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# The Role Of World View Changes In The Longitudinal Associations Between Depression And Ptsd Symptoms And Later Sexual Problems

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**THE ROLE OF WORLD VIEW CHANGES IN LONGITUDINAL ASSOCIATIONS  
BETWEEN DEPRESSION AND PTSD SYMPTOMS AND LATER SEXUAL  
PROBLEMS**

by

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**THESIS**

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of Wayne State University,

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Advisor

Date

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## CHAPTER 1

### Introduction

#### *Childhood Sexual Abuse- Definition and Prevalence*

Childhood sexual abuse (CSA) is defined as a coercive sexual experience between a minor and any person able to exert influence over that minor (American Psychological Association, 2012). Sexual experience is broadly defined by researchers and law and can vary in intensity from forcing the child to watch pornographic material to intercourse. Sexual abuse accounts for 9.2% of all reported child maltreatment cases (U.S. Department of Health and Human Services, 2010). Data from community samples indicate that between 12% to 35% of girls and 4% to 9% of boys experience unwanted sexual contact before the age of 18 (Noll, Trickett, & Putnam, 2003). However, this number may be low, as CSA is often underreported due to its stigmatizing and taboo nature.

#### *CSA and Sexual Problems*

CSA experiences have consistently been associated with both increased rates of sexual risk behavior and more difficulties in consensual sexual relationships. The sexual nature of CSA may foster distorted views of sexuality and intimacy and manifest as increased rates of risky sexual behavior (e.g. greater number of partners, unprotected sexual activity, sex with a partner who has had multiple partners, sexual activity while under the influence of alcohol or drugs); sexual concerns and dysfunction (e.g. negative views of sex, poor sexual self-esteem, inability to become aroused or achieve orgasm); and earlier age of onset for sexual behaviors. For example, Senn & Carey (2010) found an association between CSA and risky sexual behavior, with CSA being the strongest predictor of sexual risk behavior among all types of childhood maltreatment. Prospective longitudinal data from Noll and colleagues (2003) indicates that sexually abused

women have a younger age at first voluntary sexual intercourse, are more likely to have had a teenage pregnancy, and are less efficacious at using birth control than those without CSA histories. Data from Testa and colleagues suggests that associations between CSA and sexual health in adulthood (e.g., sexually transmitted infections) may be partially mediated by behavioral differences, including early age of sexual initiation, greater number of sexual partners, and affiliation with risky sexual partners (Testa, Van-Zile-Tamsen, & Livingston, 2005). Other researchers have documented cognitive and affective differences among those with CSA histories. For example, sexually abused females exhibit higher levels of sexual preoccupation (i.e. heightened sexuality) than non-abused females (Einbender & Friedrich, 1989; Noll et al., 2003). Meston, Rellini, & Heiman (2006) found that a history of CSA was associated with diminished passionate/romantic sexual self-schemas and heightened negative affect during sexual arousal. Consistent with these findings, several literature reviews have concluded that CSA predicts short-term sexual dissatisfaction and promiscuity in adolescence as well as long-term sexual disturbance and dysfunction in adulthood (Beitchman, Zucker, Hood, daCosta, & Akman 1991; Beitchman, Zucker, Hood, daCosta, Akman, & Cassavia, 1992).

### *Abuse Severity*

One mechanism that has been proposed to explain the development of sexual problems in CSA victims is abuse severity. Consistent with the literature, our conceptualization of CSA severity for this study includes the relationship of the perpetrator to the victim, the degree of sexual contact (i.e., penetration), the frequency and duration of the abuse, and the use or threat of physical force (Beitchman et al., 1991; Beitchman et al., 1992). There is evidence to suggest that severity of abuse is associated with a variety of negative outcomes, including more symptoms of psychopathology, more negative self views, and less sexual satisfaction (Arata, 2000; Beitchman

et al., 199; Beitchman et al., 1992; Browne & Finkelhor, 1986; West, Williams, & Siegel, 2000). However, the data on this topic are mixed and inconclusive (Feiring, Simon, & Cleland, 2009). CSA severity provides little understanding of how the experience of sexual abuse may lead to sexual problems over time. Indicators of abuse severity are suggestive of psychological processes that may be related to the development of normative sexual behaviors, but these indicators do not directly tap these processes. Therefore, it is unlikely that abuse severity will have a long-term effect on the development of sexual problems. Depression and PTSD symptoms, on the other hand, have been previously found to be associated with the development of sexual problems in both sexually abused and non-abused samples.

#### *Depression and PTSD Symptoms and Sexual Problems among Individuals with CSA Histories*

Although studies have consistently found a relationship between CSA and sexual problems, few prospective studies have examined longitudinal pathways and the mechanisms by which CSA confers risk. Data from these studies, including one from the current study sample, have identified certain psychopathologies, including posttraumatic stress disorder and depression, as a risk factors for sexual problems among those with CSA histories. Symptoms of depressions and posttraumatic stress disorder are common reactions to sexual abuse both at the time of abuse discovery and later in life (Browne & Finkelhor, 1986; Beitchman et al., 1991; Beitchman et al., 1992; Feiring et al., 2009; Kendall-Tackett, William, & Finkelhor, 1993). These symptoms are themselves associated with higher levels of sexual problems and sexual risk taking. For example, prior work with the current study sample found that symptomatology at abuse discovery and one year later predicted subsequent sexual difficulties (Feiring et al., 2009); however, the mechanisms through which this relationship occurs remain unclear. Additionally, Noll and

colleagues (2003) found that post-abuse anxiety is predictive of sexual preoccupation years after disclosure of the abuse.

Similar relationships between depression and PTSD symptomatology and sexual problems have also been documented among non-abused samples. Cyranowski, for instance, found that women with depression had lower levels of sexual desires, thoughts, and fantasies, sexual arousal, and orgasmic functioning, as well as a negative view of their sexuality overall (Cyranowski, Frank, Cherry, Houck, & Kupfer, 2004). This relationship held even when controlling for the use of antidepressant medication and partner availability. Depressive symptoms have also been associated with greater sexual risk behavior among community youth samples. Rohde and colleagues reported that homeless adolescents, a sample with high risk of sexual victimization, engage in more risky sexual behaviors, such as infrequent condom use, as their levels of depression increase (Rohde, Noell, Ochs, & Seeley, 2001). Additionally, Seth and colleagues found that depressive symptoms in African American adolescents predicted poor condom use, multiple sexual partners, sex while under the influence of alcohol or drugs, and fear of communication about birth control over six and twelve month follow-ups (Seth, Patel, Sales, DiClemente, Wingood, & Rose, 2011). Explanations for links between depression and PTSD symptoms and changes in sexual behavior, especially risky behavior, remain unclear. The existence of this relationship implies that there may be some underlying or intervening psychological processes whereby these symptoms manifest as sexual problems. However, little research has attempted to determine what may be driving this relationship. The current study explores cognitive factors that may mediate the longitudinal associations between early symptoms of depression and PTSD and subsequent sexual problems among sexually abused youth.

*The Role of Cognitions in the Pathway Between Symptomatology and Sexual Problems*

Changes in perceptions about how the world operates and one's place in the world, such as negative self-views, over-generalized pessimistic views of others, and negative expectations of the world in general, may affect the relationship between symptoms of depression and PTSD and social behaviors. Various studies have linked cognitive schemas associated with depression and PTSD to increased difficulty in interpersonal relationships. For example, Oppenheimer & Hankin (2011) examined longitudinal associations between depression and adolescents' peer relationships, including same-sex, different-sex, and romantic relationships and found that the presence of depressive cognitions and behaviors predicted poor relationship quality. Nietlisbach & Maercker (2009) theorized from a review of the literature that symptoms of PTSD (i.e. flashbacks, emotional numbing, avoidance, and hyperarousal) may impact social cognitions such as empathy, leading to difficulties in social behavior.

Of particular relevance to this study is work by Iverson and colleagues, who found that cognitive behavioral therapy (CBT) for PTSD and depression, that sought to reduce distorted views of the self, others, and world, was effective at reducing the risk of revictimization in women who had previously experienced interpersonal trauma (Iverson, Gradus, Resick, Suvak, Smith, & Monson, 2011). The authors proposed that symptoms of PTSD and depression may impact the ability to make safe choices or leave dangerous relationships. For example, dissociating symptoms of PTSD may decrease reactivity to danger cues, thereby reducing the capacity to respond to risky situations. Similarly, feelings of hopelessness or worthlessness from depression may affect how one believes he or she should be treated by others, and may make it more difficult to avoid dangerous partners and situations. Women who experienced reductions in PTSD and depression symptoms over the course of the CBT treatment reported fewer instances

of intimate partner violence at a six month follow up than women who did not respond to treatment. The relationship between internal cognitions and interpersonal relationship risk lends support to the idea that these cognitions may also be related to sexual behaviors, as sexual behavior is often a type of social behavior, although I could find no research directly testing this relationship.

Links between cognitions and symptomatology may be particularly important to examine during adolescence, a time of cognitive development in which abstract views of the self and world begin to take shape. During this crucial developmental time, youth begin to form more complex and abstract cognitions, especially about social situations (Steinberg, 2005). Adolescents begin to formulate ideas about others' attitudes and motives, as well as form schemas about groups of people, such as authority figures, men, or romantic partners, and how they should relate to those groups (Steinberg, 2005). The presence of depression and PTSD symptoms leading up to and concurrent with adolescence may shape youths' outlooks on the world, including more negative views of others and the world. In turn, these views may impact youth's sexual behavior. For example, negative mood states, feelings of hopelessness, and low self-esteem, all common depressive symptoms, are related to less frequent condom use in samples of college undergraduates (Broccoli & Sanchez, 2011; MacDonald & Martineau, 2002). However, I was unable to find any research directly investigating the relationship between symptoms, cognitions, and sexual behaviors. The current study aims to explain the ways in which symptoms of depression and PTSD which occur in reaction to CSA may affect world views, which in turn will shape sexual behaviors.

*The Effect of CSA on Cognitions*

CSA may have its own unique effect on cognitions, compounding the effects of depression and PTSD symptoms. When trauma such as CSA occurs, assumptions which youth previously held about the world may be undermined and prompt a revision of these assumptions that are consistent with CSA experiences. For example, children's internalized beliefs that the world is safe and people are trustworthy are threatened when they experience childhood sexual abuse. Youth need to rebuild these assumptions over time based on what they have learned from their CSA experiences, and reactions to the abuse, such as feelings of depression, worthlessness, or anxiety, may affect this process. One of the most fundamental ideas to explain how these views are changed is the theory of cognitive dissonance (Festinger, 1957). Festinger postulates that when internalized beliefs do not match what is experienced in the environment, feelings of discomfort might occur. When one is unable to change the environmental situation in order to cease the discomfort caused by the disconnect between the belief and the experience, one may instead change the internalized belief to match what is implied by the experience. Because children are generally unable to change the environment under which CSA is being experienced, they may instead change their views to reflect that the world is unsafe and people cannot be trusted. These new beliefs more accurately reflect their CSA experience.

