depressed individuals, this system may be dysregulated, resulting in a subsequent increase in CRF. An increase in CRF leads to a decrease in the number of glucocorticoid receptors,

including those in the hippocampus, such that the hippocampus functions abnormally and fails to adequately inhibit the HPA axis, thus leading to persistent secretion of cortisol (Mervaala et al., 2000; Sheline, Wang, Gado, Csernansky, & Vannier, 1996; Steffens et al., 2000). The hippocampus, which is involved in learning, memory, and fear conditioning, shrinks in size and cortisol levels remain irregular (Yehuda, 2002). This in turn desensitizes the HPA axis, making it less responsive to the environment. Anhedonia, apathy, and social isolation are results of this decreased sensitivity. With concurrent PTSD and depression, the PTSD neurophysiological profile frequently predominates. Depressed participants with PTSD have shown the lowest level of plasma cortisol when compared to healthy volunteers and to depressed participants without PTSD, who showed the highest levels of cortisol (Oquendo et al., 2003).

Research has shown that in other biological systems as well, the comorbidity of PTSD and depression exhibits distinct features. The sleep patterns of individuals with this comorbid condition differ from those with PTSD alone. Woodward, Friedman, and Bliwise (1996) found that Vietnam veteran inpatients with both disorders have less slow wave sleep than PTSD patients without depression, thus impacting the quality of their sleep. Although elements of the sleep architecture of participants with both disorders were similar to those with unipolar depression, their REM sleep did not resemble the cycle associated with depression. Those with the comorbid condition also display higher cerebrospinal fluid homovanillic acid levels when compared to depressed participants without PTSD and healthy volunteers (Sher et al., 2005). Additionally, people with concurrent PTSD and major depression show a lower affinity of alpha-2 adrenoreceptors

and higher plasma tyrosine available to the brain, which is not the same as with PTSD alone (Maes et al., 1999).

**Posttraumatic depression symptomatology.** Clinically, posttraumatic depression is associated with three to five times more severe depressive and PTSD symptoms as well as higher levels of global impairment when compared to depression alone and PTSD alone (Karam, 1997; Mintz, Mintz, Arruda, & Hwang, 1992; Mollica et al., 1999; Shalev et al., 1998). In addition, the presence of PTSD alters the clinical expression of depression. PTSD among depressed combat veterans was associated with more of the melancholic-depression subtype and these individuals exhibited more emotional numbing symptom severity and feelings of guilt, compared to depressed veterans without PTSD (Constans, Lenhoff, & McCarthy, 1997). Experiencing trauma affects the presentation of depressive symptoms, thus manifesting itself in a depression with PTSD-like symptoms, including reexperiencing, avoidance, and arousal. Trauma therefore appears to be a moderator of symptomatology in those predisposed to major depression, influencing the manifestation of depression (Davidson et al., 1998).

The biological as well as clinical profile of those with PTSD and depression suggests that this comorbid condition could perhaps be considered a separate disorder. This is especially true if following trauma, depression and posttraumatic symptoms develop in tandem and are equally debilitating (Winokur, 1990). Categorizing the dual-diagnosis as posttraumatic depression or posttraumatic mood disorder in future editions of the *DSM* may help guide assessment and treatment for those individuals whose symptoms best fit this description. Although the *DSM-V* task force is not planning to

include this diagnosis in the next DSM edition, they are proposing to include a dimensional assessment (APA, 2010a). This cross-cutting assessment would address severity of symptoms that may be relevant across disorders (e.g., depression, anxiety, anger, sleep disturbance). If responses to the initial level 1 assessment items suggest that any domain is “clinically significant,” level 2 questions would then pursue a more thorough assessment of that specific domain. As stated earlier, the task force is also proposing to add a criterion that includes negative alterations in mood and cognitions to the PTSD diagnosis (APA, 2010b). A dimensional assessment and this additional criterion may lead to a better measure of symptom severity and provide more detailed information for the diagnosis and treatment of comorbid PTSD and depression.

### **Factors Predicting the Pattern of Comorbidity**

Several theories explaining possible predictors of the relationship between PTSD and depression, including risk and protective factors, have been proposed. In some individuals, a stronger heritability to developing depression rather than PTSD may result in depression as the initial disorder (Shalev et al., 1998). If there is a genetic predisposition, a trauma survivor may more likely suffer from an underlying depression that puts him or her at heightened risk of developing PTSD symptoms. In their study of rape survivors, Davidson and colleagues (1998) found that of those who developed PTSD, over half had past major depression or a family history of major depression, compared to fewer than a quarter of those who did not develop PTSD. Additional risk factors for both PTSD and depression include pre-existing anxiety and female gender (Kessler et al., 2005).

**Environmental Risk Factors**

Breslau, Davis, Peterson, and Schultz (2000) found that comorbid PTSD and depression may result from similar vulnerabilities. Allen (2001) hypothesizes that there are two categories of risk factors that, when combined with life stress, provoke the concurrent condition. The first category is negative environmental factors, which include adversity in childhood and negative interpersonal relationships. A strong association has been found between childhood maltreatment (including physical abuse, sexual assault, parental apathy, and neglect) and both depression and PTSD (e.g., Kessler & Magee, 1993; Rutter & Maughan, 1997). Childhood sexual abuse and psychological abuse have been found to be the strongest risk factors for adult depression and additional trauma (Bifulco, Moran, Burns, Bunn, & Stanford, 2002). Bifulco and colleagues (2002) argue that childhood abuse disrupts attachment, which makes the child more vulnerable to psychological distress later in life. Some evidence suggests that physiological changes result from adversity early in life, which may increase the risk of developing mental health problems in childhood and/or adulthood. Childhood maltreatment may sensitize the HPA axis and this sensitization and HPA hyperreactivity may contribute to an impaired ability to develop supportive relationships and high self-esteem, making individuals vulnerable to adult stress, PTSD, and depression (e.g., Ito, Teicher, Glod & Ackerman, 1998; Putnam & Trickett, 1997).

The type of trauma is another environmental factor that may play a role in predicting the pattern of comorbidity, in that those who experience certain traumatic experiences may be at higher risk of exhibiting severe PTSD symptoms that lead to or

maintain depression. Boudreaux, Kilpatrick, Resnick, Best, and Saunders (1998) found that PTSD mediated the relationship between rape experienced as a child and depression in adulthood. Furthermore, Shalev and colleagues (1998) found that PTSD did not increase the risk of developing depression in those who instead experienced accident-related trauma, thus suggesting that trauma type may be associated with comorbid PTSD and depression. The nature and extent of trauma, specifically the severity, duration, and proximity of trauma, have also been found to be risk factors for this concurrent condition (APA, 2000). If injuries were incurred and if the trauma involved sexual assault, especially in childhood, the risk of developing PTSD and depression increases (M. Harris & Landis, 1997).

### **Psychological Risk Factors**

The second category of risk factors posited by Allen (2001) for comorbid PTSD and depression is negative psychological factors, including low self-esteem, self-blame, feeling powerless and worthless, and negative appraisals of the event. One of the proposed PTSD criteria in the *DSM-V* includes several of these factors, such as self-blame and persistent negative expectations of the world and the self. These factors increase the likelihood of responding to trauma with defeat, hopelessness, and self-hatred, thus provoking depression. These depressive symptoms may then play a role in predisposing the individual to develop PTSD following additional trauma (Brown, 1998).

Harvey and Yehuda (1999) suggest that an individual's perceptions and appraisals of the traumatic event will determine whether PTSD and depression develop. Maladaptive perceptions and appraisals, such as perceived ongoing threat, loss,



permanent change, mental defeat and confusion, and perceived negative responses of others, are determined by how an individual reacts to trauma (Dunmore, Clark, & Ehlers, 1999). In addition, Harvey and Yehuda (1999) argue that following trauma, subjective appraisals mediate between risk factors and the presence and severity of psychopathology. The more severe the risk factors, the less severe the traumatic event needs to be for the individual to experience trauma-related appraisals and to subsequently develop PTSD and depression.

### **Protective Factors and Resilience**

An individual who functions at a level higher than expected given the individual's stressors can be considered resilient, and roughly 10% of those exposed to adverse events are resilient to psychological distress (Higgins, 1994). Protective factors enhance resiliency and increase the resistance to risk. Certain factors and characteristics have been found to foster resilience to developing comorbid PTSD and depression following traumatic experiences. Social support, religious practices, good school experience, an organized home environment, and an individual's own strength including positive affect, hopefulness, friendliness, feeling autonomy and competence, and self-esteem have been found to serve as protective factors (Brady & Back, 2005; Hollifield et al., 2008; Rutter, 1999). Characteristics of those who are resilient to trauma include above average intelligence, creativity, higher economic level than family of origin, strong self-esteem, being empathetically attuned, having close relationships, and strong political and social activism (see Agaibi, 2005). Many of these attributes (e.g., social support, strong self-

esteem, spirituality, religion, and creativity) have also been shown to enhance resiliency to depression (Dumont & Provost, 1999; Fowler & Hill, 2004; Hollifield et al., 2008).

Social support has been shown to be protective as well as foster resilience to developing both depression and PTSD. The significance of supportive parental or alternative caregivers shows the importance of early attachment in childhood (e.g., Allen, 2001; Denny, Clark, Fleming, & Wall, 2004). Overstreet and Dempsey (1999) found that maternal support moderates the relationship between exposure to community violence in children ages 10-15 and depressive symptoms. In adolescence, having positive caregivers, and in adulthood maintaining good adult love relationships such as an effective marital partner, have been found to be protective (Higgins, 1994; Rutter, 1999). Social and political activism enhance resiliency because they allow trauma survivors to "get by giving." Furthermore, by sharing their experience and working to better the situation for others, they have the opportunity to support other trauma survivors (Higgins, 1994).

Faith and religious affiliation help a survivor find meaning, order, and significance. Faith allows people who have experienced trauma to believe that they will be stronger and feel pride in being chosen to beat the odds and prevail. Whether within a formal religious affiliation or as a personal spirituality, it has been found that faith encourages resilience and is also a protective factor. Fowler and Hill (2004) reported that social support and spirituality foster resilience, especially in African American women survivors of partner abuse. Faith can be explored through music, activities, cherished items, and other possessions that provide strength and comfort. Finally, hope and the

conviction that they deserve love have been found to be characteristic of trauma survivors who are more resilient against comorbid PTSD and depression (Higgins, 1994).

To more thoroughly understand the relationship between PTSD and depression, it is important to investigate further the individual characteristics as well as risk and protective factors playing a part in the etiology of the comorbid diagnosis. It will be especially beneficial to determine how to screen for and/or prevent these risk factors and how to promote protective factors, thus fostering resilience in an individual at risk of developing the comorbid condition.

### **Posttraumatic Depression: Diagnosis and Treatment**

#### **Symptoms and Diagnosis**

Careful assessment and awareness of the complex relationship between these two disorders is crucial in diagnosis. The clinical symptom profile of individuals with PTSD and depression is often similar to a melancholic depression and presents with early awakening, weight loss, poor appetite, anhedonia, and agitation (Gotlib & Hammen, 2008). The *DSM-IV-TR* has an overlap in symptoms of PTSD and depression, which can lead to inaccurate diagnosis. Bleich and colleagues (1997) found that in war veterans the symptom overlap was attributed more to a PTSD diagnosis than to depression, where those who had both diagnoses were more often diagnosed solely with PTSD. On the other hand, in community mental health, women often get diagnosed with an affective disorder or schizophrenia when in fact they also have PTSD (M. Harris & Landis, 1997). To deal with the symptom overlap, researchers (e.g., Bleich et al., 1997) may omit or

control for certain common symptoms, such as anhedonia and restlessness, in their measures or data analysis.

### **Treatment of Posttraumatic Depression**

Similar to careful considerations in diagnosis, treatment must be targeted to best fit the individual needs of those suffering from both PTSD and depression. The concurrent diagnosis is often harder to treat and has a poorer prognosis. Due to the complex nature and relationship of depression and PTSD, psychotherapy can be a frustrating process for the patient. Important treatment goals, including increasing pleasurable activities, socializing, thinking positively, and reducing stress are especially difficult for clients with posttraumatic depression (Allen, 2001).

Unfortunately, treatment of comorbid PTSD and depression has received limited empirical attention, leaving significant gaps and insufficient conclusions about the potential benefits of various treatment approaches. Much of the literature to date focuses on depressed war veterans with PTSD. Therapies for treating PTSD and depression in African American women have recently gained attention, but there are still too few controlled studies (Millet, 2001). Therefore, the following is a select review of outcome studies targeted to treat PTSD that also assessed depression and showed improvements in both disorders, suggesting that they may be beneficial for treating the comorbid condition. Several interventions including cognitive, behavioral and exposure techniques, social support, and integrated approaches have been implemented. As an adjunct to therapy or as the sole intervention, medication has also been utilized to treat comorbid PTSD and depression.

**Cognitive and behavioral techniques.** Mueser and Taylor (2001) explain that there are two main goals in using cognitive and behavioral techniques for treating trauma survivors, many of whom suffer from concurrent PTSD and depression. First, the client's fear network must be explored and negative cognitions, behaviors, and emotional responses must be identified. These maladaptive responses are ways in which the client attempts to avoid and cope with the trauma experienced and may include hypervigilance, aggression, anger, and irritability. The second goal is to target these dysfunctional cognitions and behaviors and to modify them by teaching beneficial coping behaviors as well as behavioral activation (Mueser & Taylor, 2001).

Foa and colleagues (1991) also use exposure to the avoided traumatic event to activate the fear network. The therapist teaches techniques such as relaxation as well as cognitive restructuring to challenge clients' negative self-talk so that they cope better with their fear reaction. Once clients are able to implement these coping skills, they are exposed to the feared event in great detail, including a description of all sensations.

Research reveals the benefits of utilizing cognitive as well as behavioral techniques in treating comorbid PTSD and depression. In evaluating the effectiveness of cognitive therapy (CT) for PTSD related to terrorism and violence, Duffy, Gillespie, and Clark (2007) found significant improvements in PTSD and depression symptoms, as well as improvements in social and occupational functioning. A review describing the development of CT for PTSD concluded that many clients treated with CT experience decreased PTSD and depression symptom severity (Ehlers, Clark, Hackman, McManus, & Fennell, 2005). Better outcome was related to greater changes in dysfunctional post-

traumatic cognitions. In a comprehensive cognitive-behavioral therapy (CBT) program, Mueser and colleagues (2008) found that despite severe symptoms, vulnerability to hospitalizations, suicidal thinking, and psychosis, clients who were assigned to CBT experienced significantly more improvements in PTSD symptoms and negative trauma-related thoughts than did clients who did not receive CBT.

Exposure therapy has been used both for survivors of combat and rape (Mueser & Taylor, 2001; Nishith, Hearst, Mueser, & Foa, 1995). In their work with victims of rape, Foa and colleagues (1991) found that these techniques were effective in decreasing anxiety, depression, and PTSD symptoms. Numerous well-controlled studies have shown the benefits of prolonged exposure (PE) in treating PTSD, depression, anger, and anxiety in trauma survivors (e.g., Hembree, Rauch, & Foa, 2003; Kazi, Freud, & Ironson, 2008; Soares, 2007).

Although often beneficial, PE may in fact be detrimental for some clients and may increase treatment avoidance in some women with PTSD and depression (e.g., Ehlers et al., 2004; Millet, 2001). A review by Schottenbauer, Glass, Arnkoff, Tendick, and Gray (2008) found mixed results in the literature, concluding that dropout and non-response rates for exposure alone were either equal to or greater than other treatments, including cognitive therapy (Resick, Nishith, Weaver, Astin, & Feuer, 2002; Tarrier et al., 1999), eye movement desensitization and reprocessing (Lee, Gavriel, Drummond, Richards, & Greenwald, 2002), stress inoculation therapy (Foa et al., 1991) and exposure in combination with other treatments (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998). Furthermore, exposure therapy may be more effective for treating the anxiety-

provoking fear response than for treating depressive guilt and shame (Foa & McNally, 1996). Clinicians have thus sought to minimize using this technique as the sole intervention for treating comorbid depression and PTSD and instead to include exposure as part of a comprehensive cognitive-behavioral or interpersonal integrative treatment package. One such comprehensive intervention, created by Kubany (1998), is specifically targeted to treat trauma-related guilt and depressive feelings. This intervention is based on empowerment and self-advocacy and includes techniques such as systematic exposure homework, stress management and relaxation, cognitive training, and psychoeducation. Investigations of this approach have shown remitted PTSD and substantial reductions in depressive guilt and increases in self-esteem (Kubany, Hill, & Owens, 2003; Kubany et al., 2004). The treatment manual has since been modified and subsequent research is warranted to determine its efficacy in treating PTSD and depression (Kubany & Ralston, 2008).

**Social support.** Promoting healthy interpersonal relationships and encouraging clients to connect better with the supportive people in their lives is important when treating comorbid PTSD and depression. Intimate relationships are potentially the greatest support and may moderate the relationship between CSA and adult depression, preventing severe psychopathology (Whiffen, Judd, & Aude, 1999). Foa, Keane, and Friedman (2000) describe the importance of teaching effective interpersonal skills because social support is important in coping; friends and family members are integral supports in treatment and eventual healing.

It is important to be aware of various hazards of interpersonal relationships when working with clients with comorbid PTSD and depression. T.O. Harris (1992) explains that intimate relationships may also be the sources of intense conflict and re-traumatization. If the relationship is unsupportive (e.g., lack of availability, abusive, divided loyalties, hard heartedness, inappropriate response), the risk of depression dramatically increases.

Clients with comorbid PTSD and depression may need healthy relationships but have a low capacity to obtain and benefit from them. Their feelings of anger, bitterness, mistrust, sadness, and depression alienate them from sources of support by adopting a passive and self-defeating stance that may fuel others' sense of helplessness (Silver, Wortman, & Crofton, 1990). The individual reaches for support, feels let down, and in response feels utter despair, which intensifies depression. The therapist must consider both the benefit and harm of interpersonal relationships when treating comorbid PTSD and depression.

Social skills training (SST) is a cognitive-behavioral approach that helps trauma survivors obtain and benefit from positive social supports by teaching clients how to function better in everyday social situations (e.g. Fallot & Harris, 2002). In a CBT treatment package, SST has been shown to be beneficial for trauma recovery (Stowe & Harris, 2001). By improving their social skills, clients may raise their self-esteem and increase the likelihood that others will respond favorably to them. The assumption is that this in turn will increase their interactions with positive social supports. Foa and colleagues (2000) conclude that teaching effective interpersonal skills results in



significant reductions in overall mental health symptoms including posttraumatic stress symptoms, depressive symptoms, as well as reductions in alcohol and other drug use.

Although social support and cognitive and behavioral techniques, such as exposure and SST, have shown great clinical promise in treating comorbid PTSD and depression, no single modality or technique can meet the individual needs of each client, making integrative treatment packages a promising option.

**Integrated treatments.** Integrated treatments can be defined in a variety of ways. The intervention may include a combination of techniques, including CBT (e.g., psychoeducation, SST, cognitive restructuring, relaxation, and positive problem-solving skills) as well as psychodynamic interventions and additional approaches such as mindfulness training, religious and spiritual resources, and art therapy. Another definition of integrated treatments denotes interventions that simultaneously address trauma, mental health, and substance abuse (SAMHSA, 2000). One suggested integrated intervention fitting both definitions of integration is the Trauma Recovery and Empowerment Model (TREM; Fallot & Harris, 2002). Specifically designed for comorbidity, TREM is a 24-28-session group-based intervention for women led only by female co-leaders. The group setting has been found to be an influential source of beneficial change in treating clients with a variety of disorders, including PTSD and depression (e.g., Bass et al., 2006; G. J. Beck, Coffey, Foy, Keane, & Blanchard, 2009; Gelhart, Hand-Ronga, & King, 2002; Kanas, 2005). It is an environment where women can share their traumatic experiences and learn that they are not alone. In this group modality, Harris and colleagues used components of SST to help female survivors of abuse change their social behavior

patterns (Fallot & Harris, 2002). This process enhances social support while decreasing feelings of guilt, stigma, and shame associated with the abuse (Millet, 2001). By also utilizing supportive therapy, CBT, strength-based approaches, and empowerment in a group setting, the TREM intervention targets both trauma and substance abuse in women with PTSD and comorbid mood or psychotic disorders.

Preliminary evaluations with 14 women showed beneficial effects of TREM on measures of dissociation, somatization, depression, anxiety, and symptoms of crime-related PTSD (Fallot & Harris, 2002). Additional evaluations also revealed decreases in anxiety and impairments in concentration and decision-making for women who received TREM.

A quasi-experimental study sought to investigate differences between women who received TREM and those who received treatment as usual (SAMHSA, 2000). There were significant differences in PTSD symptoms and alcohol addiction severity, where those in the TREM intervention experienced more improvement. Additional empirical support for TREM showed decreases in drug and alcohol addiction severity and reduced psychological and trauma-related symptoms (Amaro et al., 2007; Fallot, McHugo, & Harris, 2005; Toussaint, VanDeMark, Bornemann, & Graeber, 2007). Currently, two separate ongoing randomized control trials are being conducted testing the efficacy of women's TREM and TREM for men, many of whom are suffering from posttraumatic depression (McHugo, Fallot, & Harris, 2004). Further research should examine the effects of various treatment packages for those at most risk for severe posttraumatic depression.

**Medication.** Selective serotonin reuptake inhibitors (SSRIs), specifically fluoxetine (Prozac), paroxetine (Paxil), and sertraline (Zoloft) have been the most extensively researched and utilized medications for treating both PTSD and depression. Fluoxetine has been shown to be highly effective for treating depression, and is especially helpful for combat veterans as well as civilians with PTSD (Martenyi, Brown, Zhang, Prakash, & Koke, 2002; Shay, 1995). Paroxetine is another SSRI approved by the FDA in 2001 for the management of PTSD and has also been indicated for the treatment of depression. Marshall, Beebe, Oldham, and Zaninelli (2001) found that paroxetine was effective for both men and women who had experienced a variety of traumas. Compared to a placebo group, participants receiving this drug showed significant improvement on all three PTSD symptom clusters, comorbid depression, and social and occupational functioning.

Sertraline was approved by the Food and Drug Administration in 1991 and has been used to treat depression, as well as panic disorder, social anxiety disorder, and obsessive-compulsive disorder. More recently, research has confirmed the efficacy of sertraline for chronic PTSD, where the mean duration of PTSD was 12 years and the traumatic events were primarily physical or sexual assault (Brady et al., 2000). Further research is warranted to determine the effectiveness of sertraline and the other SSRIs in treating comorbid depression and PTSD.

### **Conclusions and Future Directions**

Comorbid PTSD and depression is more severe than either diagnosis alone, often associated with symptom severity as well as higher levels of global impairment and

higher rates of substance abuse, revictimization, and suicidality (Karam, 1997; Mintz et al., 1992; Mollica et al., 1999; Shalev et al., 1998). Individuals diagnosed with comorbid PTSD and depression may experience differences in the development and clinical presentation of the comorbid condition. Some trauma survivors may experience PTSD as the initial disorder and develop depression as a subsequent diagnosis, others may suffer from depression, which leads to PTSD, and a third explanation is a separate psychobiological condition that can be termed posttraumatic depression.

Psychological and pharmacological treatments of comorbid depression and PTSD can produce a reduction in symptoms and distress. Appropriate and effective treatments, though, cannot be carried out without a more thorough understanding and accurate diagnosis of this condition. Therefore, there is a pressing need to improve recognition and awareness of this comorbidity to help determine if one disorder is the initial diagnosis, which may contribute to the development of the subsequent disorder for any given individual. Shalev et al. (1998) assessed the occurrence and intensity of comorbid PTSD and depression at 1 week, 1 month, and 4 months in trauma survivors and concluded that both disorders increase distress and must be targeted early in treatment. Future studies of comorbid PTSD and depression should continue to examine the associations between the two disorders over longer periods of time, conducting assessments at 6 month or yearly intervals. A prospective study that reliably assesses trauma exposure, the onset and resolution of PTSD and depression, and individual client variables may help clarify the circumstances under which one disorder may lead to the development of the other disorder. Longitudinal studies could seek to determine pre-trauma exposure factors and

biological markers. Looking more specifically at the role of the interplay between PTSD symptom clusters and trauma-related cognitions would also serve to better clarify this relationship both cross-sectionally and over time. A path analytic model that tests direct and indirect effects of trauma severity, PTSD symptom clusters, trauma-related cognitions, and depression severity may lead to a fuller understanding of the pathways leading to the comorbid condition.

Further, more valid and reliable assessment instruments need to be developed. Disentangling PTSD and depressive symptoms is difficult, calling for careful considerations in assessment and diagnosis. More accurate and valid measures must be devised to best capture this comorbid condition, taking into account symptom overlap so as to more accurately differentiate between the two disorders. Finally, randomized controlled trials must be conducted to determine the most effective treatments. For example, by utilizing reliable measures of trauma severity, onset and offset of the disorders, and ratings of specific symptom severity, the effectiveness of integrated interventions for treating PTSD and depression in at risk samples, such as Iraqi war veterans or children and adolescents with a history of abuse, can be investigated.

In conclusion, despite much progress, the relationship between the two disorders remains unclear. It is therefore imperative to continue this investigation. Whether depression or PTSD is the initial diagnosis, the comorbid condition is associated with greater symptom severity and lower levels of functioning. The dimensional ratings contemplated by the *DSM-V* task force could help obtain a more comprehensive assessment of the comorbid disorder. In general, the probable revisions for *DSM-V* are

strikingly consistent with the topic of the current review. The added PTSD criterion of negative alterations in mood and cognitions may prove to capture the overlap with depression and will likely motivate further research and improve recognition. A more thorough and comprehensive understanding of this comorbidity may in turn lead to improved treatments and foster prevention of this debilitating condition.