Another theory linking CSA and changes in cognitive schemas is that of Joseph and Linley (2008), who proposed that processing traumatic experiences may be accomplished either through the accommodation or assimilation of trauma-related information. Assimilating the experiences involves keeping pre-trauma beliefs intact. For example, a sexually abused child might blame him/herself for the abuse, thereby preserving the view that the world is a just place (i.e. bad things happen to bad people so the abuse must have happened because s/he was bad). On the other hand, accommodating experiences requires reshaping previous beliefs to fit with the newly

acquired trauma information. In this case, a sexually abused child might change his/her views to reflect that the world is unsafe. This accommodation can happen in a positive or negative way; that is, the accommodation can lead to negative feelings of depression and helplessness, or it can lead to positive feelings of freedom and understanding (Joseph & Linley, 2008).

Joseph and Linley's theory builds on Janoff-Bulman's (1989) theory of shattered assumptions, which asserts that trauma violates three core assumptions that guide our ways of understanding and behaving. These core beliefs are that the world is benevolent; the world is meaningful; and that the self is worthy. In other words, people tend to assume that others, and the world in general, are safe and good; that the world is just and controllable; and the self is deserving of life and love. These assumptions guide understanding of the environment and organize behavior. Victimization may prompt the recognition and reevaluation these underlying beliefs in the wake of contradictory evidence. In other words, old assumptions are "shattered" and need rebuilding. These processes may be either brought on by distress or reinforced by the undermining of positive core assumptions. Furthermore, this process may be more difficult for victims of interpersonal trauma, such as CSA, due to the perpetrator's clear intention to harm and the victim's ambiguous role in the experience (Lilly, Valdez, & Graham-Bermann, 2011). CSA occurs during a particularly vulnerable developmental period and is commonly perpetrated by someone the child knows and trusts. These circumstances may make CSA experiences particularly difficult to understand.

A more developmental-clinical perspective on the cognitive impact of trauma was proposed by Fischer and Ayoub (1994), who suggest that trauma can change how youth organize their thoughts and emotions. Splitting, which involves a tendency to view the self and others as either completely good or completely bad is an example of a cognitively immature defense that youth

may use to cope with traumatic experiences. In the case of CSA, this may manifest as viewing all men as bad, dangerous, or untrustworthy. Additionally, Fischer and Ayoub suggest that whereas most individuals demonstrate positively biased emotions and representations of the self and others, youth who have been maltreated tend to develop a negativity bias in which the self and others are experienced negatively. The use of splitting, which enhances unrealistic views of the world, or the development of the negativity bias in the wake of child maltreatment may potentiate the development of predominantly negative world views which, in turn, may contribute to a developmental pathway wherein healthy relationships are difficult to form and maintain.

The way youth process and make sense of their abuse experiences impacts psychosocial functioning as well (Simon, Feiring, & McElroy, 2010| Simon, Feiring, & Cleland, under review). Youth who use unhealthy strategies to process CSA experiences (e.g., avoidance, absorption) report more symptoms of depression, PTSD, and sexual problems than youth who displayed healthy processing of their abuse experiences. The development of sexual avoidance and promiscuous behaviors may be related to individual coping styles: youth who used avoidant coping strategies to deal with CSA reported fewer sexual partners and youth who used self-destructive coping mechanism reported more sexual partners. (Merrill, Guimond, Thomsen, & Milner, 2003). Cole & Putnam (1992) posited that sexually abused youth with immature coping skills, such as denial or avoidance, may be more like to act out sexually when feeling depressed or anxious. Taken together, these data suggest that the way that youth understand their abuse experience and its implications about the surrounding world can affect both their internalized feelings of distress and their outward displays of sexual behavior.

In sum, these theories illustrate how youth's experience of and reactions to CSA may have a powerful effect on their core beliefs. The trauma associated with CSA may cause youth to question their previously held beliefs, and subsequently, reassess and reorganize them to fit with what they have learned from their experiences. If views are rebuilt in a negative way or if youth have difficulty processing their CSA experiences, world views may affect the ability of the youth to engage in fulfilling interpersonal relationships, including healthy sexual behaviors. The current study aims to determine the extent to which CSA-related world view cognitions may impact the sexual behavior of youth. From the previous research, it is expected that more symptoms of depression and PTSD after abuse discovery will be related to stronger negative world views, which in turn will be related to more problems in sexual functioning.

#### *Posttraumatic Growth*

Thus far, the discussion has focused on the negative implications of trauma for youths' representational systems. However, youth may rebuild world views in positive *or* negative ways following abuse experiences. Most research has focused on the negative outcomes of traumatic experiences, but recently there has been a call to consider posttraumatic growth as well (Joseph & Linley, 2008). Posttraumatic growth is defined as any change that the survivor of trauma perceives as positive. For example, many trauma survivors claim that their trauma experience has made them stronger, more empathetic, or more thankful for what they have. These perceived positive changes may represent an increased ability to cope with and understand the trauma, which survivors who report only negative changes may lack (Joseph & Linley, 2008). Despite a vast literature establishing CSA as a risk factor for a range of psychosocial problems, some data suggests that some individuals with CSA histories also identify positive effects on their lives. For example, one study found that almost half of women with confirmed sexual abuse cases reported

some type of benefit from their CSA experiences (McMillen, Rideout, & Zuravin, 1995). The most commonly reported changes included an increased ability to protect themselves and others, greater knowledge, and personal strength. The researchers also found that those who were highest in perceived positive changes were also highest in positive adjustment, suggesting a possible link between the perception of positive changes and well-being. Similarly, a study by O'Dougherty and colleagues found that women reporting CSA histories reported increased strength, spirituality, and better interpersonal relationships as a function of the abuse experiences (O'Dougherty Wright, Crawford, & Sebastian, 2007). However, only some of these benefits were associated with better psychosocial outcomes. This study is unique in that it will simultaneously examine both negative and positive changes in world views among a sexually abused sample of youth, as well as how those changes are related to their concurrent functioning. I believe that positive changes in world views may operate as a protective factor and be associated with fewer concurrent problems in sexual functioning. The current study proposes that fewer symptoms of depression and PTSD after abuse discovery will be related to stronger positive changes in world views, which in turn will be related to fewer difficulties in sexual functioning.

In sum, previous research has shown that after trauma, views about the world may need to be reassessed and rebuilt, either positively or negatively, to incorporate and understand what the individual has learned from the trauma experience (Cole & Putnam, 1992; Festinger, 1957; Fischer and Ayoub, 1994; Janoff-Bulman, 1989; Joseph & Linley, 2008; Merrill et al., 2003; Simon et al., 2010). There is also consistent evidence to suggest that distress and anxiety are common reactions to traumatic events (Browne & Finkelhor, 1986; Beitchman et al., 1991; Beitchman et al., 1992; Feiring et al., 2009; Kendall-Tackett et al., 1993). Therefore, it is

possible that along with the abuse experience, abuse reactions (i.e. high or low levels of distress and anxiety) may play a part in helping to shape the new world views over time. When views are undermined by trauma, development of healthy views may be even more challenging in the face of common abuse reactions, such as symptoms of depression and PTSD, which themselves are associated with a negativity bias. These symptoms, combined with what was learned by the abuse experience, may strongly impact how new world views are constructed.

#### *Age and Developmental Considerations*

The effects of CSA on world views may be particularly salient during adolescence when youth begin to develop new representations of their social world, including those related to intimacy and sexuality. Trauma may negatively bias world views in ways that affect how youth approach consensual sexual experiences with peers, as well as their developing views about sexuality. Because these effects may be especially prominent during adolescence, it is important to consider how the age of the participants may be associated with the development of internalizing symptom, world views, and sexual behaviors.

Due to the longitudinal nature of this study, age effects will be an important consideration as participants develop over time. The study consists of three assessment points: abuse discovery (T1), one year later (T2) and six years later (T3). Youth were between the ages of 7-15 at the time of abuse discovery (T1) and between 13-23 at the time of world view and sexual behavior assessment (T3). The age at which the abuse was identified and when the youth were assessed may be related to different outcomes for those who were children versus adolescents at those times. For one, adolescents may react more negatively to life stressors than children and may have more pessimistic views of the world (Downs, 1993; Larson & Ham, 1993). Previous research has found that youth who were adolescents at the time of abuse discovery experience

more symptoms of depression than do youth who were children at the time of abuse discovery (Feiring, Taska, & Lewis, 1999). Therefore, adolescents may be particularly vulnerable to experiencing psychopathology after abuse discovery due to their developmental stage. Furthermore, the evaluation and rebuilding of world views demands the ability to think abstractly (Steinberg, 2005), which may be more difficult for youth who were younger at the time of abuse discovery. Youth who are adolescents at the time of abuse discovery may be more aware of their world views and better able to reevaluate them in accordance with what they have learned from the trauma. Additionally, older individuals may be able to vocalize how their world views have changed as an effect of the abuse better than individuals who were younger at the time of world view assessment. There may also be differences in sexual behavior between the age groups, as one would expect older participants to have had more sexual experiences. While previous literature has documented that sexual problems and risky sexual behaviors present themselves earlier in sexual abuse samples than in non-abused samples (Noll et al., 2003), there are still likely to be age related trends within CSA samples. Therefore, I expect that age will be positively associated with all four of these variables (depression, PTSD, world view changes, and sexual behavior).

### *Current Study*

The goal of the current study is to examine abuse-related changes in youths' world views (positive and negative) and their longitudinal associations with depression and PTSD symptomatology and sexual problems.

The first aim of this study is to identify the frequency and strength of negative versus positive changes in world views reported by youth in relation to their childhood experiences of sexual abuse. I hypothesize that the majority of youth (greater than 50%) will report changes in world

views related to their CSA experience and will report more negative than positive changes in world views.

The second aim is to examine associations between symptomatology, CSA-related changes in world views, and sexual behavior. I will use longitudinal data to examine models in which depression and PTSD symptoms are expected to predict subsequent world view changes and sexual problems among individuals with a CSA history. Figure 1 illustrates the conceptual model for the proposed longitudinal associations between early symptoms, world view changes, and subsequent sexual problems. The hypothesized effects are expected to be the same for depression and PTSD symptoms. However, they will be examined in separate models because the two are moderately correlated but conceptually distinct.

Between the two models, I anticipate 10 direct relations among abuse severity, symptomatology, world views, and sexual behavior that do not consider intervening processes. First, greater abuse severity is expected to be related to more symptoms of depression or PTSD at T1. Past the time of abuse discovery, abuse severity is not expected to be related to world views or sexual behavior because symptomatology at T1 and T2 are expected to be better indexes of post-abuse functioning. Second, more symptoms of depression or PTSD at T1 are expected to be related to greater symptom levels at T2. Third, more depression or PTSD symptoms at T2 are expected to predict stronger negative world view changes at T3; whereas fewer symptoms are expected to be related to stronger positive changes in world views at T3. Finally, I expect that stronger negative world views at T3 will be related to more concurrent sexual concerns, dysfunctional sexual behavior, and risky sexual behavior, and stronger positive world views at T3 will be relate to fewer concurrent sexual problems.