## **Chapter 2: Childhood Sexual Abuse and Comorbid PTSD and Depression in Impoverished Women**

Women with a history of childhood sexual abuse (CSA), defined as unwanted and coerced sexual contact that occurs before age 18 (Finkelhor, 1984), are at increased risk for comorbid posttraumatic stress disorder (PTSD) and major depressive disorder (Cortina & Kubiak, 2005). It has been suggested that impoverished women are at greatest risk of developing these comorbid disorders because they are more often exposed to events (e.g., rape, sexual abuse, and physical abuse) that have the highest probability of leading to PTSD (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999). Comorbid PTSD and depression is more severe than either diagnosis alone and is associated with more severe impairment in social and occupational functioning as well as higher rates of substance abuse, revictimization, and suicidality (Karam, 1997; Mintz, Mintz, Arruda, & Hwang, 1992; Mollica et al., 1999; Shalev et al., 1998). The relationship between depression and PTSD has been examined (e.g., Allen, 2001; Sher, 2004), but it is necessary to further study the specific elements connecting these two disorders. The current investigation sought to explore the relationship between PTSD and depression in CSA survivors by examining the associations among negative trauma-related cognitions, PTSD symptom clusters, and the severity of depressive symptoms.

Growing empirical literature suggests that when compared to physical abuse and adult trauma, CSA may be associated with the greatest severity of adult depression and PTSD, as well as the highest risk for additional trauma (Bifulco et al., 2002; Kessler & Magee, 1993; Rutter & Maughan, 1997). Preliminary evidence exists showing that a

more extensive history of CSA may be associated with psychiatric symptom severity. A more extensive history of CSA, specifically multiple experiences (e.g., Haskell, 2000), longer duration (Arata, 2000), more intrusive types (Arata, 2000), and experiences involving physical force (West, Williams, & Siegel, 2000), has been shown to be associated with increased risk for psychiatric disorders, including PTSD and depression (e.g., Bulik, Prescott, & Kendler, 2001; Putnam, 2003), as well as subsequent re-victimization (e.g., West et al., 2000; Wyatt, Guthrie, & Notgrass, 1992). Therefore, quantifying CSA severity may be necessary in research that examines the aftermath of CSA. For example, Myers and colleagues (2006) sought to understand the role of abuse severity in psychological symptoms and risky sexual behavior in HIV-positive women. They concluded that to determine differential effects on functional outcomes, CSA severity should be measured as a multidimensional construct. By quantifying CSA severity, as limited, moderate, or severe, the current study examined the relation of CSA severity to PTSD and depression as well as to negative trauma-related cognitions and rates of recent trauma.

The most common psychiatric consequence of CSA exposure is PTSD (Breslau, 2001). To help explain this risk of PTSD, studies have shown that maladaptive trauma-related cognitions play a role, including negative appraisals (Harvey & Yehuda, 1999) as well as self-blame and negative attributions about oneself and the world (Cieslak, Benight, & Lehman, 2008). These maladaptive trauma-related cognitions are markedly similar to the negative cognitions that many individuals with depression possess. Female trauma survivors have been found to endorse high levels of trauma-related thoughts of



self-blame and guilt (e.g., Kubany et al., 1995), and trauma-related guilt has been shown to mediate the relationship between traumatic event history and PTSD (Street & Arias, 2001). In a sample of women living in battered-women shelters, Street, Gibson, and Holohan (2005) found that women with more extensive histories of childhood trauma were more likely to feel trauma-related guilt and self-blame after experiencing domestic violence in adulthood. Guilt was indirectly, through the use of avoidant coping strategies, related to increased PTSD symptomatology. Ehring, Ehlers, and Glucksman (2006) also found an association between negative trauma-related attributions and PTSD.

PTSD has also been linked to additional mental health problems including major depression. Roughly 50% of those with PTSD report a history of major depression in their lifetime (Kessler, Berglund, Demler, Jin, & Walkers, 2005). It is thus imperative to examine the relationship between PTSD and depression to determine the mechanisms that may contribute to the comorbid condition. Despite research showing a relationship between negative trauma-related cognitions and PTSD, further supporting evidence is needed to show that maladaptive trauma-related cognitions play a role in the risk of depression. Kaplan and Klinetob (2000) showed that those with higher levels of negative trauma-related cognitions were more prone to develop severe psychopathology, including PTSD and depression, and were more resistant to treatment. Ehlers and Clark (2000) propose that survivors who make excessively negative appraisals of the trauma and experience a disturbance in autobiographical memory feel a sense of continued and serious threat. They are unable to see the trauma as a time-limited event and instead overgeneralize, feeling currently in danger. A range of negative emotions, such as fear,

guilt, and sadness, may be a consequence of maladaptive appraisals of the event, increasing the risk of the development and maintenance of major depression (Alloy et al., 2000).

Some studies have found that exposure to trauma in and of itself without a subsequent PTSD diagnosis has not been found to significantly predict depression (e.g., Boudreaux, Kilpatrick, Resnick, Best, & Saunders, 1998; Breslau et al., 1998). Rather, it is PTSD that may be linked to the development of depression following CSA. The Diagnostic and Statistical Manual of Mental Disorders IV- Text Revision (DSM-IV-TR; American Psychiatric Association [APA], 2000) categorizes the symptoms of PTSD into three main clusters: reexperiencing, arousal, and avoidance/numbing. Reexperiencing is characterized by rethinking and reliving the trauma, thus keeping the inescapable and distressing memories of the trauma salient. This intrusive rumination may evoke the same feelings of fear and horror, subsequently leading to feelings of hopelessness, impacting mood and exacerbating depressive symptoms (Kuyken & Brewin, 1995; Nolen-Hoeksema & Morrow, 1991). Kuyken and Brewin (1995) found that increased levels of intrusive symptoms of PTSD were associated with more severe depression. These authors draw attention to how rumination keeps the negative memories salient, thus intensifying depressive symptoms.

PTSD arousal symptoms include physiological stimulation, hypervigilance, chronic suspicion, and irritability. These symptoms may impair judgment, leading to the misinterpretation of danger and difficulty in distinguishing between real and false threats (Elliot, 1997; Foa, Riggs, & Gershuny, 1995). Impaired responsiveness to trauma-related

cues decreases survivors' ability to recognize danger, putting them at risk for revictimization. Risser, Hetzel-Riggin, Thomsen, and McCanne (2006) found that arousal symptoms mediated the relationship between CSA severity and adult sexual assault, thereby playing a role in revictimization. Revictimization and recent trauma may act as a chronic negative event inducing feelings of hopelessness and diminished motivation, which are associated with depression (Abramson, Metalsky, & Alloy, 1989).

Disengagement from the thoughts, feelings, and behaviors associated with trauma are at the core of the avoidant and numbing symptoms of PTSD. Through behavioral avoidance, individuals may inadvertently fail to recognize dangerous situations, thus increasing the risk for repeated trauma and chronic stress and exacerbating depressive symptoms (Arata, 2000; Risser et al., 2006). Additionally, while aiming to avoid elements of the trauma, PTSD sufferers may isolate themselves from others and their environment. Diminished interpersonal contact and disengagement in pleasurable activities may result, which are associated with major depression (APA, 2000; Constans, Lenhoff, & McCarthy, 2004). Avoiding affect and emotional numbing often result in a build-up of anxiety and feelings such as guilt and self-hate, which are diagnostic criteria of major depression (APA, 2000; Foa et al., 1995).

There is considerable evidence that following a traumatic event, both PTSD and depression may develop and are strongly associated, but the psychological mechanisms linking these two disorders remain unclear. The present study is the most ambitious attempt to date to investigate the intricate relationship between PTSD and depression in impoverished women by examining the effects of negative trauma-related cognitions,

PTSD symptom clusters, and recent trauma on levels of depression symptoms. The goals of the present study were threefold: (1) to examine the differences among CSA severity groups (limited, moderate, and severe) on reports of specific negative trauma-related cognitions, PTSD symptom clusters, depression severity, and rates of recent trauma, to determine if more severe CSA is associated with higher levels of post-traumatic symptoms and more severe negative trauma-related cognitions, specifically more self-blame and negative thoughts about one's self; (2) to learn the specific associations among negative trauma-related cognitions, PTSD symptoms, depression severity, and recent trauma, predicting that higher levels of maladaptive trauma-related cognitions would be associated with more severe PTSD and depression symptoms and that PTSD symptom clusters would also be associated with depression severity; and (3) to include negative trauma-related cognitions and PTSD symptom clusters in a model to predict depression severity.

## **Method**

### **Participants**

Participants were 235 women ranging in age from 19 to 60 years ( $M = 40.89$ ) from the Washington DC and Baltimore metropolitan areas, all with a history of CSA. Women in the study met the criteria for a *DSM-IV-TR* Axis I disorder. Additionally, all participants had a *DSM-IV-TR* Axis I diagnosis of PTSD with a symptom severity score of 21 or higher on the Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997), as well as an additional diagnosis of schizophrenia, schizoaffective

disorder, bipolar disorder, or major depression. The majority of women reported a history of alcohol and/or substance abuse, and roughly a third disclosed current use.

The sample consisted of impoverished women. At the time of the study interviews, 48 were homeless and lived on the streets or in a shelter, 2 lived in an institution like a hospital or jail, 35 lived in a supervised residence, 69 lived independently in their own rented apartment or home, and 81 lived with family or friends. Most ( $n = 203$ ) were unemployed, although 29 worked part or full time and 3 participants did not give a response. Many participants did not have a high school degree ( $n = 101$ ), 82 had graduated from high school or obtained a GED, 38 attended at least some college, 5 had an associates degree, 8 had a bachelors degree, and 1 had a graduate degree. At the time of the study, 20 women were married, 90 were divorced, separated, or widowed, and 125 had never married. The majority ( $n = 202$ ) had children. Participants were primarily African American ( $n = 206$ ), with the remainder Caucasian ( $n = 23$ ), Hispanic ( $n = 3$ ), and other ( $n = 3$ ).<sup>1</sup>

### *Procedure*

Data for this study were part of a larger archival database of 275 women who participated in a randomized controlled trial of the Trauma Recovery and Empowerment Model (TREM) group intervention (Harris & The Community Connections Trauma Work Group, 1998), a 4-year study funded by the National Institute of Mental Health. Participants were recruited from new enrollees at two community mental health centers, Community Connections in Washington, DC and the North Baltimore Center in

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<sup>1</sup> Because most participants in the study were African American data analyses were also conducted for this subgroup alone. All meaningful findings were the same as for the entire sample.

Baltimore, MD. Case managers informed their clients of the study and interested participants were referred to the site coordinator, who further discussed the study and administered informed consent (see Appendix A). Initial screening involved the Structured Clinical Interview for DSM-IV diagnostic interview (SCID; First, Spitzer, Gibbon, & Williams, 1996) and the PDS. Excluded from the study were girls under 18 years old and those unable to provide informed consent.

Once the initial screening was completed, eligible participants were enrolled and given a full battery of measures by means of an interview, including assessments of demographics and trauma history, levels of depressive symptoms, and negative trauma-related beliefs. All interviewers received substantial training and supervision to be able to maintain standardization of all of the measures. Participants received \$30 compensation for completing the interview. The vast majority of women in the larger dataset (85.5%) had experienced CSA and were thus included in the current study.

### *Measures*

**Structured Clinical Interview for DSM-IV (SCID).** This structured clinical interview (First et al., 1996) assesses lifetime and/or current *DSM-IV* Axis I disorders. Good reliability (Zanarini et al., 2000) and validity (Shear et al., 2000) have been found for both current and lifetime diagnoses (Williams et al., 1992). In the current study the SCID interviews were utilized to detect the presence of depression and PTSD, and were conducted by highly trained research assistants and clinicians on staff at each site.

**Posttraumatic Diagnostic Scale (PDS).** The PDS (Foa et al., 1997; see Appendix B) both determines a PTSD diagnosis and measures the severity of each of the

17 cardinal symptoms of PTSD based on *DSM-IV-TR* criteria. Items are rated from 0 (Not at all or only one time) to 3 (5 or more times a week/almost always). Symptom intensity and frequency scores are added to obtain a total score reflecting PTSD symptom severity, where higher scores indicate more severe psychopathology. Subscales are organized into the three PTSD symptom clusters: reexperiencing, arousal, and avoidance. The instructions for the PDS used in the present study ask respondents to answer the items in reference to their worst experience of interpersonal abuse. The PDS is a well-validated and reliable measure that correlates highly with the SCID (Foa & Tolin, 2000). Due to computer errors, data from 28 women on the PDS were unavailable for use in the final analyses.

**Client demographics and legal history.** Adapted from the Uniform Client Data Inventory (Tessler & Goldman, 1982), this measure asks participants for demographics such as age, marital status, and ethnicity as well as residential, employment, and educational information (Appendix C). This questionnaire also assesses any involvement with child protective services or the legal system including current arrests and nights spent in jail.

**Modified Life Stressor Checklist-Revised (MLSC-R).** The MLSC-R is a measure assessing lifetime and current experience (within the past 6 months) of 33 stressful and traumatic life events (McHugo, Caspi et al., 2005; based on the LSC-R, Wolfe & Kimmerling, 1997; Appendix D). Nine items ask about interpersonal violence, including physical and sexual abuse, and contain follow-up probes asking age of onset, frequency, and current exposure. Data from the Women, Co-Occurring Disorders, and

Violence Study (McHugo, Kammerer et al., 2005) show good validity as well as strong test-retest reliability for the MLSC-R. By utilizing the MLSC-R, the current study assessed CSA severity along three dimensions; type of CSA (Myers et al., 2006), age of first occurrence (Zink, Klesges, Stevens & Decker, 2008), and frequency of CSA (Myers et al., 2006). To determine recent trauma, 29 items were summed that assess interpersonal abuse experienced within the past 6 months, such as physical abuse, sexual abuse and witnessing harm to another individual.

**Patient Health Questionnaire 9 (PHQ-9).** The PHQ-9 (Kroenke, Spitzer, & Williams, 2001; see Appendix E) is the depression subtest of the Patient Health Questionnaire (PHQ), which was based on the PRIME-MD (Spitzer, Kroenke, & Williams, 1999). The 9 items assess the severity of depression symptoms based on *DSM-IV* criteria, and are rated from 0 (Not at all) to 3 (Nearly every day). A 10th item was added for the larger study to assess whether these depressive symptoms interfered with work, at home, or in their relationships and is rated from 0 (Not at all difficult) to 3 (Extremely difficult). Studies have shown that the PHQ-9 has good criterion and construct validity, as well as good test-retest reliability and internal consistency (Kroenke, Spitzer, & Williams, 2002; Lowe, Kroenke, Herzog, & Grafe, 2004). Due to data management errors, PHQ-9 scores were unavailable for use in the final analyses for nine women.

**Posttraumatic Cognitions Inventory (PTCI).** The PTCI (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Appendix F) is designed to assess possible thought distortions following a traumatic event (e.g., the abuse happened because of the way I acted; people



can't be trusted; I feel dead inside; nothing good can happen to me any more). Items are rated on a scale from 1 (Totally disagree) to 7 (Totally agree), and there are three subscales: negative cognitions about one's self, negative cognitions about the world, and self-blame (Foa et al., 1999). Several of these items have depressive overtones and are similar to depressive cognitions. The PTCI has been shown to have good reliability and validity (Foa et al., 1999; Saylers et al., 2001). The negative self subscale score for two participants, the negative world subscale score for one participant, and the self-blame subscale score for six participants were missing and not included in the final analysis.

## **Results**

### *Descriptive Statistics*

All participants ( $N = 235$ ) reported a history of CSA as determined by the MLSC-R (McHuggo, Caspi, et al., 2005). Ninety-four percent ( $n = 222$ ) reported sexual assault, such as touching and fondling. Forty-seven of these 222 women reported the first occurrence before age 5, 103 between ages 6 and 10, 40 women between ages 11 and 13, and 32 between ages 14 and 17. Of these 222 survivors, 19 reported one occurrence, 71 were fondled "a few times," 130 were sexually assaulted "a lot" before age 18, and 2 participants refused to answer the question.

Seventy percent ( $n = 165$ ) of the study participants reported being raped as a child. Of those survivors, 18 reported first being raped before the age of 5, 65 between ages 6 and 10, 30 between ages 11 and 13, and 52 participants between ages 14 and 17. Before age 18, 28 of these 165 women were raped once, 57 were raped “a few times,” and 80 were raped “a lot.”

The average score on the PHQ-9, which determines depression severity, was 16.88. This would be classified as moderately severe depression according to the cutoff for clinical categories described by Kroenke et al. (2001). The average score on the PDS, measuring PTSD symptom severity, was 36.86, which is slightly higher than scores for previous samples diagnosed with PTSD (Foa et al., 1997). There were no significant differences between study sites on any measures and therefore the two sites were combined for further analysis. Table 1 displays mean values of the trauma-related and depression variables for the total sample as well as the means and  $t$ -scores comparing the two sites.

#### *The Relationship of CSA Severity to PTSD Symptom Severity*

Participants were divided into limited, moderate, and severe CSA groups based on type of abuse (assault or rape), age of first occurrence, and frequency. In the current study, 65 women were classified with limited CSA, defined as touching only that occurred when the child was younger than 18 years old. One hundred women experienced severe CSA, which was defined as being raped more than once with the first occurrence happening when they were younger than 14 years old.

Table 1

*Means for Total Sample and Comparison Sites of Trauma-related and Depression Variables*

Variable	Total Sample	Site		<i>t</i> -value
		CC	NBC	
PTCI total	56.74 (229)	55.88 (147)	58.28 (82)	1.26
PTCI negative self	31.65 (233)	31.04 (151)	32.77 (82)	1.38
PTCI negative world	17.14 (234)	16.96 (152)	17.46 (82)	1.01
PTCI self-blame	8.05 (229)	7.91 (148)	8.31 (81)	.58
PDS total	36.86 (233)	36.43 (153)	37.69 (80)	1.39
PDS arousal	11.90 (231)	11.76 (153)	12.26 (78)	1.32
PDS avoidance	14.94 (231)	14.76 (153)	15.22 (78)	1.01
PDS reexperiencing	10.12 (231)	9.91 (153)	10.28 (78)	.90
PHQ-9	16.88 (226)	16.45 (146)	17.65 (80)	1.48
Recent trauma	13.36 (235)	13.34 (153)	13.40 (82)	.13

*Note.* All *t*-tests were non-significant. CC = Community Connections; NBC = North Baltimore Center; PTCI = Posttraumatic Cognitions Inventory; PDS = Posttraumatic Diagnostic Scale; PHQ-9 = Patient Health Questionnaire 9 (depression subtest). Numbers in parentheses are numbers of participants included in data analysis.

The remaining 70 women were classified as experiencing moderate CSA: being raped once as a child younger than 14 years old or being raped more than once between the ages of 14 and 18.

A series of ANOVAs were conducted on all variables comparing the three CSA severity groups, followed by Bonferroni t-tests when the F was significant (see Table 2). As predicted, a more extensive history of CSA was associated with more severe PTSD symptom severity. Those classified with limited CSA reported significantly less severe PTSD symptomatology when compared to women with severe CSA, and there was a near-significant trend for limited CSA compared to moderate CSA. A significant difference was also found between severity groups in the reexperiencing PDS subscale, such that those with limited CSA reported feeling significantly less severe PTSD reexperiencing symptoms compared to those with both moderate and severe CSA, which did not differ significantly from each other. Contrary to prediction, CSA severity was not associated with more severe negative trauma-related cognitions, including negative cognitions about one's self and self-blame.

Table 2

*PTSD Symptom Cluster Severity, Trauma-Related Cognitions, Depression Severity, and Revictimization by CSA Severity*

	Limited CSA <i>n</i> = 65		Moderate CSA <i>n</i> = 70		Severe CSA <i>n</i> = 100		
Variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>
PDS total	34.80	6.41	37.16	7.13	37.98	5.97	4.85*
Arousal	11.60	2.65	11.87	2.79	12.11	2.81	.60
Reexperiencing	9.07	2.93	10.30	3.04	10.67	2.78	5.55*
Avoidant	14.45	3.51	14.98	3.34	15.22	3.06	1.00
PTCI total	56.48	14.48	57.81	12.96	56.18	14.10	.29
Negative Self	31.23	9.68	32.34	8.25	31.45	9.50	.28
Negative World	16.69	3.68	17.42	3.22	17.23	3.87	.73
Self-Blame	8.25	5.08	8.09	5.75	7.68	4.82	.27
PHQ-9	16.67	5.99	17.31	5.57	16.71	5.96	.27
Recent trauma	13.48	3.59	13.37	3.38	13.28	3.79	.06

*Note.* CSA = Childhood Sexual Abuse; PDS = Posttraumatic Diagnostic Scale; PTCI = Posttraumatic Cognitions Inventory; PHQ-9 = Patient Health Questionnaire 9 (depression subtest). Because of missing data, *df* for the *F* tests range from (2, 204) to (2, 232). \**p* < .01.

*Relationship of Trauma-Related Cognitions to PTSD Symptom Severity and Depression Severity*

Correlations among trauma-related cognition subscales, PTSD symptom cluster severity, depression, and recent trauma are provided in Table 3. As predicted, trauma-related cognition total score as well as negative thoughts about one's self were shown to be positively associated with PDS total score as well as scores on each of the PDS subscales. According to Cohen's (1988) guidelines, the associations with PDS total score were both moderate correlations while the associations with each of the PDS subscales were small. Trauma-related negative thoughts about the world showed a small and positive association with PTSD arousal symptoms but did not correlate significantly with the other two PTSD symptom clusters. Thoughts of self-blame had small but significant positive associations with PDS total score, as well as with PTSD reexperiencing and arousal symptom clusters, but were not significantly related to PTSD avoidant symptoms.

As predicted, the trauma-related cognition total score was shown to be positively associated with depression severity, with a moderate effect size. Furthermore, trauma-related negative thoughts about one's self were positively associated with depression severity, with a moderate to large effect size, whereas negative thoughts about the world had a small but significant association with depression severity. Contrary to prediction, thoughts of self-blame were not related to depression.

Table 3  
Intercorrelations Among Variables

Variable	PDS Total (n = 23)	PDS Reexp (n = 207)	PDS Arousal (n = 207)	PDS Avoidant (n = 207)	PTCI Total (n = 229)	PTCI Neg Self (n = 233)	PTCI Neg World (n = 234)	PTCI Blame (n = 230)	PHQ-9 (n = 226)
PDS Total		.73***	.71***	.73***	.33***	.39***	.11	.13*	.45***
Reexperiencing			.34***	.24***	.25***	.26***	.09	.16*	.17**
Arousal				.27***	.23**	.23**	.15*	.15*	.43***
Avoidant					.25**	.35***	.05	.05	.44***
PTCI Total						.89***	.65***	.67***	.41***
Neg Self							.41***	.33***	.49***
Neg World								.28***	.20**
Self-Blame									.12

Note. PDS = Posttraumatic Diagnostic Scale; PTCI = Posttraumatic Cognitions Inventory; PHQ-9 = Patient Health Questionnaire 9 (depression subtest); Neg = Negative; Reexp = Reexperiencing; Blame = Self-Blame. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### *Relationship between PTSD Symptom Severity and Depression Severity*

As predicted, higher scores on the reexperiencing, avoidant, and arousal subscales of the PDS were associated with higher scores on the PHQ-9, thus showing positive relationships of the three PTSD symptom clusters with depression severity. PTSD reexperiencing symptoms had a small association with depression severity, whereas PTSD avoidant and arousal symptoms had moderate associations.

### *Relationship of Recent Trauma to Trauma-Related Cognitions and Psychopathology Severity*

The rate of recent trauma (within the past 6 months) was found to be positively associated with the PTCI negative thoughts about the world subscale, with a small effect size. Recent trauma was not associated with PTCI total score, PTCI negative thoughts about one's self, or PTCI self-blame, nor to PDS or PHQ-9 scores.

### **Prediction of Depression Severity from both PTSD Symptom Severity and Trauma-Related Cognitions**

Stepwise regressions were performed to predict depression severity from negative trauma-related cognitions (PTCI subscales) and PTSD symptom severity (symptom cluster scores on the PDS). The variables predicting depression severity were explored separately for each CSA severity group as well as for the total sample (see Table 4). For the total sample regression, the best predictor variable for depression severity was PTCI negative thoughts about one's self. This variable, along with PTSD arousal and avoidant subscales, accounted for approximately a third of the variance,  $F(3, 215) = 40.09, p < .001$ ,  $\text{Adj } R^2 = .35$ . Participants who endorsed more negative thoughts about themselves



Table 4

*Stepwise Regressions Predicting Depression Severity from Trauma-Related Cognitions and PTSD Symptom Severity*

	$\beta$	Beta	Adj $R^2$	$F$ change
Total Sample				
PTCI negative self	.22	.34***	.22	62.08***
PDS arousal	.57	.26***	.31	29.53***
PDS avoidant	.41	.23***	.35	14.32***
Limited CSA				
PDS avoidant	.70	.46**	.24	14.47***
PDS arousal	.65	.33*	.33	6.65*
Moderate CSA				
PTCI negative self	.25	.38**	.27	24.40***
PDS arousal	.75	.37**	.37	11.04**
Severe CSA				
PTCI negative self	.19	.30**	.18	20.94***
PDS arousal	.59	.26**	.25	10.54**
PDS avoidant	.40	.20*	.28	4.03*

*Note.* CSA; Childhood Sexual Abuse; PDS = Posttraumatic Diagnostic Scale; PTCI = Posttraumatic Cognitions Inventory.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

and who suffered from more severe PTSD arousal and avoidant symptoms exhibited more severe depression than those with less severe negative trauma-related cognitions and PTSD symptomatology. In the limited CSA severity group, the PDS avoidant and PDS arousal symptom clusters explained a third of the variance,  $F(2, 41) = 11.54, p < .001$ ,  $\text{Adj } R^2 = .33$ , and trauma-related cognitions did not play a significant role.

In the moderate CSA severity group, negative cognitions about one's self and PTSD arousal symptoms accounted for more than a third of the variance,  $F(2, 61) = 19.70, p < .001$ ,  $\text{Adj } R^2 = .37$ . Finally, in the severe CSA group, similar to the total sample, negative cognitions about one's self, PTSD arousal and avoidant symptoms accounted for more than a quarter of the variance in depression severity,  $F(3, 90) = 12.93, p < .001$ ,  $\text{Adj } R^2 = .28$ .