The final aim is to examine whether CSA-related changes in world views mediate longitudinal associations between early abuse reactions (i.e., symptoms of depression and PTSD) and subsequent sexual problems (i.e. dysfunctional sexual behavior, sexual concerns, and risky sexual behavior). I expect to see four mediated effects in each model. First, depression or PTSD symptoms at T2 should mediate the relationship between T1 symptomatology and T3 positive and negative world view changes. Since elevated levels of distress are common in many individuals after trauma, initial indicators of distress may be relatively weak predictors of subsequent functioning, whereas the continuation of distress long after the trauma may better predict problems in functioning (Feiring et al., 2002; Ligeszinska et al., 1996). The other indirect pathways that I expect are for T3 positive and negative changes in world views to mediate the pathway between psychopathology (either depression or PTSD) at T2 and sexual problems(i.e. dysfunctional sexual behavior, sexual concerns, and risky sexual behavior) at T3. Because T2 and T3 are five years apart, it is expected that the relationship between variables at these time points will be affected by intervening processes (Shrout & Bolger, 2002). The examination of these paths will contribute to our understanding of how internalizing behaviors occurring after CSA are related to later sexual problems.

This model will examine the hypothesized pathways from symptomatology to sexual problems while accounting for age effects. Age will be incorporated into this model as a covariate, with the expectation that older age at abuse discovery (T1) will be associated with more symptoms of depression and PTSD at T1 and T2, as well as with stronger world view changes and greater sexual behavior problems at T3.

## CHAPTER 2

### Methods

#### *Participants*

Participants for the current study included 160 youth between the ages of 8-15 years with recently discovered cases of sexual abuse. All cases were confirmed by medical findings, confessions from the offender, or Child Protective Services (CPS).

CPS recruited 95% of the sample directly. Caseworkers contacted 185 families to participate, eventually yielding 160 families who agreed to participate in the study. Assessments were conducted within 8 weeks of abuse discovery, (i.e. the time at which the abuse came to the attention of authorities; T1), and also one year (T2) and six years (T3) later. At T1, the sample included 160 participants (117 female, 43 male). Of these participants, 55% were 12 years of age or younger, and 45% were 13 years of age or older. At T3, the sample included 121 participants, 76% of which were women. The T3 sample is the sample used for the current analyses. Of this sample, 54% were ages 13-17, and 46% were ages 18-23. The majority of participants (70%) came from single parent families, and 71% were low SES (\$25,000 or less annually). The self-reported ethnic background of the participants was African American (39%), Caucasian (31%), Hispanic (21%), and other (9%). A checklist was completed by the researcher at T1 detailing abuse characteristics. Over half (67%) of the sample experienced genital penetration. Perpetrator identity varied, with 35% of perpetrators being a parent figure, 25% being a relative, 37% being someone known to the victim but who was not a relative, and 3% being a stranger. Almost half (43%) of the participants lived with the perpetrator at the time of the abuse. Frequency of abuse varied from once (30%), to two to nine times (40%), to more than ten times (30%). For 33% of the sample, the abuse occurred over a time period of a year or longer. In 25% of the sample,

force was used, in 19% force was threatened, and in 56% no force or threat of force was used. Time before disclosure of abuse after the last abusive experience varied across participants from less than two weeks (45%), two weeks to six months (33%), to seven months or more (22%).

### *Procedure*

All measures used in the study were approved by the intuitional review board where the study took place and subsequently by Wayne State University. Informed consent was obtained at each time interval from either the parent or the participant if s/he was over eighteen years old. When parental consent was obtained, youth provided assent. Assessment information was gathered through structured interviews and standard questionnaires. Participants were awarded a total of \$250 for participation over the three assessments periods.

### **Measures**

#### *Narrative Coding System of CSA-Related World View Changes*

At T3, participants completed a semi-structured interview to assess the perceptions of their CSA experiences, its disclosure, and its effects (Simon et al., 2010). Interviews were audiotaped and transcribed verbatim. Sixteen interviews were discarded because of problems with either clarity, length, or equipment problems, leaving a sample of 105 narratives. Interview transcripts were coded using a system developed to index the type, valence, and strength of participants' perceptions of abuse-related changes (Barton, Mason, Cassanova, Simon & Feiring, 2011; Mason, Barton, Cassanova, Feiring & Simon, 2011). Abuse-related changes were classified into one of across four theoretically derived categories: 1) personal (e.g., strength, competency, self worth, emotional well-being, and life orientation), 2) interpersonal (e.g., trust, relationship seeking, relationship maintenance, intimacy, and relationship quality), 3) world views (e.g., safety, trust, fairness, empathy, and views on relating to others), and 4) sexuality (e.g., sexual

self-concept and sexual behaviors). Each change was classified by valence, as either positive or negative. Lastly, coders rated each change for its relative impact using a five point scale ranging from 1 (“extremely vague/weak change”) to 5 (“extremely strong/evident change.”) Scores of ‘0’ were assigned in the absence of change for a given type and valence. Interview transcripts were coded by trained coders and disputes in coding scores were solved by consensus.

The current study focuses on the presence, valence, and strength of participant reported changes in world views. Consistent with the theoretical work of Janoff-Bulman (1989) and Joseph and Linley (2008), posttraumatic changes in world views were defined as alterations in attitudes or ideas about the world and the way it operates. Six types of changes were coded under this category: feelings of safety, trust, spirituality, fairness, empathy, and general views of others. Inter-rater agreement on the presence of a positive or negative world view change was adequate ( $\kappa = .65$  and  $.75$ , respectively), as was inter-rater agreement on strength scores for the positive and negative world view changes ( $\alpha = .91$  and  $.80$  respectively).

#### *Abuse Characteristics*

Information about abuse characteristics was obtained from CPS and law enforcement records. This information was copied to a checklist by trained research assistants. The accuracy of checklist completion was checked by have two staff members copy information from the same 20 participants onto a checklist. Nearly 100% accuracy was achieved for each category. The checklist provided information on the relationship of the perpetrator to the victim, the frequency and duration of the abuse, the types of abusive acts that the victim experienced, whether physical force was used in the abuse experiences, how the abuse was discovered, medical findings, and how the abuse case was confirmed. The abuse severity was coded from information obtained

from the checklist. Coding of abuse severity information was completed by trained project personnel who achieved acceptable inter-rater reliability ( $\kappa = .73 - 1.0$ ).

### *Depression*

At T1 and T2, depressive symptoms were assessed using the Children Depression Inventory (CDI; Kovacs, 1985). The CDI is a 27-item questionnaire that quantifies depressive symptoms such as mood disturbances, interpersonal behaviors, and anhedonia. Higher scores indicate greater symptom severity. Good internal consistency was achieved for CDI scores ( $\alpha = .91$  and  $.90$  for T1 and T2 respectively).

### *PTSD*

Symptoms of PTSD were assessed at T1 and T2 using the Children's Impact of Traumatic Events Scale-Revised (CITES-R; Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991). PTSD scores were computed from the mean of three subscales: hyperarousal, intrusive thoughts, and avoidance. These items were scored on a three point scale, ranging from '1' ("not true") to '3' ("very true"). Higher PTSD scores denote greater symptoms. PTSD scores demonstrated acceptable internal consistency ( $\alpha = .88$  and  $.91$  for T1 and T2, respectively).

### *Sexual Problems*

Sexual behavior was assessed only at T3, when participants were between 13 and 23 years of age. The Trauma Symptoms Inventory (TSI; Briere, 1995; Briere, Elliot, Harris & Cotman, 1995) was used to assess sexual concerns and dysfunctional sexual behavior. The sexual concerns subscale of the TSI assesses perceptions of sexual problems, dissatisfaction with sexual activities, and unwanted sexual thoughts or feelings (e.g. "confusion about your sexual feelings"). The dysfunctional sexual behaviors subscale assesses promiscuity and the use of sex to achieve non-sex related goals (e.g. "using sex to get love or attention"). Participants rated their

sexual experiences from the past six months on a four point scale, with 0 being “never” and 3 being “often.” Internal consistencies for these scales was acceptable (Sexual Concerns  $\alpha = .82$ ; Sexual Dysfunctions  $\alpha = .78$ ). Higher overall scores indicate more sexual difficulties.

Participants also completed a questionnaire about sexual behavior modeled after items from the Sexual Activity Questionnaire for Girls and Boys (Udry, 1993). This questionnaire asked participants to report on voluntary sexual activities. The questionnaire was administered via computer with the researcher in a different room to maximize confidentiality. An index of sexual risk behaviors was created from seven questions asking whether the participant had ever engaged in sexual intercourse or oral sex in the following conditions: (1) without a condom, (2) with a partner who was an IV drug user, (3) with a partner who is gay, (4) with a partner who is bisexual, (5) with a partner who has had multiple sex partners, (6) in a “one night stand,” and (7) while the participant was using drugs or alcohol. The number of affirmative responses (with 1 = yes, 0 = no) were summed to create an overall sexual risk score, with scores ranging from 0-7.

## CHAPTER 3

### Results

#### *Missing Data*

The full information maximum likelihood (FIML; Allison, 2002) method in Mplus (Muthe'n & Muthe'n, 1998–2006) was used to handle missing data. This method is more powerful and less biased than are ad hoc methods of handling missingness (e.g., listwise deletion). This method, also known as direct ML, works by finding model parameters that maximize the likelihood of each case's observed data. This approach assumes data are missing at random, that is, missing at random conditional upon values observed.

#### *Data Analysis*

The first study aim was to describe the number, valence and strength of world view changes reported by youth with CSA histories. Toward this end, I provide descriptive information on the frequency and strength of reported positive and negative changes in world views and their associations with participant characteristics. In addition, descriptive analyses were conducted for the study variables used in the path models.

The primary study analyses examined associations between common abuse reactions (PTSD and depression) at abuse discovery and one year later and world view changes six years after abuse discovery. Higher levels of symptoms at abuse discovery (T1) and one year later were each expected to be associated with T3 world views. Moreover, T2 symptoms were expected to mediate associations between T1 symptoms and T3 world views. Also of interest was the relationship between these predictors (depression, PTSD, and world views) and sexual outcomes six years after abuse discovery. It was hypothesized that T3 world views would mediate the relationship between T2 symptoms and T3 sexual outcomes. Structural equation models (SEM)

were constructed to test these hypotheses. Informed by prior studies with this sample, age at abuse discovery and abuse severity were treated as covariate in the models (e.g, Feiring et al, 2009). Similarly, T1 symptoms of PTSD and depression were treated as covariates for examining the associations of T2 symptoms with world view changes and sexual outcomes at T3. Also included in the model were paths to examine the direct and indirect effects of T2 symptoms of world view changes and sexual problems. Separate models were estimated for depression and PTSD, as the two sets of symptoms are related but conceptually distinct (i.e. mood disorder versus anxiety disorder; American Psychological Association 2000). Direct and indirect paths in the conceptual model were estimated using SEM (Kline, 1998) in Mplus Version 7 (Muthe'n & Muthe'n, 1998–2006).

#### *Descriptive statistics*

The first hypothesis of this study was that the majority of youth would report at least one change in world view in relation to their experiences of childhood sexual abuse. Frequencies analyses show that 55.2% (N = 58) of the youth who were interviewed at T3 (N = 105) reported at least one change in world view. Almost half (48.6%, N = 51) reported at least one negative change in world view, and 12.4% (N = 13) reported at least one positive change in world view. The number of negative changes reported ranged from zero to five changes. Of these youth, 24 reported one negative change, 18 reported two negative changes, and nine youth reported 3 or more negative changes. The number of positive changes ranged from zero to two changes, with 10 youth reporting one positive change and 3 youth reporting two. Examples of positive and negative changes of various strengths are presented in Table 1.

Chi-square analyses revealed that females were more likely than males to report any world view change,  $\chi^2(1, N = 105) = 4.98, p = .023$ , or negative world view changes,  $\chi^2(1, N = 105) =$

5.96,  $p = .013$ . Additionally, females reported more negative changes on average ( $M = 1.00$ ) than males ( $M = 0.43$ ),  $t(103) = -2.15$ ,  $p = .034$ . There was no gender difference in reporting positive world view changes,  $\chi^2(1, N = 105) = 0.01$ ,  $p = .578$ , or for the number of positive changes reported,  $t(103) = 0.27$ ,  $p = .789$ . Youth who were adolescents at the time of the abuse were more likely than younger participants to report a positive world view change during the interview,  $\chi^2(1, N = 105) = 4.21$ ,  $p = .040$ , but not negative world views,  $\chi^2(1, N = 105) = 0.003$ ,  $p = .556$ , or world views in general,  $\chi^2(1, N = 105) = 0.21$ ,  $p = .400$ . There was also no difference in the number of positive,  $t(103) = -1.79$ ,  $p = 0.077$ , or negative,  $t(103) = -0.62$ ,  $p = 0.537$ , changes reported for younger versus older participant. Finally, there was no difference in abuse severity between those who reported or did not report positive or negative world view changes, as well as changes in general.

Table 2 shows the descriptive statistics and correlations for the variables in the study. Means and standard deviations fell within the expected ranges and showed good variability. Examination of the correlations between study variables revealed positive associations with age for T1 depression, T2 depression, positive world view strength, and risky sexual behavior, as well as a negative relationship between age and T1 PTSD. T1 and T2 symptoms were all significantly and positively associated, but symptomatology at T1 and T2 was not related to either positive or negative world view changes at T3. Additionally, negative and positive changes were not related to each other. Depression at T1 and T2, PTSD at T2, and negative world views at T3 were each related to more sexual concerns at T3, and T2 depression was associated with more dysfunctional sexual behavior. Additionally, the T3 sexual outcomes were positively related to each other. Abuse severity was not correlated with any of the study variables.

*Predicting Dysfunctional Sexual Behavior, Sexual Concerns, and Risky Sexual Behavior from Depression and Negative World Views*

Tests of the longitudinal associations between early abuse reactions (PTSD and depression), world view changes, and sexual problems were conducted only for negative world views. The small number of participants reporting positive world view changes precluded valid model testing with this variable.

To examine the direct pathways from T1 and T2 depression to negative world view changes at T3 and from T3 negative world view changes to sexual problems, the following pathways were estimated: a) age at abuse discovery and abuse severity to depression at T1; b) age at abuse discovery, abuse severity, and depression at T1 predicting depression at T2; c) age, abuse severity, and T1 and T2 depression symptoms predicting negative world views at T3; d) age, T2 depression symptoms, and T3 negative world views predicting dysfunctional sexual behavior at T3; e) age, T2 depression symptoms, and T3 negative world views predicting sexual concerns at T3; f) age, T2 depression symptoms, and T3 negative world views predicting risky sexual behavior at T3; and g) the relationships between sexual concerns, dysfunctional sexual behavior, and risky sexual behavior. The model showed good fit to the data,  $\chi^2(10) = 5.530, p = 0.8531$ ; CFI = 1.00; RMSEA = 0.00. Table 3 shows the path coefficients for the direct relations between each variable, regardless of significance.

Contrary to expectations, youths' early depressive symptoms were largely unrelated to subsequent world view changes. A marginally significant path was found for T2 depression, linking greater symptoms to more negative world views. Although depressive symptoms at T1 and T2 were positively related, the indirect effect of T1 depression on world view changes via

T2 depression was not significant,  $B = 0.014$ ,  $SE = 0.008$ ,  $p = 0.107$ ,  $\beta = 0.140$ ; 95% CI = -0.001 – 0.027. Older age was associated with higher levels of depression at T1.

Higher levels of T2 depression and stronger negative world view changes at T3 were each associated with more sexual concerns at T3. However, the indirect effect of T2 depression to sexual concerns via negative world view changes was not significant,  $B = 0.037$ ,  $SE = 0.029$ ,  $p = 0.206$ ,  $\beta = 0.063$ ; 95% CI = -0.003 – 0.087. Neither T2 depression nor T3 negative world views were associated with dysfunctional or risky sexual behavior, and these indirect pathways were also not significant,  $B = 0.015$ ,  $SE = 0.023$ ,  $p = .496$ ,  $\beta = 0.024$ ; 95% CI = -0.013 – 0.057;  $B = 0.004$ ,  $SE = 0.004$ ,  $p = 0.318$ ,  $\beta = 0.041$ ; 95% CI = -0.001 – 0.013, respectively. Older age at abuse discovery was associated with more sexual risk behavior.

*Predicting Dysfunctional Sexual Behavior, Sexual Concerns, and Risky Sexual Behavior from PTSD and Negative World Views*

To examine the direct pathways from PTSD at T1 and T2 to negative world views at T3 to dysfunctional sexual behavior, sexual concerns, and risky sexual behavior at T3, the following pathways were estimated: a) age at abuse discovery and abuse severity to PTSD at T1; b) age, abuse discovery, and PTSD at T1 predicting PTSD at T2; c) age, abuse discovery, and T1 and T2 PTSD symptoms predicting negative world views at T3; d) age, T2 PTSD symptoms, and T3 negative world views predicting dysfunctional sexual behavior at T3; e) age, T2 PTSD symptoms, and T3 negative world views predicting sexual concerns at T3; f) age, T2 PTSD symptoms, and T3 negative world views predicting risky sexual behavior at T3; and g) the relationships between sexual concerns, dysfunctional sexual behavior, and risky sexual behavior.. The model showed good fit to the data,  $\chi^2 (10) = 6.951$ ,  $p = 0.7301$ ; CFI = 1.00;

RMSEA = 0.00. Table 4 shows the path coefficients for the direct relations between each variable, regardless of significance.

Contrary to expectations, neither PTSD symptoms at T1 or T2 were related to subsequent world view changes. Although symptoms of PTSD at T1 and T2 were positively related, the indirect effect of T1 PTSD on world view changes via T2 PTSD was not significant,  $B = 0.333$ ,  $SE = 0.285$ ,  $p = 0.243$ ,  $\beta = 0.077$ ; 95% CI = -0.142 – 0.797. Younger age was associated with higher levels of PTSD at T1. Higher levels of T2 PTSD and stronger negative world view changes at T3 were each associated with more sexual concerns at T3. However, the indirect effect of T2 PTSD to sexual concerns via negative world view changes was not significant,  $B = 0.806$ ,  $SE = 0.765$ ,  $p = 0.292$ ,  $\beta = 0.039$ ; 95% CI = -0.326 – 2.127. Neither T2 PTSD nor T3 negative world views were associated with dysfunctional or risky sexual behavior, nor were the indirect pathways from T2 PTSD via world views significant,  $B = 0.364$ ,  $SE = 0.594$ ,  $p = 0.540$ ,  $\beta = 0.016$ ; 95% CI = -0.359 – 1.490;  $B = 0.099$ ,  $SE = 0.117$ ,  $p = 0.398$ ,  $\beta = 0.026$ ; 95% CI = -0.048 – 0.318, respectively. Older age at abuse discovery was again associated with more sexual risk behavior.

#### *Moderated mediation analyses*

Additional analyses were conducted to examine whether the hypothesized pathways differed by youth gender. The primary study hypotheses emphasized (a) indirect pathways from T1 symptoms to negative world views through T2 symptoms and (b) indirect pathways from T2 symptoms to T3 sexual problems via negative world view changes. Accordingly, I tested for gender moderated effects in these specific model paths. Recent treatment of moderated mediation analyses focus on the estimation of interactions between the moderator and the pathways that define the indirect effects (Edwards & Lambert, 2007; Preacher, Rucker, & Hayes,

2007). Within MPlus, this is accomplished by using the “model constraint” command to define each conditional indirect effect as the product of its constituent paths at each level of the moderator. Bootstrapping methods are then used to compare the two conditional indirect effects (Muthen & Muthen, 2010). Table 5 reports the results of analyses comparing the following conditional indirect effects for males and females: a) T1 depression to T3 negative world views through T2 depression; b) T2 depression to T3 dysfunctional sexual behavior through T3 negative world views; c) T2 depression to T3 sexual concerns through T3 negative world views; and d) T2 depression to T3 risky sexual behavior through T3 negative world views. None of the conditional indirect effects were significantly different, indicating an absence of moderated mediation. Similar analyses were conducted for the model examining symptoms of PTSD, and these results are presented in Table 6. Again, none of these conditional indirect effects were significantly different, suggesting an absence of gender differences in the indirect pathways.

## CHAPTER 4

### Discussion

Childhood experiences of sexual abuse can challenge the positively biased views of self, others, and the world that are essential to healthy adaptation (Epstein, 1991; Harter, 2001; Janoff-Bulman, 1992; McCann & Pearlman, 1990). Relatively little work has examined youths' perceptions of these changes and their implications for psychosocial adjustment. The current study sought to examine the presence, valence, and strength of world view changes reported by youth as they discussed their childhood experiences of sexual abuse. Additionally, the study explored potential pathways to world view changes from earlier abuse reactions as well as associations between these early reactions, world views, and sexual problems. The findings are among the first to suggest that youth's experiences of CSA are relevant to their developing world views, in ways that are related to sexual development

Overall the results suggest that youth's experiences of CSA are pertinent to their developing world views. The first goal of this study was to examine the frequency and strength of world views that youth attribute to their abuse experiences. Changes in world views were defined as alterations in attitudes or ideas about the world and the way it operates. For example, identified changes could have included changes in feelings of safety or trust in others, changes in spirituality or belief in a higher power, or changes in the way the participant thinks about a group of people. Positively biased world views (e.g. the world is safe and fair) are believed to be an adaptive human characteristic that function to preserve the fundamental value and meaning of the self (Janoff Bulman, 1992; Pyzynski, Greenberg, & Goldenberg, 2003). The current results suggest that experiences of sexual abuse frequently challenge these assumptions in ways that require youth to reconcile the meaning of the abuse with its implications for their world views

(Epstein, 1991; Harter, 2001; Janoff Bulman, 1992; McCann & Pearlman, 1990). Approximately 55% of the sample spontaneously reported at least one way in which their CSA experiences affected their world views. The validity of these reports is underscored by the fact that youth were not prompted to supply ways in which their views of the world had been impacted by their abuse experiences. Thus, youth appear to be cognizant of the implications of their CSA experiences for their views of the self, others, and environment. These findings are consistent with developmental research highlighting the salience of emergent abstract thinking and meta-cognitive skills during adolescence and emerging adulthood (Steinberg, 2005). These skills allow youth to consolidate past experiences in ways that facilitate identity development and inform generalized representations of the self, others, and environment. Youths' identities and generalized representations help to guide their expectations and behaviors as they become increasingly autonomous in expanding networks of social relationships (Creasey & Ladd, 2004; Furman & Simon, 1999; Furman, Simon, Shaffer, & Bouchey, 2002; Simon, Bouchey, & Furman, 2000; Westen, 1994; Steinberg, 2005). The current findings suggest that many youth incorporate their reflections about earlier CSA experiences into their larger belief systems in ways that have the potential to shape psychosocial adaptation.