## **Discussion**

Concurrent PTSD and depression is associated with greater symptom severity than either diagnosis alone (Sher, 2004). Therefore, research must be targeted to better understand this comorbid condition, with potential implications for treatment. The present study is noteworthy because it is the first to evaluate specific elements of the comorbid condition in impoverished women with a history of CSA, by investigating the role of negative trauma-related cognitions and PTSD symptom clusters in relation to depression severity.

Results indicated that CSA severity played a role in PTSD symptom severity. As predicted, those who were classified as experiencing limited CSA, when compared to moderate and severe CSA, reported fewer reexperiencing PTSD symptoms as well as

lower levels of total PTSD symptom severity. In the classification system, limited CSA included those who solely experienced touching and fondling, whereas moderate and severe CSA included experiences of rape. Growing evidence suggests that women with more extensive CSA histories, especially those who may have been raped as a child, are at increased risk for psychiatric disorders, including PTSD and depression (e.g., Bulik et al., 2001; Putnam 2003), as well as subsequent re-victimization (e.g., West et al., 2000; Wyatt et al., 1992). Most studies only document if CSA occurred and not the severity of CSA, although some recent studies have investigated the specific dimensions of CSA.

Several significant associations were found among maladaptive trauma-related cognitions, PTSD symptoms, and depression severity, including the predicted relationship between negative trauma-related cognitions and severity of both PTSD symptoms and depression. Negative trauma-related cognitions include: “I feel dead inside,” “My life has been destroyed by the abuse,” “I cannot rely on myself,” and “Nothing good can happen to me anymore.” These thoughts have depressive overtones and are similar to depressive cognitions. Foa and colleagues (1999) argue that negative trauma-related cognitions play a role in both the development and maintenance of PTSD. It can be suggested that while these negative cognitive appraisals of the event, the world, and of oneself maintain PTSD, these cognitions also exacerbate depression by leading to a sense of current arousal and restlessness, shame, irritation, hopelessness, and sadness. Foa et al. (1999) suggest that some trauma survivors view the world as completely dangerous and that one’s self is totally incompetent. After experiencing CSA, they may also perceive permanent negative changes in themselves and an overall feeling of

inadequacy, self-loathing, and alienation (Foa et al., 1999). It can be argued that these thoughts of incompetence and self-hatred may lead to low mood and depressive symptoms. Furthermore, research has shown that trauma-related and depressive cognitions can lead to distractibility, irritation, difficulty concentrating, and rumination (e.g., Moore, 2009; Vasterling, Brailey, Constans, Sutker, 1998). It can be inferred that these symptoms and cognitive difficulties may interfere with recovery, thus exacerbating symptoms of depression and PTSD.

Negative thoughts about the world were found to have a small but significant association with rates of recent trauma. It can be suggested that the more trauma an individual experiences, the more likely he or she will see the world in a negative light. However, this was the only association found with recent trauma; thus results failed to support the hypotheses that current trauma would be related to negative trauma-related cognitions, PTSD symptoms, and depression severity. An explanation for this may be that the current study assessed only recent interpersonal abuse that occurred within the past 6 months and not revictimization, which is repeated trauma occurring over a lifetime. Studies that look at recent trauma are sparse compared to abundant research showing that revictimization is associated with cognitive dysfunction and symptom severity of both PTSD and depression (e.g., Field et al., 2001; Kimerling, Alvarez, Kaminski, & Baumrind, 2007). Future studies should use more comprehensive measures to assess the frequency and intensity of revictimization, such as the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and the Sexual Experiences Survey (Koss, Gidycz, & Winiewski, 1987).

Finally, more severe PTSD reexperiencing, avoidant, and arousal symptom clusters were each associated with more severe depression. One explanation for the strong relationship between PTSD and depression is in the symptom overlap between the two disorders, including symptoms such as difficulty sleeping, irritation, and restlessness. When reviewing the PTSD symptom clusters, it becomes clear that having PTSD and feeling chronic fear may contribute to depression severity. The avoidant component of PTSD includes avoiding situations, people, objects, cognitions and/or emotions associated with the traumatic experience(s). For women who avoid places and people, it can be inferred that depression symptoms intensify due to their isolating themselves from others and their environment. Social support has been shown to decrease depressive symptoms and fosters resilience to developing both depression and PTSD (e.g., Allen, 2001; Denny, Clark, Fleming, & Wall, 2004). By avoiding others and disengaging from activities, a PTSD sufferer does not obtain adequate social supports and often fails to talk about her trauma or her symptoms. Out of fear of others and the environment, she copes alone and her depression may intensify.

Avoiding thoughts about the trauma may also exacerbate depression in survivors of CSA. Research has found that thought suppression may act as a partial mediator between PTSD and depression, where participants with more suppression experience more severe psychiatric symptoms (Rosenthal, Cheavens, Lynch, & Follette, 2006). Thought suppression is a type of experiential avoidance in which a trauma survivor avoids unpleasant internal experiences such as thoughts and feelings (Tull, Gratz, Salters, & Roemer 2004). Tull et al. (2004) found that this form of avoidance predicted more

severe symptoms of depression, somatization, and anxiety. Similar to the current study's findings, Constans et al. (2004) found that the emotional avoidant symptoms of PTSD predicted melancholia and guilt, which they referred to as a depressive subtype of PTSD. It can be argued that avoiding affect associated with the trauma can lead to emotional numbing and dysphoria, which is associated with depression.

Increased general anxiety, often with a sense of chronic threat, hypervigilance, stress, and a heightened startle response, characterizes the PTSD arousal symptoms. Results indicated that participants with greater arousal symptoms suffered from more severe depression. Prior research illustrates this same relationship. Rubacka et al. (2008) found that among women exposed to the World Trade Center attacks, higher arousal scores correlated with persistent depression. Symptoms of depression often include difficulty sleeping, restlessness, agitation, distractability, and difficulty concentrating. As Allen (2005) explains, depression is a chronic high-stress state. These symptoms of depression may intensify for a CSA survivor living in a constant state of anxiety and hypervigilance. PTSD arousal symptoms can also make a person more irritable and emotionally unavailable to others (Allen, 2001). Relationship problems may ensue, which can additionally lead to depression.

Kuyken and Brewin (1995) also found that in those with a history of depression and trauma, greater levels of avoidant and reexperiencing symptoms of PTSD were associated with more severe depression. They argue that avoidance and rumination keep the negative memories salient, thus intensifying depressive symptoms. The intrusive and reexperiencing symptoms of PTSD serve to keep the trauma salient and act as continued

uncontrollable stress. As the inescapable and distressing memories of the trauma tend to be recurrent, they evoke the same feelings of fear, horror, and subsequently helplessness and depression.

Results from the multiple regression model in the present study revealed that trauma-related negative cognitions about oneself, along with PTSD avoidant and arousal symptom clusters, together most strongly predicted depression severity. Of these three variables, trauma-related negative cognitions about oneself were most strongly associated with depression. The results indicated that when PTSD avoidant and arousal symptom clusters were added to the regression model, significantly more variance in depression severity was explained.

As previously postulated, negative trauma-related cognitions can predict depression severity due to a number of reasons. That cognitions influence emotions and behavior is one of the premises of cognitive therapy (Beck, Rush, Shaw, & Emery, 1979). Trauma survivors who suffer from such negative trauma-related cognitions may be more likely to have depressive feelings and experience self-hatred and low self-esteem, and these feelings of worthlessness may make them feel ashamed and think of themselves as unlikable. To deal with this fear of social rejection, a survivor may isolate from others while also avoiding people, places, and things that remind her of the traumatic events (as in the PTSD avoidant symptoms). Interestingly, Moitra, Herbert, and Forman (2008) found that a mediator between anxiety and depression is behavioral avoidance, thus further suggesting that avoidance plays a role in the severity of depression.

As a way to cope, a trauma survivor may eventually develop a persistent behavioral avoidance of others and the environment. Research has shown that avoiding certain aspects of an anxious experience, including people, places, and cognitions often maintains or exacerbates this anxiety, leading to a heightened response to the stimulus (e.g., Borkovec, Shadick, & Hopkins, 1991; Butler, Fennel, Robson, & Gelder, 1991). This heightened response may include symptoms such as irritability, restlessness, experiencing difficulty sleeping, hypervigilance, sweating, and racing heart. These symptoms are all captured in the PTSD arousal symptom cluster and as these symptoms intensify, depression severity intensifies. It therefore makes sense that when this symptom cluster was added to the regression model, the predictive power of depression severity increased.

There are several limitations to the present study. Scores for some participants on some measures were excluded due to data management errors. Next, the cross-sectional design allowed for an investigation of associations between variables, but the causal direction of the associations cannot be confirmed. Therefore, reciprocal relationships may exist, warranting further analysis of the relationships over time. To do this, future studies should implement a longitudinal design with follow-up assessments.

One additional limitation merits further discussion. Only a few items were included to classify CSA severity, based on the type of abuse, age of first occurrence, and frequency. Other studies have included additional dimensions of CSA to quantify severity, including relationship to the perpetrator, whether physical force was used, whether injury occurred, re-victimization with different perpetrators, and the duration of



the abuse (e.g., Myers et al., 2006). Future studies should utilize more comprehensive measures such as the Revised Wyatt Sex History Questionnaire (WSHR-R; Wyatt et al., 1992) in order to get a more accurate measure of CSA severity.

Finally, researchers investigating PTSD and/or depression in women with a history of CSA should also consider including a comparison group of women without a diagnosis of PTSD. PTSD diagnosis was a requirement for enrollment in the current study. By including female survivors of CSA without PTSD, a more comprehensive investigation of the specific contributions of PTSD and trauma to depression severity may be undertaken.

In terms of clinical implications, the current study draws attention to the importance of attending to post-traumatic cognitions, particularly negative cognitions about oneself, as well as arousal and avoidant post-traumatic symptoms in treating CSA survivors with depression. Treatment of concurrent PTSD and depression can be challenging for both client and therapist, but by focusing on negative trauma-related cognitions and PTSD symptoms, certain mechanisms that are involved in exacerbating depression can be targeted so that more positive changes will likely ensue.

## Appendix A: Informed Consent

### *CONSENT TO PARTICIPATE IN RESEARCH*

#### **(DISTRICT OF COLUMBIA)**

#### **WOMEN'S TRAUMA RECOVERY AND EMPOWERMENT STUDY**

DC Investigators: Roger Fallot, PhD; Maxine Harris, PhD

**You are being asked to participate in a research study. Your participation is voluntary.**

You are being asked to participate in a research study. The answers you gave during the screening interviews indicated that you are eligible for the study.

Your decision to participate or not will have no effect on the services you may receive at Community Connections.

Before deciding, please read the following information carefully. Ask questions if there is anything you do not understand.

#### **What is the purpose of this study?**

This is a study to evaluate the effectiveness of a 29-session group therapy for women with histories of physical or sexual abuse who have mental health problems. Women who have experienced violence and abuse often have a range of problems. These problems can be helped by understanding their relationship to the events of the past and by learning ways to deal with them in the present. In order to learn about the effectiveness of the group therapy, half of the participants in this study will be offered the group, in addition to their usual services at Community Connections. The other half of the participants will only receive the usual services at Community Connections.

#### **Are there any benefits from participating in this study?**

You might not benefit from participating in this study. If you are assigned to receive the group therapy, you may benefit from participation in the group. If you are not assigned to receive the group therapy, you will be able to participate in a group once you have completed the study. It is also possible that you will feel better after completing the research interviews. Most importantly, we hope to gather information that will help women with similar problems in the future.

#### **What does this study involve?**

Your participation in this study will last for a year and a half. You will be assigned to one of two conditions and asked to complete a research interview on four occasions during that time.

1. Assignment to study groups. If you decide to enroll in this research study, you will be assigned by chance to one of the following groups:

- The first study group will receive the usual community support services at Community Connections.
- The second study group will receive the usual community support services at Community Connections plus a trauma group therapy.

You will have a 50-50 chance of being assigned to either group – like the toss of a coin. You will be assigned to your study group as soon as you decide to enroll in this study and give your informed consent. At that time, you will be assigned to a primary clinician, and your first research interview will be scheduled.

If you decide not to participate in the research study, you will be assigned to a primary clinician by the intake staff. You will still be eligible for community support services at Community Connections.

2. Services all participants receive. All women who agree to participate in this study will receive community support services at Community Connections. You will work with a primary clinician to decide on an individualized recovery plan and to choose the services and resources that will help you meet your goals.

3. Trauma group therapy. If you are assigned to the study group that receives trauma group therapy, you will participate in specific services for women who have histories of physical or sexual abuse. The primary service is a 29-session therapy group called a “Trauma Recovery and Empowerment Model” group, or TREM group. It meets weekly for about seven months. The TREM group addresses ways to deal with the impact of abuse in your life. In addition, you will work with your primary clinician in ways that will help you get the most out of the group therapy.