For the majority of youth, more negatively skewed world views may better reflect their CSA experiences. The overwhelming majority of reported world view changes were negative; and almost half of the sample (48%) spontaneously discussed negative world views. These findings raise the possibility that the meanings made about CSA experiences may generalize to degrade the positively biased world views believed to be important to positive adaptation (Janoff Bulman, 1992; Pyzynski & Greenberg, 2003). Various researchers have suggested that a history of CSA may result in more negative views of the world (Fischer & Ayoub, 1994; Janoff-Bulman, 1989;

Joseph & Linley, 2008). When abuse occurs, previously held beliefs about the world may need to be altered to better reflect the abuse experience. While most people start out believing that the world is just and safe and that others are trustworthy (Janoff-Bulman, 1989), these views don't fit with what sexually abused youth have experienced. They therefore may need to accommodate their abuse experience into their previously held views. Hence, they may begin to view the world as more dangerous and unjust and others as less trustworthy. The presence of these changes during adolescence and adulthood may have important implications for youths' functioning in emergent domains of sexuality and intimacy. Additional research is needed to assess how more negative generalized views of the self, others, and the environment may guide youths' expectations and behavior in novel intimacy situations, such as dating and age normative sexual behavior.

Very few youth (N = 13) reported any positive changes to their world views in relation to the abuse experiences. Although this finding may seem intuitive, theories of posttraumatic growth would suggest that reports of growth from adversity might be more commonplace than found in this study (Joseph & Linley, 2008). Possible explanations for the lack of growth reported by this sample include the nature of CSA and the age of the study sample. Sexual abuse is an interpersonal trauma. Child victims are considered especially vulnerable due to their developmental status and their inherent need to rely on adults for care. In addition, CSA is most commonly perpetrated by someone known to the child and often by someone in a position of trust or care. These circumstances may render CSA experiences more difficult to understand and processes than other traumas. Many extant studies of posttraumatic growth focus on other traumatic events (e.g. car accidents, illness, war; see Joseph & Linley, 2008). Because these traumas are more random and less personal than CSA, they may be easier to assimilate into

existing positive world views. Future work should examine how the world view changes reported by CSA samples may differ from those reported by youth with other types of trauma experiences.

Within the handful of studies which have reported evidence of posttraumatic growth following CSA, all examined adult samples (McMillen, Rideout, & Zuravin, 1995; O'Dougherty Wright, Crawford, & Sebastian, 2007). The current study participants ranged in age from 13 to 23 years at the time of the interview. It may be more difficult for adolescents to assimilate their CSA experiences in a way in which positive views could be maintained, as they have just begun to develop meta-cognitive skills and the ability to think abstractly. In support of this idea, older participants in the current study were more likely than younger participants to report a positive world view change.

It is important to note that this study indexed spontaneously reported world view changes. The strength of this approach is that it captures what may have been most salient to youth at the time. On the other hand, it is difficult to know whether the frequency or type of changes reported might be different had the interviewer directly inquired about various types of changes. Future research should examine world view changes more closely, possibly through direct questions about whether and how CSA experiences have affected different types of world views. Furthermore, other types of changes were reported in the interview but not included in the current study. Consistent with the current study, results from other analyses indicate that the preponderance of all types of reported changes are negative (Mason, Barton, Casanova, Simon, & Feiring, in preparation). These findings are of importance for clinical work, as negative world views may need to be targeted for evaluation in treatment. Negative world views may have a

substantial impact on how adolescents interact with others. For example, if youth do not trust others, they may have a difficult time forming healthy relationships.

In addition to indexing the valence and strength of CSA-related changes in world views, the current study examined potential predictors and correlates of these changes. Greater symptoms of PTSD and depression at the time of abuse discovery and one-year later were expected to be associated with more negative world view changes. In turn, changes in world views were expected to partially mediate the associations between earlier symptoms and later sexual problems. Positive world views were not used in these analyses because there were too few reported to supply statistically reliable results.

Contrary to my hypotheses, neither symptomatology at abuse discovery nor one year later was related to negative world view changes six years later. This was unexpected as many of the world view changes coded seemed to reflect core aspects of PTSD and depression. For example, some reported world view changes referenced feeling unsafe, which is a trademark of PTSD's hypervigilance. Additionally, negative and pessimistic views of the world have been linked to depression (Beck, 1964, Beck, 1987). The current results also contrast with prior findings from this sample linking early abuse reactions of depression and PTSD to various psychosocial problems at this same T3 time point (Feiring, Simon, & Cleland, 2009).

One possible explanation for the lack of relationship is that symptoms of depression and PTSD are simply unrelated to negative world views. It may be that the negative world views identified in this study are unique from the negative schemas typically associated with depression and PTSD. The world view scores used in this model were coded from narrative transcripts in which youth described their CSA experiences and how those experiences have affected them. It may be that the changes reported are related solely to the CSA experience and

are not reflections of symptomatology. In other words, the experience of childhood sexual abuse may be in itself enough to create changes to youth's world views, with or without symptoms of PTSD or depression. A second possible explanation for the lack of statistical association concerns the large gap in time from T2 to T3. Because of this large time period, there may be other mediating factors that play a role in the process from symptomatology at abuse discovery and one year later and negative world views six years later. Intervening processes may impact which youth develop negative schemas down the line. Finally, because youth were not asked specifically about world view changes, the variable may reflect differences in youth who would or would not spontaneously report changes in their beliefs. Each of these explanations suggests that there is no straightforward relationship between early symptoms and how youth are internalizing the implications of their abuse experiences for their world views.

Future research should attempt to study other potential predictors of negative world view changes, such as general anxiety or externalizing problems, to assess whether this lack of association is consistent. Independent of their predictors, that youth are experiencing these world view changes is clinically important information. Assessments and interventions should target not only common abuse reactions, such as depression and PTSD, but also seek to articulate the underlying world views that may be affecting youths' psychosocial functioning. If world view changes are a unique outcome of CSA, it may be especially important for clinicians to assess and monitor them, as treating symptoms of PTSD or depression may not suffice in altering youth's negative world views.

In addition to assessing potential pathways to world view changes, the current study examined whether world view changes helped to explain the link between early symptoms and subsequent sexual problems. No evidence was found to support the idea that negative world view

changes mediated associations between T2 symptoms and T3 sexual problems. Consistent with prior studies linking depression and PTSD with intimacy problems, higher levels of early symptoms were associated with greater sexual concerns (Cyranoński et al., 2004; Feiring et al., 2009; Rohde et al., 2001; Seth et al., 2011). Rather than mediating these associations, negative world view changes independently predicted sexual concerns after controlling for associations with earlier symptoms. This finding adds to this literature by identifying another potential risk factor for the development of sexual concerns, namely negative world views. The relationship between world views and sexual concerns makes sense. Difficulty trusting others or beliefs that the world is unsafe should be expected to interfere with satisfying and healthy sexual relationships. For example, if an adolescent's CSA experience makes it difficult for her to trust men, it would be expected that this may manifest as concerns about sexual intimacy and enjoyment.

Contrary to expectations, the pattern of associations between early symptoms, world views, and later sexual problems differed by type of sexual problem. Although sexual concerns were correlated with dysfunctional sexual behavior and risky sexual behavior, they appear to be differentially related to both symptoms and world views. Neither dysfunctional nor risky sexual behaviors were associated with earlier symptoms or concurrent world views. The lack of associations may reflect a difference in the nature of the sexual problems assessed. Specifically, depression, PTSD, negative world views, and sexual concerns are largely internalized problems, while dysfunctional sexual behavior and risky sexual behavior are more behavioral.

Although the predictors were unrelated to the specific *types* of sexual behavior problems tapped by the measures in this study, they may be related to other types of sexual behavior problems. For example, it is possible dysfunctional sexual behavior and risky sexual behavior

may not adequately capture the types and range of sexual behavior problems characteristic of sexually abused youth in this study. The dysfunctional sexual behavior scale assessed how youth may use “sex” for means other than sexual pleasure, for example, using sex to get something. The risky sexual behavior scale examined specific sexual behaviors associated with greater risk of sexually transmitted infections, such as sexual intercourse or oral sex without a condom or while intoxicated. Two potential issues with these scales may explain the lack of expected relations in the current study. First, these measures may not have been applicable for many of the youth in the study. For example, the risky sexual behavior scale was completed only by youth who endorsed engaging in oral sex or sexual intercourse. Therefore, this measure was not given to many of the youth in the sample. In fact, only about 67% of youth reported having had sexual intercourse or oral sex at T3, while approximately 33% of the youth had not engaged in either of these behaviors (Simon & Feiring, 2008). Additionally, the use of the word “sex” in the dysfunctional sexual behavior questions may have been confusing to some youth. While the authors may have meant for the word “sex” to be inclusive of multiple types of sexual behavior, it is possible that youth may have interpreted the word “sex” as meaning only sexual intercourse. As not all youth had engaged in sexual intercourse at the time these questions were asked, they may have felt as though these questions did not apply to them.

Secondly, the measures of dysfunctional and risky sexual behaviors each focus on hypersexual behaviors and thereby reflect a limited view of the range of sexual behavior problems. In other words, responding negatively to the dysfunctional and risky behavior scales did not necessarily reflect an absence of sexual behavior problems. It could also reflect hypo-sexuality (little interest in sexual activity), another sexual problems often linked to childhood sexual abuse (Beitchman et al., 1991; Beitchman et al., 1992; Meston et al., 2006). The

association between negative world views, sexual concerns, and hypo-sexuality is at least as logical as the posited relations with hyper-sexuality. For example, adolescents with distrusting, negative views of others who are also concerned about sexual interactions may be less likely to engage in sexual relationships with others. Thus the measures used in this study may be less appropriate for them. Youth with either normative sexual development or hypo-sexuality may have been grouped together on these measures, convoluting the statistical outcomes. The absence of hypo-sexuality measures in the current study precluded me from examining this possibility. However, future studies should attempt to examine the full range of sexual problems that can occur after experiences of sexual abuse.

Finally, I was interested in the role gender might play in the indirect paths of the proposed models, as women and men may report different impacts from CSA experiences. Women are more likely receive a diagnosis of PTSD and depression than men (American Psychological Association, 2000). Additionally, women in this study were more likely to report a negative change than men, and also reported more negative changes on average than the men in the sample. Although the sample was predominantly female, no evidence emerged to suggest that the proposed indirect paths to world views via T2 symptoms or to sexual problems via world views varied by gender.

### *Limitations*

This study was not without limitations. Given the non-experimental nature of the data, causality for the relationships between psychopathology, world views, and sexual concerns cannot be claimed. As world views and sexual concerns were measured at the same time point, it is especially difficult to map their relationship temporally. While I assumed in my hypotheses that world views would impact sexual concerns, it may be that sexual concerns occur first and

impact world views. Additionally, the majority of the measures used in this study were self-report. While the qualitative assessment of world views through the CSA narrative was a novel approach for determining the impact of CSA experiences on world views, it was limited in that youth were not explicitly asked about world view changes. Therefore, youth were free to bring up whatever they determined to be relevant to the interview at the time. It may be the case that more youth had experienced world view changes but simply did not think to talk about them. Finally, the external validity of the study is limited to those youth whose abuse has been reported to authorities, which for many youth with CSA histories is not the case.

#### *Implications for Future Research*

These findings add to the literature by identifying three potential paths to sexual concerns in adolescence: symptoms of depression, symptoms of PTSD, and changes in negative world views. However, these are unlikely to be the only two paths to this outcome. Future research should examine other longitudinal pathways to the development of sexual concerns in youth with CSA histories. Additionally, this study brings to the literature a new idea in the examination of CSA-related changes in world views. The existence of these views in the population of CSA survivors has not been previously examined. Future research should assess these views more in depth and with a larger sample to see if the same type and number of changes are reported. Additionally, more work should be done on the predictors of these changes, as well as how world view changes may impact adolescents' well-being.

## APPENDIX A

Table 1

*Example of Weak to Strong Positive and Negative World View Changes*

<b>Extremely Vague/Weak (1) Positive World View Change</b>
“But um, sittin’ here now it’s like, you know this is, you know a study that you’re doing you know and it’s, helping the people that got this...just helping them out, so. It’s good.”
<b>Some Definite Change (3) Positive World View Change</b>
“And it-it also gave me experience, and words to help others. Ya know, people, that have went through my situation... it’s just-it gave me more of an understanding of life and- it gave me experience, it gave me words that I said, to other people that went through the same situation.”
<b>Extremely Strong/Evident (5) Positive World View Change</b>
“It made me more compassionate, I guess, about other people’s problems....Yeah, I’m becoming helpful I wanna be a-- state trooper to help people. That’s what I wanna do when I help other people who either can’t help themselves or are in the wrong place at the wrong time. That’s the more, that’s what I mean by more compassionate I don’t wanna just do stuff for me just to make money. I wanna do stuff and help people other people out --so that was cool.”
<b>Extremely Vague Weak (1) Negative World View Change</b>
Only thing it is it makes me be more careful with boys, so.”
<b>Some Definite Change (3) Negative World View Change</b>
“I’m more skeptical of people than normal people ah not normal but people who haven’t had any experience like I had. I analyze people very closely even though they may not notice I’m analyzing them, so I have very few people who I can say they are a friends that I go to and talk to and then there are lots of acquaintances who don’t really know much about me they just know where I live and everything else...on the bad side it made me more skeptical.”
<b>Extremely Strong/Evident (5) Negative World View Change</b>
“I was always scared to be alone and sometimes still scared to be alone. I don’t like to be alone no more. I don’t like to be around people that I don’t know. I hardly hang out. I hard like I don’t have like a lot of friends no more. I’m always with my parents, or like with family members. I try not to be around other people no more...Or like sometimes I’ll be sleeping, and I’ll have like a nightmare now. I’ll have nightmares. Or I’ll sleep it I sleep now with my in my room with the dog in my room with the door locked. Because, I’m scared I just, scared of everything scared to go to the bathroom at night.”

Table 2

*Descriptive Statistics and Correlations for Study Variables*

	1	2	3	4	5	6	7	8	9	10	11
1. Age at Abuse Discovery	1										
2. Abuse Severity	0.05	1									
3. Depression 1	0.21**	0.12	1								
4. Depression 2	0.17**	0.17	0.59**	1							
5. PTSD 1	(0.21)**	0.04	0.38**	0.23**	1						
6. PTSD 2	-0.15	0.05	0.27**	0.49**	0.53**	1					
7. Positive World View Strength	0.20*	0.02	-0.06	-0.04	-0.07	-0.03	1				
8. Negative World View Strength	0.03	0.02	0.10	0.19	0.12	0.18	0.02	1			
9. Sexual Concerns	0.15	-0.03	0.22*	0.30**	0.11	0.22*	-0.17	0.29**	1		
10. Dysfunctional Sexual Behavior	0.16	-0.03	0.13	0.20*	-0.05	0.09	-0.14	0.15	0.63**	1	
11. Risky Sexual Behavior	0.34**	-0.15	0.08	0.10	-0.13	-0.08	-0.08	0.19	0.40**	0.60**	1
	N	160	160	145.00	160	146	105	105	117	117	111
Mean	11.36	2.98	23.62	16.99	2.09	1.82	0.41	1.51	49.88	51.09	1.62
Standard Deviation	2.24	1.53	18.43	15.59	0.41	0.44	1.17	1.77	9.14	9.95	1.68
Minimum	7.00	0.00	0.00	0.00	1.08	1.00	0.00	0.00	42.00	44.00	0.00
Maximum	15.00	6.00	92.59	77.78	3.00	2.89	5.00	5.00	92.00	90.00	6.00

Note: Depression 1 = Depression at Time 1; Depression 2 = Depression at Time 2; PTSD 1 = Posttraumatic Stress Disorder at T1; PTSD 2 = Posttraumatic Stress Disorder at Time 2  
\*p<.05; \*\*p<.001

Table 3

*Structural Equation Model Results for Pathways to Sexual Problems Through Depression Symptoms and Negative World Views*

		Estimate	SE	<i>p</i>	$\beta$	95% CIL	95% CIU
AGE WITH							
	ABUSE SEVERITY	0.153	0.272	0.573	0.045	-0.313	0.580
DEPRESSION 1 ON							
	AGE	1.691	0.717	0.018	0.206	0.513	2.883
	ABUSE SEVERITY	1.335	0.921	0.147	0.111	-0.188	2.832
DEPRESSION 2 ON							
	AGE	0.353	0.532	0.507	0.052	-0.544	1.206
	ABUSE SEVERITY	0.831	0.716	0.246	0.082	-0.342	2.014
	DEPRESSION 1	0.484	0.085	0.000	0.572	0.353	0.635
NEGATIVE WORLD VIEWS ON							
	AGE	0.005	0.081	0.946	0.007	-0.124	0.141
	ABUSE SEVERITY	-0.030	0.131	0.820	-0.026	-0.241	0.191
	DEPRESSION 1	-0.003	0.013	0.814	-0.030	-0.02	0.020
	DEPRESSION 2	0.028	0.017	0.099	0.244	-0.002	0.053
DYSFUNCTIONAL SEXUAL BEHAVIOR ON							
	AGE	0.437	0.437	0.317	0.099	-0.249	1.189
	DEPRESSION 2	0.091	0.071	0.200	0.142	-0.024	0.210
	NEGATIVE WORLD VIEWS	0.553	0.634	0.383	0.099	-0.514	1.566
SEXUAL CONCERNS ON							
	AGE	0.282	0.419	0.500	0.069	-0.405	0.976
	DEPRESSION 2	0.134	0.066	0.043	0.228	0.028	0.245
	NEGATIVE WORLD VIEWS	1.313	0.554	0.018	0.257	0.408	2.230
RISKY SEXUAL BEHAVIOR ON							
	AGE	0.271	0.072	0.000	0.362	0.156	0.391
	DEPRESSION 2	-0.002	0.011	0.843	-0.020	-0.020	0.017
	NEGATIVE WORLD VIEWS	0.16	0.112	0.152	0.17	-0.026	0.338
DYSFUNCTIONAL SEXUAL BEHAVIOR WITH							
	SEXUAL CONCERNS	48.778	8.189	0.000	0.604	33.672	60.750
	RISKY SEXUAL BEHAVIOR	8.849	1.877	0.000	0.596	5.435	11.596
SEXUAL CONCERNS WITH							
	RISKY SEXUAL BEHAVIOR	4.702	1.502	0.002	0.366	2.123	7.005

Depression 1 = Depression at Time 1; Depression 2 = Depression at Time 2

Table 4

*Structural Equation Model Results for Pathways to Sexual Problems Through PTSD Symptoms and Negative World Views*

		Estimate	SE	<i>p</i>	$\beta$	95% CIL	95% CIU
AGE WITH							
	ABUSE SEVERITY	0.158	0.271	0.560	0.046	-0.307	0.581
PTSD 1 ON							
	AGE	-0.038	0.014	0.008	-0.208	-0.061	-0.014
	ABUSE SEVERITY	0.014	0.023	0.546	0.052	-0.023	0.052
PTSD 2 ON							
	AGE	-0.007	0.015	0.650	-0.036	-0.032	0.018
	ABUSE SEVERITY	0.009	0.020	0.661	0.031	-0.025	0.042
	PTSD 1	0.553	0.089	0.000	0.519	0.409	0.702
NEGATIVE WORLD VIEWS ON							
	AGE	0.069	0.086	0.423	0.087	-0.072	0.214
	ABUSE SEVERITY	-0.022	0.131	0.866	-0.019	-0.234	0.203
	PTSD 1	0.257	0.605	0.671	0.059	-0.709	1.305
	PTSD 2	0.602	0.495	0.224	0.149	-0.257	1.366
DYSFUNCTIONAL SEXUAL BEHAVIOR ON							
	AGE	0.624	0.422	0.139	0.141	-0.043	1.331
	PTSD 2	2.092	2.177	0.336	0.092	-1.191	5.868
	NEGATIVE WORLD VIEWS	0.605	0.660	0.360	0.108	-0.516	1.636
SEXUAL CONCERNS ON							
	AGE	0.574	0.426	0.178	0.142	-0.115	1.285
	PTSD 2	3.961	1.933	0.040	0.191	0.903	7.23
	NEGATIVE WORLD VIEWS	1.340	0.587	0.022	0.262	0.390	2.320
RISKY SEXUAL BEHAVIOR ON							
	AGE	0.264	0.069	0.000	0.353	0.154	0.380
	PTSD 2	-0.180	0.352	0.610	-0.047	-0.743	0.407
	NEGATIVE WORLD VIEWS	0.164	0.11	0.136	0.173	-0.023	0.339
DYSFUNCTIONAL SEXUAL BEHAVIOR WITH							
	SEXUAL CONCERNS	50.113	8.256	0.000	0.611	34.983	62.203
	RISKY SEXUAL BEHAVIOR	8.923	1.884	0.000	0.598	5.497	11.745
SEXUAL CONCERNS WITH							
	RISKY SEXUAL BEHAVIOR	4.877	1.551	0.002	0.377	2.131	7.250