In order to encourage you to attend the TREM group sessions, you will be able to win prizes each time you attend. You will draw chips from a bowl to win prizes. Half of the chips in the bowl will win prizes. There will be three levels of prizes, which will be worth approximately \$1.00, \$5.00, and \$20.00. Less valuable prizes will be easier to win than more valuable prizes. The more group sessions you attend in a row, the more times you will be allowed to draw from the bowl, up to a maximum of five draws in one session.

4. Research procedures. All women who are in the research study will be interviewed at four different times during their year and a half of participation. The first interview will be right away, and the next three will be every six months, that is, 6, 12, and 18 months from now. A member of the research team will

contact you to schedule the interviews. Each interview will last about one hour. The topics covered in the interview include questions about your mental and emotional health, your personal safety, your use of alcohol and drugs, and your beliefs about yourself and the world around you.

We will also gather information from the primary clinician who is working with you. At four times during the study, we will ask your primary clinician to complete a brief form describing how you are doing in several areas (e.g., substance abuse, medications, and hospital use). The clinicians will send this information directly to the research team.

At some point during the study, you may be asked if you are willing to have an interview taped. We tape interviews so that we can be sure that the interviewers are conducting them in a consistent way. We will ask you for a separate permission at the time of the interview, if we want to tape an interview. You can refuse to have an interview taped without affecting the rest of your participation in this study.

We will also tape three sessions from each TREM group. We do this so research staff can rate the group leader's performance. This is to insure that all of the TREM groups are conducted properly and consistently. Group participants are not identified in any way. Only the group leaders' voices need to be recognized by the raters. The tapes will be destroyed as soon as all ratings have been made.

5. Group therapy after the research. If you are assigned to the study condition that does not receive the trauma group therapy, you will be able to join a trauma group after you have completed the study (that is, in about 18 months).

**How is this different from what will happen if you do not participate in this study?**

If you do not take part in this study, you will not be interviewed four times in the next year and a half, and you will not have a chance to receive the trauma group therapy. However, all other Community Connections services will be available to you as usual.

Right now, there are no alternative trauma group therapies offered at Community Connections.

**What are the risks involved with being enrolled in this study?**

We cannot be sure how you will respond to the group therapy or the research interviews. Below we discuss possible difficulties and the chances that they will happen. You should discuss any problems with the director of this study at Community Connections: Roger Fallot, PhD, (202) 546-1512.

One risk is related to participation in the trauma group therapy. Talking about abuse can be difficult. Some of the group and individual discussions may be

upsetting. This does not happen often. The trauma groups are not intended to stir up bad feelings without helping women to cope with them.

Another risk is due to the possibility that some of the questions in the research interview may make you uncomfortable. When this happens, women usually feel that they can manage the discomfort themselves or by talking with other supportive people. If you feel uncomfortable during an interview, we can do any of the following:

- You can choose not to answer certain questions.
- You can take a break and continue again later.
- You can stop the interview.
- The interviewer can call a staff member of your choice, or some other concerned person, to make sure you have someone to talk with about the interview.

In addition, there is a risk that information you provide as part of the study will not remain confidential. We have taken several steps to protect your privacy so that this risk is very small (see the section on Confidentiality below).

**Other important information you should know:**

**Withdrawal from the study:** You have the right to withdraw from the study at any time. Your decision to stop your participation will have no effect on the services you receive at Community Connections, and it will not involve any penalty or loss of benefits to which you are entitled.

**Data collection:** The data collected includes your interview responses and the information from your primary clinician and/or medical record. The data collected in this study will be used only for the purposes explained in this form. Data that identifies you will not be released beyond what is required for the purposes of conducting the research study. By signing this form, you are allowing the research team access to your medical record. Access to your medical record may help the research team to obtain information that is not recorded anywhere else. The research team includes the researchers listed in this form and other research staff members at Community Connections and at the NH-Dartmouth Psychiatric Research Center.

If you choose to withdraw from the study, you may revoke your approval for the use of your future medical information. To do this, you must contact the researcher in writing. Data that have already been collected will be maintained with the research records.

Data gathered from this study will be maintained indefinitely or as required by federal or state regulations.

**Confidentiality:** Every effort will be taken to protect the names of the participants in this study and to insure that information identifying you does not appear with your data. Your name will not stay directly connected to any of the answers you provide. Your name will also be removed from the forms your

primary clinician sends to us. You will be assigned an ID number. It will be used instead of your name on all interview and rating forms. Published results will be based on group averages. Data from individual participants will not be published in any identifiable way.

Your answers during the interviews will be kept confidential under the guidelines established by the District of Columbia Mental Health Information Act and other applicable legal requirements. The data will be kept in locked file cabinets and on computers that are secure. Research data will be shared only between members of the research team. However, there is no guarantee that the information cannot be obtained by legal process or court order.

To help keep information about you confidential, we plan to obtain a Confidentiality Certificate from the Department of Health and Human Services. Having this certificate does not mean that the Secretary of the Department of Health and Human Services approves or disapproves of this research project. The Confidentiality Certificate protects investigators on this project from being forced, even under court order or subpoena, to reveal information that identifies study participants. This protection is not absolute, however. There are special circumstances when the research team may release information about you. This can happen:

- if authorized personnel of the Department of Health and Human Services request identifying information as part of an audit or program evaluation of this research project;
- if authorized personnel at the Dartmouth College Committee for the Protection of Human Subjects request information as part of monitoring this project;
- if the Data and Safety Monitoring Board requests information as part of their monitoring of this project;
- if you ask us to release information and give us written permission;
- if release of medical information is necessary due to medical emergency;
- if you are likely to harm yourself or others; or,
- if child abuse and/or neglect is reported.

You will be notified if, for some unlikely reason, the Confidentiality Certificate has been terminated.

Other than these exceptions, we will not discuss what you say with your treatment team or anyone else outside the research team.

**Funding:** The National Institute of Mental Health provided Dartmouth College and Community Connections with funds to conduct this research.

**Number of participants:** We expect to enroll 200 women in this study at Community Connections and another 100 women at a similar agency in Baltimore, Maryland.

**Who should you call with questions about this study?**

You can ask questions about this project any time you want. You may talk with Dr. Fallot, the research director of this study at Community Connections, or to Lori Beyer, a clinical supervisor, to ask questions. Their phone number is (202) 546-1512.

**What are the costs of this study?**

There are no costs to you for participating in this study. You will not be billed for the research interviews. The trauma group therapy is an accepted service and will be billed to your insurance carrier just like all the other services you receive here at Community Connections.

**Will you be paid to participate in this study?**

The research interviews are not part of your services at Community Connections, and therefore we will pay you \$20.00 at the end of each interview. In addition, if you are assigned to the trauma group therapy condition, you may win prizes for attending the groups. The average value of the prizes for perfect attendance is \$190.00.

**Clinical Evaluation**

I have evaluated\_\_\_\_\_and attest to her capacity to provide this informed consent.

Clinician's Signature\_\_\_\_\_Title\_\_\_\_\_

Date\_\_\_\_\_

**CONSENT**

I have read the above information about the Women's Trauma Recovery and Empowerment Study. I have been given the opportunity to ask questions. I agree to participate in this study. I have been given a copy of this signed consent document for my own records.

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Participant's Signature and Date

PRINTED NAME

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Researcher or Designee Signature and Date

PRINTED NAME

## Appendix B: Posttraumatic Diagnostic Scale (PDS)

### Section C: PDS

**Skip this section at baseline. It was gathered during eligibility determination. Ask the respondent to skip card #3.**

*Remind the respondent of the "worst event" that she identified during the PDS at baseline.*

I am going to read you a list of problems that people sometimes have as a result of the physical and sexual abuse they have experienced. Please think about the event we just discussed when answering these questions. Tell me the number on this scale that best describes how often each problem has bothered you **IN THE PAST MONTH.**

#### Show Card #3

- C.1 Having upsetting thoughts or images about the [traumatic event] that came into your head when you didn't want them to.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

- C.2 Having bad dreams or nightmares about the [traumatic event].

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

- C.3 Reliving the [traumatic event], acting or feeling as if it was happening again.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

- C.4 Feeling emotionally upset when you were reminded of the [traumatic event], for example, feeling scared, angry, sad, or guilty.



0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.5      Experiencing physical reactions when you were reminded of the [traumatic event], for example, breaking out in a sweat, heart beating fast.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.6      Trying not to think about, talk about, or have feelings about the [traumatic event].

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.7      Trying to avoid activities, people, or places that remind you of the [traumatic event].

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.8      Not being able to remember an important part of the [traumatic event].

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.9      Having much less interest or participating much less often in important activities.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
---------------------------------	--------------------------------

1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.10 Feeling distant or cut off from people around you.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.11 Feeling emotionally numb, for example, being unable to cry or unable to have loving feelings.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.12 Feeling as if your future plans or hopes will not come true, for example, you will not have a career, marriage, children, or a long life.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.13 Having trouble falling or staying asleep.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.14 Feeling irritable or having fits of anger.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.15 Having trouble concentrating, for example, drifting in and out of conversation, losing track of a story on television, forgetting what you read.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.16 Being overly alert, for example, checking to see who is around you or being uncomfortable with your back to a door.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

C.17 Being jumpy or easily startled, for example, when someone walks up behind you.

0 = Not at all or only one time	2 = 2-4 times/wk/half the time
1 = Once/wk or less/once in a while	3 = 5 or more times/wk/almost always
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

## Section A: Client Demographics and History

Now, I would like to ask you some questions about your living arrangements.

A.1 In what type of place do you live right now? (*Interviewer: Probe to clearly identify the housing type. Refer to the contact sheet to start the discussion.*)

### Shelter

1 = Domestic violence shelter

2 = Homeless shelter

### Street/outdoors

3 = On the street (including abandoned building, park, car, etc.)

### Institution

\* 4 = Psychiatric hospital/unit or crisis/respite program

\* 5 = Medical hospital/institution

\* 6 = Jail, prison, or other correctional facility (e.g., locked-down halfway house)

\* 7 = Detoxification facility

### Housed

8 = Your own rented or owned house, apartment or duplex

9 = Someone else's house, apartment or boarding house

10 = A hotel, rooming house or boarding house

\* 11 = Residential substance abuse treatment program

\* 12 = Supervised living environment (including halfway house, group home residential care facility)

13 = Transitional time-limited housing

### Other

14 = Other (*Specify:* \_\_\_\_\_)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

A.2 **In the past 30 days,** where have you been living most of the time?  
(*Interviewer: Probe to clearly identify the housing type.*)

### Shelter

1 = Domestic violence shelter

2 = Homeless shelter

**Street/outdoors**

3 = On the street (including abandoned building, park, car, etc.)

**Institution**

\* 4 = Psychiatric hospital/unit or crisis/respite program

\* 5 = Medical hospital/institution

\* 6 = Jail, prison, or other correctional facility (e.g., locked-down  
halfway house)

\* 7 = Detoxification facility

**Housed**

8 = Your own rented or owned house, apartment or duplex

9 = Someone else's house, apartment or boarding house

10 = A hotel, rooming house or boarding house

\* 11 = Residential substance abuse treatment program

\* 12 = Supervised living environment (including halfway house, group home  
residential care facility)

13 = Transitional time-limited housing

**Other**

14 = Other (Specify: \_\_\_\_\_)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

*Interviewer: Using the asterisk (\*) housing types as a guideline, determine if the respondent has lived in a controlled*

*setting or environment during the past 30 days. If the respondent has lived in a controlled setting, record the date of the LAST*

*TIME she lived in an UNCONTROLLED setting in the space provided below and check the appropriate box.*

*If the respondent has lived in a "controlled setting" but that setting is not adequately captured by any of the asterisked*

*categories, code the appropriate housing type, make a note of the name and type of facility next to the code ( in either A.1 or*

*A.2 or both) and check the appropriate box below.*

*Interviewer: Check this box if respondent was NOT in a controlled setting during past 30 days and use correct question format.*

*Interviewer: Check this box if respondent was in a controlled setting during past 30 days, record date of last time she lived in an UNCONTROLLED setting and use correct question format.*

A.3 Date of last UNCONTROLLED residence: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## Education and Employment

In the next few questions, I will ask you about school and work.

A.4 Are you currently enrolled in school or a job training program?  
(IF ENROLLED: Is that full time or part time?)

*NOTE: Clarify that this is not about rehabilitation programs. Ask about where the program is and what kind of program it is.*

1 = Not enrolled

2 = Enrolled, full time

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

3 = Enrolled, part time

4 = Other

(specify) \_\_\_\_\_

A.5 Are you currently employed? (NOTE: Clarify by focusing on status during most of previous week, determining whether respondent worked at all or had a regular job but was off.)

\* **If respondent has been in a controlled environment such as jail or a hospital, ask:**

"Prior to when you were in (insert name of "controlled setting"), were you employed?"

\* **If respondent has been in a controlled environment such as residential treatment or detox, ask:**

"Prior to entering this program/treatment setting, were you employed?"

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

A.6 Which of the following best describes your current employment status? Are you...

1 = Employed full time (35+ hrs/wk, or would have been)

2 = Employed part time

3 = Unemployed, looking for work

4 = Unemployed, disabled

5 = Unemployed, Volunteer work

6 = Unemployed, retired

7a = Other-student

7b = Other-homemaker

7c = Other-in sub.abuse or mental

health treatment program

7d = Other (specify) \_\_\_\_\_

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

## **Children**

In this part of the interview, I would like to ask you some questions about children.