PTSD 1 = Posttraumatic Stress Disorder at T1; PTSD 2 = Posttraumatic Stress Disorder at Time 2

Table 5

*Specific Indirect Effects for Depression Model*

	Estimate	Standard Error	p-value	95%CIL	95%CIU
<i>Depression 1 to Negative World Views through Depression 2</i>					
Males	0.008	0.020	0.699	-0.018	0.037
Females	0.014	0.012	0.241	-0.006	0.033
Difference	-0.006	0.023	0.789	-0.039	0.030
<i>Depression 2 to Dysfunctional Sexual Behavior through Negative World Views</i>					
Males	-0.003	0.164	0.984	-0.269	0.182
Females	0.020	0.026	0.456	-0.012	0.069
Difference	-0.023	0.167	0.891	-0.291	0.165
<i>Depression 2 to Sexual Concerns through Negative World Views</i>					
Males	-0.011	0.101	0.915	-0.157	0.078
Females	0.040	0.039	0.310	-0.015	0.109
Difference	-0.05	0.109	0.644	-0.213	0.059
<i>Depression 2 to Risky Sexual Behavior through Negative World Views</i>					
Males	0.021	0.047	0.656	-0.035	0.096
Females	0.003	0.004	0.429	-0.002	0.011
Difference	0.018	0.047	0.708	-0.039	0.092

Depression 1 = Depression at Time 1; Depression 2 = Depression at Time 2

Table 6

*Specific Indirect Effects for PTSD Model*

	Estimate	Standard Error	p-value	95%CIL	95%CIU
<b>PTSD 1 to Negative World Views through PTSD 2</b>					
Males	0.073	0.285	0.776	-0.243	0.503
Females	0.130	0.408	0.751	-0.513	0.819
Difference	-0.056	0.478	0.906	-0.830	0.705
<b>PTSD 2 to Dysfunctional Sexual Behavior through Negative World Views</b>					
Males	0.235	1.564	0.881	-1.961	2.960
Females	0.192	0.746	0.797	-0.946	1.483
Difference	0.043	1.735	0.980	-2.414	2.974
<b>PTSD 2 to Sexual Concerns through Negative World Views</b>					
Males	0.140	1.020	0.891	-1.624	1.392
Females	0.356	1.168	0.761	-1.479	2.300
Difference	-0.216	1.563	0.890	-2.924	2.072
<b>PTSD 2 to Risky Sexual Behavior through Negative World Views</b>					
Males	0.299	0.621	0.631	-0.866	1.180
Females	0.032	0.118	0.785	-0.145	0.240
Difference	0.266	0.632	0.673	-0.926	1.145

PTSD 1 = Posttraumatic Stress Disorder at T1; PTSD 2 = Posttraumatic Stress Disorder at Time 2

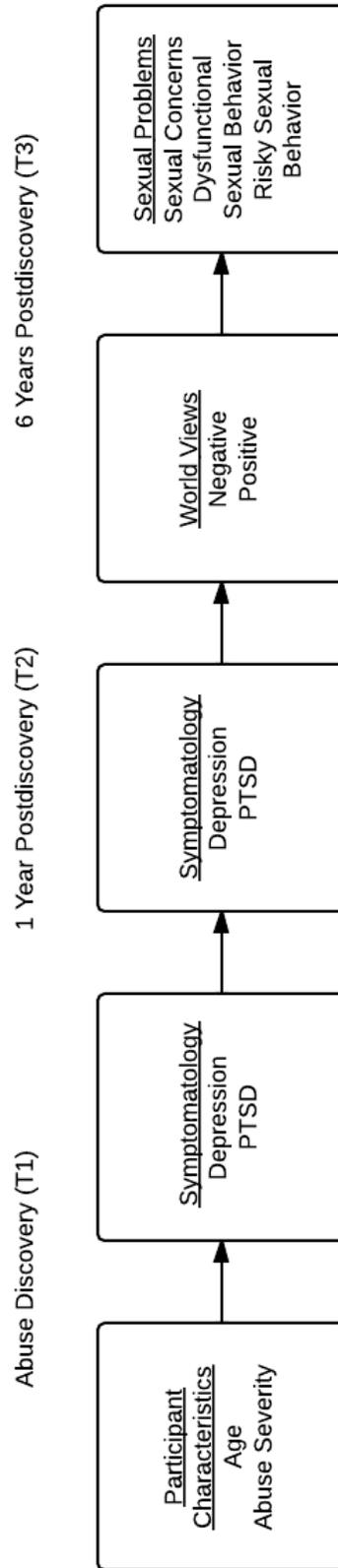


Figure 1: Conceptual Model of Predictive Pathways through Symptomatology and World Views to Sexual Problems Following Childhood Sexual Abuse

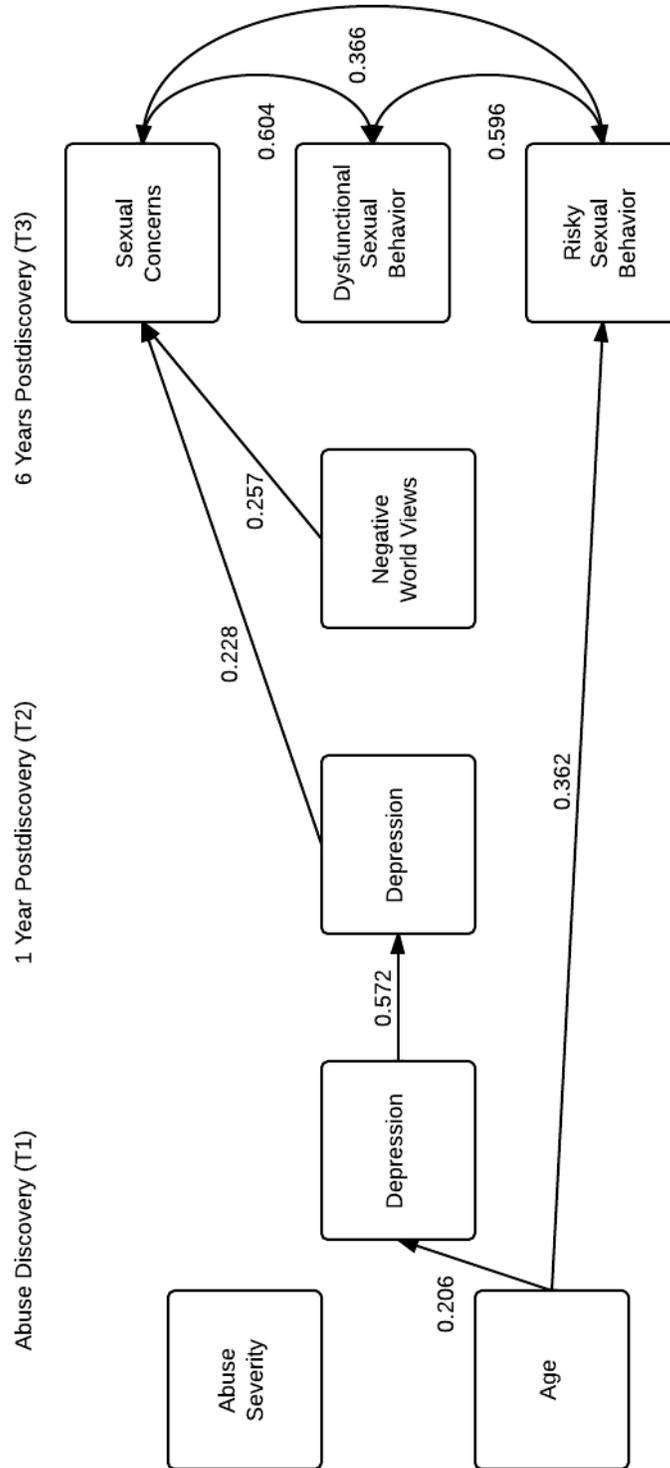


Figure 2: Structural Equation Model Results for Predictive Pathways to Sexual Problems through Depression and Negative World Views. The figure shows significant pathways with standardized path coefficients.

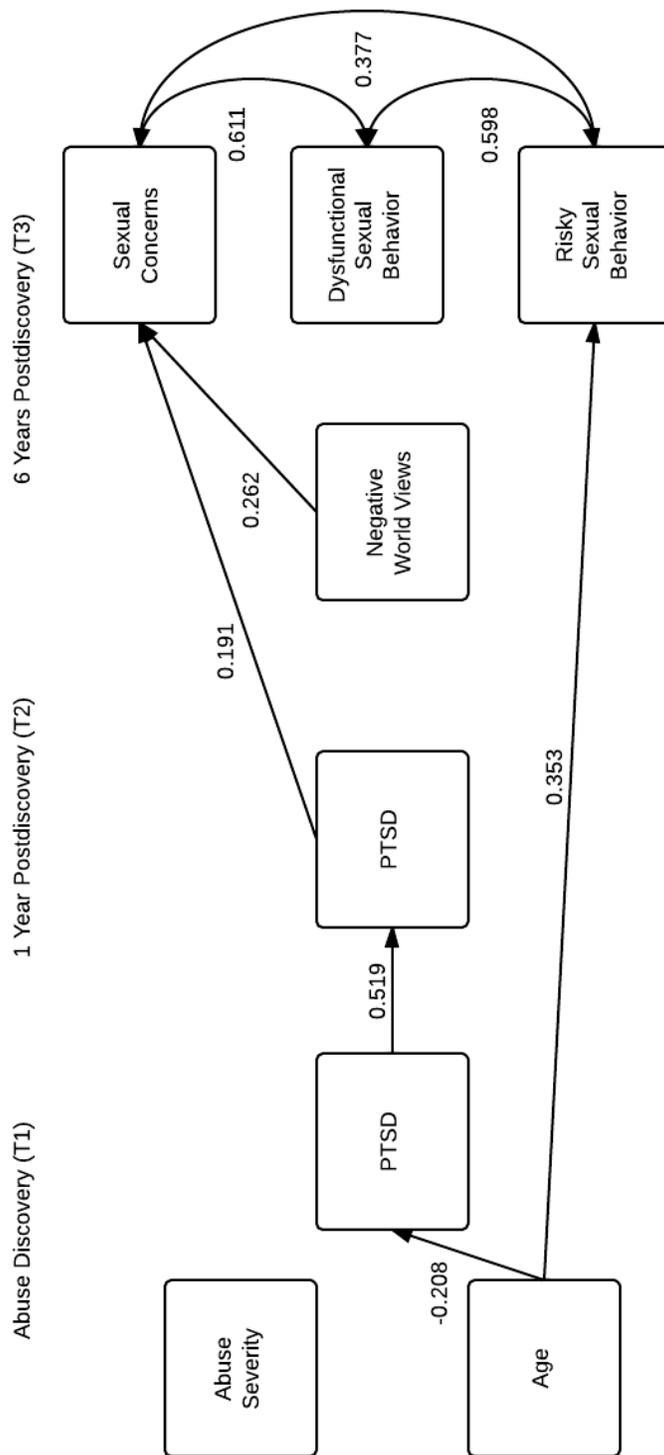


Figure 3: Structural Equation Model Results for Predictive Pathways to Sexual Problems through PTSD and Negative World Views. The figure shows significant pathways with standardized path coefficients.