A.7 Are you currently pregnant?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

A.8 Have you ever had any children? By children, I mean that you have given birth, adopted children, or had stepchildren or foster children.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to A.17***

A.9 How many? \_\_\_\_\_ (Code number of children mentioned.)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

A.10 Of those children, how many are currently living? \_\_\_\_\_

(Code number of children mentioned)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

***Only ask A.11 if A.9 and A.10 are not equal***

A.11 Has a child of yours died in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If no children are living, skip to A.17.***

A.12 How many of your children are under the age of 18? \_\_\_\_\_

(Code number of children mentioned.)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

***If None, skip to A.17***

A.13 Of those under 18, how many live with you? \_\_\_\_\_

(Code number of children mentioned.)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

A.14 Of those under 18, how many of them are in your legal custody?

\_\_\_\_\_ (Code number of children mentioned.)

[Note: A.13 may not equal A.14]

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

**Only ask A.15 if respondent indicated at least one child was currently in her custody  
If None, skip to A.16**

A.15 Are you concerned about losing custody of any of your children?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

A.16 Have your parental rights ever been terminated?

(If respondent is unsure of what is meant by "parental rights", you can clarify by saying:

"Have you ever permanently lost custody of any of your children or  
had any of your children permanently taken away by a child welfare  
agency or by the courts?")

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

## **Legal System**

Now, I am going to ask you some questions about any involvement you have had with  
child protective services or the legal system.

**A.17** At this time, are you required to participate, or court-ordered to  
participate, in substance abuse or mental health services?

1 = Yes 0 = No, my participation is voluntary **(Skip to A.18)**

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing (Skip to A.18)

A.17.a

Who has required your participation?



(Use 3 if children are the source.)

1 = Criminal court

2 = Family court

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

3 = Child protection

4 = Other

(specify) \_\_\_\_\_

A.18 In the past 30 days, how many times have you been arrested?

\_\_\_\_\_ (Code number of times)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

**If None, skip to A.20**

A.19 In the past 30 days, how many times have you been arrested for drug-related offenses? By "drug-related" offenses I mean offenses such as possession, sale or trafficking. This does NOT include offenses such as public intoxication.

\_\_\_\_\_ (Code number of times)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

A.20 In the past 30 days, how many nights have you spent in jail/prison?

\_\_\_\_\_ (Code number of nights)

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

## Section B: Lifetime Trauma Assessment

Now I am going to ask you some questions about life events that are upsetting or stressful to most people. Some of these questions may not apply to you, but I have to ask them as written. Please think back over your whole life when you answer these questions. Some of these questions may be about upsetting events you don't usually talk about. Your answers are important to us, BUT you DO NOT have to answer any questions that you do not want to. Also remember that your answers are completely confidential and will be used only for research purposes.

B.1 Have you ever been in a serious disaster? This would include an earthquake, hurricane, large fire, explosion, or other events like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.2***

B.1.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.2 Have you ever had a serious accident or an accident-related injury? This would include a bad car wreck, a household fire, an on-the-job accident, or events such as these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.3***

B.2.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.3 Was a close family member ever sent to jail?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.4***

B.3.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.4 Have you ever been sent to jail or juvenile detention?

*(Refer to item A.20 if appropriate)*

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.5***

B.4.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.5 Were you ever put in foster care or put up for adoption?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.6 Did your parents ever separate or divorce while you were living with them? By your parents, I mean your biological parents or any couple who acted as parents to you.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.7 Have you ever been separated or divorced?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.8***

B.7.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.8 Have you ever been homeless? By homeless, I mean that you did not have a regular place to stay and that you had to stay in a shelter or a place that is not meant for housing, like a public place, car, or an

abandoned building.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.9***

B.8.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.9 Have you ever had serious money problems? This means not having enough money for food, clothing, or rent, ."

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.10***

B.9.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.10 Have you ever had a very serious physical or mental illness? This would include cancer, heart attack or a serious operation; or tried to kill yourself or been hospitalized because of nerve problems; or other problems like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.11***

B.10.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.11 Have you ever had an abortion?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.12***

B.11.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.12 Have you ever had a miscarriage? (*If asked, say: "Lost a baby?"*)

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.13***

B.12.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.13 Have you ever been separated from your child(ren) against your will?

This would include the loss of custody or visitation, by kidnapping, or because of an institutionalization, or other situations like this.

(*It may be appropriate to refer to earlier custody questions.*)

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.14***

B.13.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.14 Has a baby or child of yours ever had a severe physical or mental handicap? This would include mental retardation, emotional disturbance, birth defects; can't see, hear, or walk; or other problems like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.15***

B.14.a Have you had responsibility for this child in the past six

months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

- B.15 Have you ever been responsible for taking care of someone close to you, OTHER THAN YOUR CHILD, who had a severe physical or mental illness or handicap? This would include cancer, a stroke, AIDS, bad nerves; can't see, hear, or walk; or other problems like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.16***

- B.15.a Have you had responsibility for this person in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

- B.16 Has anyone close to you, OTHER THAN YOUR CHILD, ever died suddenly or unexpectedly?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.17***

- B.16.a Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

For this next set of questions, if you say that a particular kind of event happened to you, then I will ask you how many times it happened. Your answer can be "once," "a few times" or "a lot". "A few times" means that there were only a few occasions. "A lot" means that this happened repeatedly, or that it happened so many times that you cannot remember them all. (Show Card #1) I will also ask you about your age when the event first happened. Rather than giving me your exact age when it first happened, please tell me your approximate age using these 5 categories. (Show Card #2): 0-5 years old or before you started school; 6-10 years old or when you were in grades K-5 or in elementary or grammar school; 11-13 years old or when you were in grades 6-8 or in jr. high or middle school; 14-17 years old or when you

were in grades 9-12 or in high school; and 18 years or older.

- B.17 When you were young, before age 18, did you ever see physical violence between family members? This would include hitting, kicking, punching, and other acts like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.18***

- B.17.a How often did this happen?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

- B.17.b Using only the first 4 categories on Card #2, how old were you when this (first) happened?

1 = 0-5 yrs/before started school

3 = 11-13 yrs/jr. high/middle

2 = 6-10 yrs/elementary/grammar

4 = 14-17 yrs/high school

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

- B.18 Have you ever been emotionally abused or emotionally neglected? This would include being frequently shamed, embarrassed, ignored, repeatedly told you were 'no good', or other experiences like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.19***

- B.18.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

- B.18.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
 2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
 3 = 11-13 yrs/jr. high/middle  
 -6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.18.c      Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.19      Have you ever been physically neglected? This would include not fed, not properly clothed, left to take care of yourself when you felt you were too young or too ill, or other experiences like these.

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.20***

B.19.a      How often has this happened?

1 = Once    3 = A lot  
 2 = A few times  
 -6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.19.b      How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
 2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
 3 = 11-13 yrs/jr. high/middle  
 -6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.19.c      Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.20      Have you ever been physically abused by someone you knew well?  
 This would include a family member, boyfriend or girlfriend, spouse, or someone else you knew well. Physical abuse includes being hit, choked, burned, beaten, locked up, tied up or chained, or other experiences like these.



1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.21***

B.20.a How old were you when this (first) happened?

1 = 0-5 yrs/before started school

4 = 14-17 yrs/high school

2 = 6-10 yrs/elementary/grammar

5 = 18 yrs or older

3 = 11-13 yrs/jr. high/middle

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

***If "18 years or older" skip to B.20.c***

<b>Substitute Card #1a for Card #1</b>
--

B.20.b How often did this happen before age 18?

0 = Never

2 = A few times

1 = Once

3 = A lot

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.20.c How often has this happened since you turned 18?

0 = Never

2 = A few times

1 = Once

3 = A lot

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.20.d Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.21 Have you ever been physically abused or attacked by a stranger or by someone you did not know well?

This would include being hit, choked, burned, beaten, locked up, tied up or chained, or other experiences like these.)

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.22***

B.21.a How old were you when this (first) happened?

- |  |                           |
|--|---------------------------|
| 1 = 0-5 yrs/before started school            | 4 = 14-17 yrs/high school |
| 2 = 6-10 yrs/elementary/grammar              | 5 = 18 yrs or older       |
| 3 = 11-13 yrs/jr. high/middle                |                           |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                           |

***If "18 years or older" skip to B.21.c***

B.21.b How often did this happen before age 18?

- |  |                 |
|--|-----------------|
| 0 = Never                                    | 2 = A few times |
| 1 = Once                                     | 3 = A lot       |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                 |

B.21.c How often has this happened since you turned 18?

- |  |                 |
|--|-----------------|
| 0 = Never                                    | 2 = A few times |
| 1 = Once                                     | 3 = A lot       |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                 |

B.21.d Has this happened in the past six months?

- 1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

<b>Replace Card #1a with Card #1</b>
--------------------------------------

B.22 Have you ever been robbed or mugged by a stranger, or by someone you did not know well?

- 1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.23***

B.22.a How often has this happened?

1 = Once  
2 = A few times  
3 = A lot  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.22.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school  
2 = 6-10 yrs/elementary/grammar  
3 = 11-13 yrs/jr. high/middle  
4 = 14-17 yrs/high school  
5 = 18 yrs or older  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.22.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.23 Have you ever seen a robbery, a mugging or an attack taking place?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.24***

B.23.a How often has this happened?

1 = Once  
2 = A few times  
3 = A lot  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.23.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school  
2 = 6-10 yrs/elementary/grammar  
3 = 11-13 yrs/jr. high/middle  
4 = 14-17 yrs/high school  
5 = 18 yrs or older  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.23.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.24 Have you ever been stalked, or has anyone ever threatened to kill you or seriously harm you?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

**If NO, skip to B.25**

B.24.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.24.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school

4 = 14-17 yrs/high school

2 = 6-10 yrs/elementary/grammar

5 = 18 yrs or older

3 = 11-13 yrs/jr. high/middle

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.24.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.25 Have you ever been involuntarily committed for a psychiatric evaluation? Have you ever been taken for a psychiatric evaluation against your will?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

**If NO, skip to B.26**

B.25.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.25.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
3 = 11-13 yrs/jr. high/middle  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.25.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.26 Have you ever been strip searched, physically restrained, or secluded while you were in an institution, like a hospital or jail?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.27***

B.26.a How often has this happened?

1 = Once    3 = A lot  
2 = A few times  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.26.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
3 = 11-13 yrs/jr. high/middle  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.26.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.27 Have you ever been discriminated against in a way that was highly distressing or disturbing, because of your race, ethnic group, gender, disability, sexual orientation, or religion?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.28***

B.27.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.27.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school

4 = 14-17 yrs/high school

2 = 6-10 yrs/elementary/grammar

5 = 18 yrs or older

3 = 11-13 yrs/jr. high/middle

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.27.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.28 Have you ever been the victim of a hate crime? That is, have you ever experienced violence directed at you because of your race, ethnic group, gender, sexual orientation or religion?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.28***

B.28.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.28.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school

4 = 14-17 yrs/high school

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

**If NO, skip to B.31**

B.30.a How old were you when this (first) happened?

- |  |                           |
|--|---------------------------|
| 1 = 0-5 yrs/before started school            | 4 = 14-17 yrs/high school |
| 2 = 6-10 yrs/elementary/grammar              | 5 = 18 yrs or older       |
| 3 = 11-13 yrs/jr. high/middle                |                           |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                           |

**If "18 years or older" skip to B.30.c**

<b>Substitute Card #1a for Card #1</b>
--

B.30.b How often did this happen before age 18?

- |  |                 |
|--|-----------------|
| 0 = Never                                    | 2 = A few times |
| 1 = Once                                     | 3 = A lot       |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                 |

B.30.c How often has this happened since you turned 18?

- |  |                 |
|--|-----------------|
| 0 = Never                                    | 2 = A few times |
| 1 = Once                                     | 3 = A lot       |
| -6 = Refused; -7 = DK; -8 = NA; -9 = Missing |                 |

B.30.d Has this happened in the past six months?

- 1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.31 Did you ever have oral, anal, or vaginal sex because you felt forced in some way or threatened by harm to yourself or someone else? This would include being raped by someone you knew well or not at all.

- 1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

**If NO, skip to B.32**

B.31.a How old were you when this (first) happened?

- |                                   |                           |
|-----------------------------------|---------------------------|
| 1 = 0-5 yrs/before started school | 4 = 14-17 yrs/high school |
|-----------------------------------|---------------------------|



2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
3 = 11-13 yrs/jr. high/middle  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

***If "18 years or older" skip to B.31.c***

B.31.b      How often did this happen before age 18?

0 = Never    2 = A few times  
1 = Once    3 = A lot  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.31.c      How often has this happened since you turned 18?

0 = Never    2 = A few times  
1 = Once    3 = A lot  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.31.d      Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

<b>Replace Card #1a with Card #1</b>
--------------------------------------

B.32      Have you ever had sex when you did not want to - in exchange for money, drugs or other material goods such as shelter or clothing?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.33***

B.32.a      How often has this happened?

1 = Once    3 = A lot  
2 = A few times  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.32.b      How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
3 = 11-13 yrs/jr. high/middle  
-6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

B.32.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.33 Have you ever been forced by someone else to participate in prostitution?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

***If NO, skip to B.34***

B.33.a How often has this happened?

1 = Once    3 = A lot  
2 = A few times  
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.33.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school                      4 = 14-17 yrs/high school  
2 = 6-10 yrs/elementary/grammar                      5 = 18 yrs or older  
3 = 11-13 yrs/jr. high/middle  
-6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

B.33.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

B.34 Are there any other upsetting or stressful events we did not include that you would like to mention?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

What was the event?

---

---

---

B.34.a How often has this happened?

1 = Once

3 = A lot

2 = A few times

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.34.b How old were you when this (first) happened?

1 = 0-5 yrs/before started school

4 = 14-17 yrs/high school

2 = 6-10 yrs/elementary/grammar

5 = 18 yrs or older

3 = 11-13 yrs/jr. high/middle

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

B.34.c Has this happened in the past six months?

1 = Yes; 0 = No; -6 = Ref; -7 = DK; -8 = NA; -9 = Missing

## Appendix E: Patient Health Questionnaire 9 (PHQ-9)

### Section G: PHQ-9 Symptom Checklist

Over the **last 2 weeks** how often have you been bothered by any of the following problems?

<b>Show Card #8</b>
---------------------

G.1 Little interest or pleasure in doing things

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.2 Feeling down, depressed or hopeless

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.3 Trouble falling or staying asleep; sleeping too much

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.4 Feeling tired or having little energy

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.5 Poor appetite or  
\* overeating

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.6 Feeling bad about yourself - or that you are a failure or have let yourself or your family down

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.7 Trouble concentrating on things, such as reading the newspaper or watching television

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.8 Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.9 Thoughts that you would be better off dead or of hurting yourself in some way

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

<b>Remove Card # 8</b>
------------------------

G.10 If the respondent indicated any problem on this questionnaire, ask: "How

difficult have these problems made it for you to do your work, take care of things at home or get along with other people?"

0 = Not at all difficult

2 = Very difficult

1 = Somewhat difficult

3 = Extremely difficult

## Appendix E: Patient Health Questionnaire 9 (PHQ-9)

### Section G: PHQ-9 Symptom Checklist

Over the last 2 weeks how often have you been bothered by any of the following problems?

#### Show Card #8

G.1 Little interest or pleasure in doing things

0 = Not at all

2 = More than half the days

1 = Several days

3 = Nearly every day

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

G.2 Feeling down, depressed or hopeless

0 = Not at all

2 = More than half the days

1 = Several days

3 = Nearly every day

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

G.3 Trouble falling or staying asleep; sleeping too much

0 = Not at all

2 = More than half the days

1 = Several days

3 = Nearly every day

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

G.4 Feeling tired or having little energy

0 = Not at all

2 = More than half the days

1 = Several days

3 = Nearly every day

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

G.5 Poor appetite or  
\*overeating

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.6 Feeling bad about yourself - or that you are a failure or have let  
yourself or your family  
down

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.7 Trouble concentrating on things, such as reading the newspaper or  
watching television

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.8 Moving or speaking so slowly that other people could have noticed. Or  
the opposite - being so fidgety or restless that you have been moving  
around a lot more than  
usual

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

G.9 Thoughts that you would be better off dead or of hurting yourself in  
some way

0 = Not at all	2 = More than half the days
1 = Several days	3 = Nearly every day
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

**Remove Card # 8**

G.10 *If the respondent indicated any problem on this questionnaire, ask: "How difficult have these problems made it for you to do your work, take care of things at home or get along with other people?"*

0 = Not at all difficult

2 = Very difficult

1 = Somewhat difficult

3 = Extremely difficult

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing



## Appendix F: Posttraumatic Cognitions Inventory (PTCI)

### Section D: Posttraumatic Cognitions Inventory

We are interested in the kind of thoughts you may have had as a result of the physical and sexual abuse you have experienced. Below are a number of statements that may or may not be the way you think.

When I read each of these next statements, please tell me how much you AGREE or DISAGREE with each statement. People react to abuse in many different ways. There are no right or wrong answers to these statements.

<b>Show Card #4</b>
---------------------

D.1            The abuse happened because of the way I acted.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing	

D.2            I can't trust that I will do the right thing.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing	

D.3            I am a weak person.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing	

D.4            I will not be able to control my anger and will do something terrible.

1 = Totally disagree	5 = Agree slightly
----------------------	--------------------

2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.5 Little things upset me.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.6 I used to be a happy person but now I am always miserable.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.7 People can't be trusted.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.8 I have to be on guard all the time.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.9 I feel dead inside.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.10 You can never know who will harm you.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.11 I have to be especially careful because you never know what can happen next.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.12 I am inadequate.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.13 I will not be able to control my emotions, and something terrible will happen.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.14 If I think about the abuse, I will not be able to handle it.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.15 The abuse happened to me because of the sort of person I am.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.16 My reactions since the abuse mean that I am losing my mind.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.17 I will never be able to feel normal emotions again.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.18 The world is a dangerous place.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree

4 = Neutral

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.19            Somebody else would not have let the abuse happen to her.

1 = Totally disagree

5 = Agree slightly

2 = Disagree very much

6 = Agree very much

3 = Disagree slightly

7 = Totally agree

4 = Neutral

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.20            I have permanently changed for the worse.

1 = Totally disagree

5 = Agree slightly

2 = Disagree very much

6 = Agree very much

3 = Disagree slightly

7 = Totally agree

4 = Neutral

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.21            I feel like an object, not like a person.

1 = Totally disagree

5 = Agree slightly

2 = Disagree very much

6 = Agree very much

3 = Disagree slightly

7 = Totally agree

4 = Neutral

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.22            Somebody else would not have gotten into this situation.

1 = Totally disagree

5 = Agree slightly

2 = Disagree very much

6 = Agree very much

3 = Disagree slightly

7 = Totally agree

4 = Neutral

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.23            I can't rely on other people.

1 = Totally disagree

5 = Agree slightly

2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.24                      I feel isolated and set apart from others.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.25                      I have no future.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.26                      I can't stop bad things from happening to me.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.27                      People are not what they seem.

1 = Totally disagree                      5 = Agree slightly  
 2 = Disagree very much                      6 = Agree very much  
 3 = Disagree slightly                      7 = Totally agree  
 4 = Neutral  
 -6 = Refused;   -7 = DK;   -8 = NA;   -9 = Missing

D.28                      My life has been destroyed by the abuse I've experienced.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

D.29      There is something wrong with me as a person.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

D.30      My reactions since the abuse show that I am a lousy copier.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

D.31      There is something about me that made the abuse happen.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	
-6 = Refused; -7 = DK; -8 = NA; -9 = Missing	

D.32      I will not be able to tolerate my thoughts about the abuse and I will fall apart.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.33 I feel like I don't know myself since the abuse began.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.34 You never know when something terrible will happen.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.35 I can't rely on myself.

1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

D.36 Nothing good can happen to me any more.

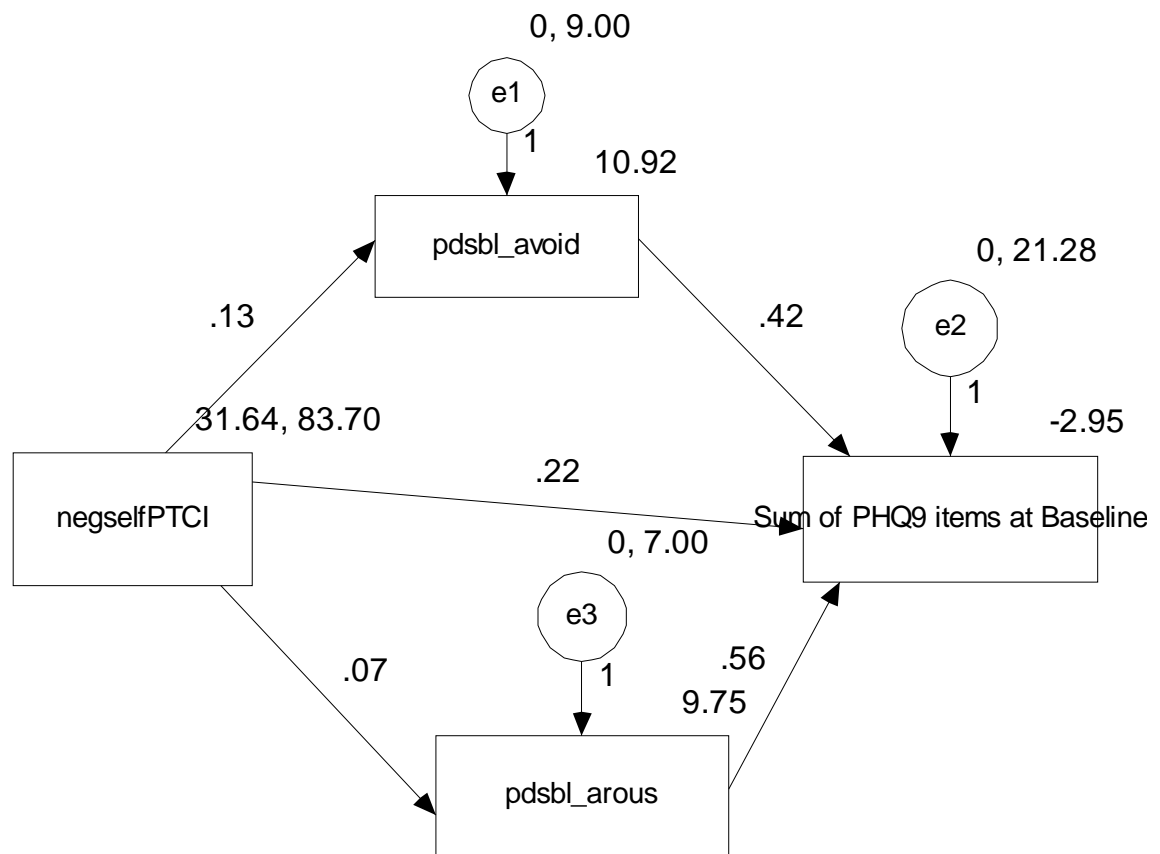
1 = Totally disagree	5 = Agree slightly
2 = Disagree very much	6 = Agree very much
3 = Disagree slightly	7 = Totally agree
4 = Neutral	

-6 = Refused; -7 = DK; -8 = NA; -9 = Missing

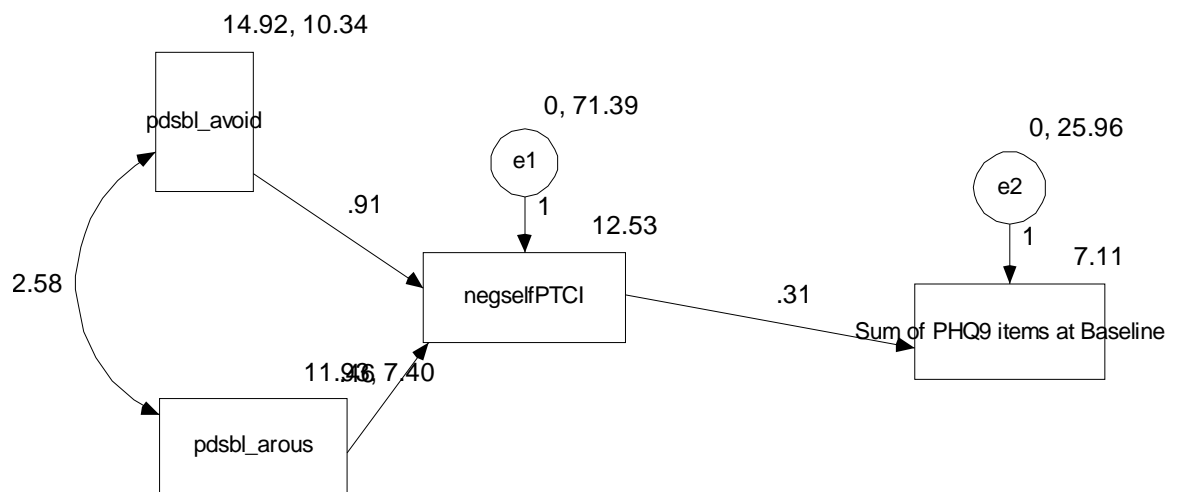


## Appendix G: Additional Analyses

Appendix G: Figure 1: Path Analysis Model A



Appendix G: Figure 2: Path Analysis Model B



Appendix G: Table 1

*Stepwise Regressions Predicting Depression Severity from Trauma-Related Cognitions and PTSD Symptom Severity for African American Women*

	$\beta$	Beta	Adj $R^2$	$F$ change
Total Sample				
PTCI negative self	.21	.33***	.20	49.00***
PDS arousal	.54	.26***	.30	26.05***
PDS avoidant	.39	.22***	.33	11.67***

*Note.* CSA; Childhood Sexual Abuse; PDS = Posttraumatic Diagnostic Scale; PTCI = Posttraumatic Cognitions Inventory.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

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