**APPENDIX B**

## Children's Depression Inventory (CDI)

Kids sometimes have different feelings and ideas. This form lists the feelings and ideas in groups. From each group, pick one sentence that describes you best for the past two weeks. There is no right or wrong answer. Just pick one sentence that best describes the way you have been recently. Put a checkmark in the box next to the sentence that you pick.

1.     I am sad once in a while.  
       I am sad many times.  
       I am sad all the time.
  
2.     Nothing will ever work out for me.  
       I am not sure if things will work out for me.  
       Things will work out for me okay.
  
3.     I do most things okay.  
       I do many things wrong.  
       I do everything wrong.
  
4.     I have fun in many things.  
       I have fun in some things.  
       Nothing is fun at all.
  
5.     I am important to my family.  
       I am not sure if I am important to my family.  
       My family is better off without me.
  
6.     I hate myself.  
       I do not like myself.  
       I like myself.
  
7.     All bad things are my fault.  
       Many bad things are my fault.  
       Bad things are not usually my fault.
  
8.     I do not think about killing myself.  
       I think about killing myself but would not do it.  
       I want to kill myself.

9.  I feel like crying every day.  
 I feel like crying many days.  
 I feel like crying once in a while.
10.  I feel cranky all the time.  
 I feel cranky many times.  
 I am almost never cranky.
11.  I like being with people.  
 I do not like being with people many times.  
 I do not want to be with people at all.
12.  I cannot make up my mind about things.  
 It is hard to make up my mind about things.  
 I make up my mind about things easily.
13.  I look okay.  
 There are some bad things about my looks.  
 I look ugly.
14.  I have to push myself all the time to do my schoolwork.  
 I have to push myself many times to do my schoolwork.  
 Doing schoolwork is not a big problem.
15.  I have trouble sleeping every night.  
 I have trouble sleeping many nights.  
 I sleep pretty well.
16.  I am tired once in a while.  
 I am tired many days.  
 I am tired all the time.
17.  Most days I do not feel like eating.  
 Many days I do not feel like eating.  
 I eat pretty well.
18.  I do not worry about aches and pains.  
 I worry about aches and pains many times.

- I worry about aches and pains all the time.
19.  I do not feel alone.  
 I feel alone many times.  
 I feel alone all the time.
20.  I never have fun at school.  
 I have fun at school only once in a while.  
 I have fun at school many times.
21.  I have plenty of friends.  
 I have some friends but I wish I had more.  
 I do not have any friends.
22.  My schoolwork is alright.  
 My schoolwork is not as good as before.  
 I do very badly in subjects I used to be good in.
23.  I can never be as good as other kids.  
 I can be as good as other kids if I want to.  
 I am just as good as other kids.
24.  Nobody really loves me.  
 I am not sure if anybody loves me.  
 I am sure that somebody loves me.
25.  It is easy for me to get along with friends.  
 I get into arguments with friends many times.  
 I almost never fall asleep during the day.
26.  I fall asleep during the day all the time.  
 I fall asleep during the day many times.  
 I almost never fall asleep during the day.
27.  Most days I feel like I can't stop eating.  
 Many days I feel like I can't stop eating.

- My eating is O.K.
28.  It is easy for me to remember things.
- It is a little hard to remember things.
- It is very hard to remember things.

## Children's Impact of Traumatic Events Scale-Revised (CITES-R)

I am going to ask you several questions about what happened between you and (perpetrator). I am NOT going to ask you to describe what happened, instead, I want to know YOUR thoughts and feelings about what happened. I will read a sentence and you can tell me whether or not it is very true, somewhat true, or not true. There are no right or wrong answers to the questions I will be asking. Some of the questions may cause you to remember things that were unpleasant. If you feel very uncomfortable answering any question, let me know, and I can move on to another question.

3. I try to stay away from things that remind me of what happened.
6. I often feel irritable for no reason at all.
7. I have trouble falling asleep because pictures or thoughts of what happened keep popping into my head.
11. I have dreams or nightmares about what happened.
12. I have difficulty concentrating because I often think about what happened.
18. I am easily startled or surprised.
20. I think about what happened to me even when I don't want to.
23. Pictures of what happened often pop into my mind.
24. I often feel restless or jumpy.
30. I am easily annoyed by others.
32. I try not to think about what happened.
36. I sometimes have trouble remembering what happened during the sexual abuse.
42. Sometimes when playing, I act out what happened during the sexual abuse.
48. When I am reminded of what happened, I sometimes feel very scared.
50. I sometimes cry when I think of what happened.

54. I am not as interested in some things I used to like before the sexual abuse happened.

56. Many things remind me of what happened.

58. When I'm reminded of what happened, I try to think of something else.

66. I have tried to forget about what happened.

73. I sometimes pretend this never happened or that it was a bad dream.

77. It is more difficult for me to love people than it was before the sexual abuse.

Posttraumatic Change Narrative Coding System  
Shannon Barton\*, Tracy Casanova\*, Erin Mason\* & Valerie Simon

**CODING RULES**

**Changes Noted**

Check all types of change that the speaker mentions, noting line numbers where change is mentioned. The statement **must be an effect of the abuse or the disclosure of the abuse**, not a change reflective of other life events or a statement that does not reflect a change.

**Examples of statements that would not reflect a change would be:**

- “As I’ve gotten older, I have become more cautious, more understanding, more trusting, etc.”
- “I have always been unable to trust my parents.”
- “Now that I’m older, I go to church more.”
- “I was always taught that life was fair/unfair.”
- “I have always been a strong person.”
- “My boyfriend and I have never gotten along.”

Post-abuse changes MUST still affect the participant at the time of the interview. An example of a statement that no longer affects the participants is:

- “After the abuse I didn’t trust anybody, but I don’t have that problem anymore.”
- “When I told my mother about the abuse, she didn’t believe me and it made me angry but we’re fine now.”

However, if the participant notes a change in the past, it should be assumed that the change persists unless otherwise noted by the participant or it is reflective of a pattern that still persists. An example of a statement that still affects the participant is:

- “After the abuse, I felt depressed.”
- “When I told my mother about the abuse, she didn’t believe me and it made me angry. We still fight about everything because of that.”

**Valence of Changes**

Statements will be coded as positive if the participant perceives that change as positive or if there is evidence that there is positive impact on his/her life. An example of a positive statement is:

- “It feels really good to be a stronger person now.”

Statements will be coded as negative if the participant perceives that change as negative or if there is evidence that there is negative impact on his/her life. An example of a negative statement is:

- “Since the abuse I can’t get along with anyone. I don’t see the point in trying to because obviously nobody cares about me.”

Statements will be coded as ambiguous if it is unclear how the participant perceives the change or if there is a lack of evidence for positive/negative change. Additionally, a statement will be coded as ambiguous if the participant is ambivalent about the change or if the participant’s perception of the change is counterintuitive to the feelings of the coder. Examples of ambiguous statements are:

- “I’m more cautious.”
- “I do drugs to cope with the abuse and it makes me feel better to avoid thinking about it.”
- “I get into fights a lot at school now because I’m a stronger person.”
- “It impacts me differently every day. Some days I feel really down about it but other times I think it makes me better able to deal.”

### **Strength of Perceived Change Coding Rules**

Statements will always be coded as extremely vague/weak (1) if there is no apparent or significant impact on his/her life or the statement is not supported with examples. Examples of statements that reflect a (1) are:

- “Sometimes I don’t feel safe.”
- “I don’t feel safe in some situations but I don’t let it stop me from doing things”

Statements will always be coded as (2) if it has a slight impact on his/her life. This might look like the participant making the statement more than once with no support or if the effect is limited to a specific situation that does not heavily impact the participant’s life. Examples of statements that reflect a two are:

- “Since the abuse, I don’t feel safe. I feel uncomfortable taking the subway so I walk now.”
- “Since the abuse, I have a hard time enjoying walks in the park like I used to.”

Statements will always be coded as some definite change (3) if it has a moderate impact on his/her life. This might look like the participant making a vague/general/unsupported statement multiple times or the participant uses a strong modifier. The statement would also be coded as a (3) if the statement is clearly supported with examples or if the effect spans multiple situations. Examples of statements that reflect a (3) are:

- “Since the abuse I don’t feel safe. I find I check the lock on my door multiple times before I go to sleep.”
- “I don’t feel safe anymore. I don’t go out at night unless someone is with me.”

Statements will always be coded as (4) if the change has a strong impact on his/her life. This might look like the participant explaining the change in depth, the change spanning multiple significant situations, or the statement gives the coder the impression that the statements have a strong impact on the participant's life. Examples of statements that reflect a (4) are:

- “Since the abuse, I don't feel safe. When I'm at home, I check the lock multiple times before I go to bed. I also try to avoid being in public alone”

Statements will always be coded as extremely strong/evident (5) if the change has a pervasive impact on his/her life. This might look like the participant places an inordinate amount of focus on a particular subject or if the change spans most significant situations. Examples of statements that reflect a (5) are:

- “Since the abuse, I really don't feel safe anywhere. I can't go anywhere by myself because I'm afraid I'll become victimized again. It prevents me from going out with my friends and going back to school. I get extremely anxious when I have to leave the house. I just don't feel safe at all.”

While these examples reflect specific statements that would receive the appropriate score, it is important to take the entire transcript into consideration. Sometimes there will be apparent themes throughout a transcript that may influence the coder's feelings about scoring. These feelings are important and should not be dismissed when a score is assigned as long as there is evidence to support the feeling. In the same regard, a statement may be supported or disputed in another part of the transcript which may influence the coder's score.

### **Parenthesized Scores**

Statements will be coded separately with parentheses (around the line numbers and the score) if evidence for the change mentioned is not directly associated with the statement or requires a level of inference. This can occur when the coder notices themes in the transcript that are not explicitly stated, but that the coder can argue support changes mentioned by the participant. The score in parentheses is the score that should be given based on the rules and the parentheses is used to indicate a discrepancy between the score given based on the rules and the score the coder feels it should be based on other indicators in the transcript. These scores should be discussed and consensus scored.

### **Linked scores**

A change should be noted as a linked score if it seems like it is related to another change that the participant mentions. For example if the participant says

- “Because of the abuse my self-esteem is really low. This affects my ability to keep friends.”

This would be a linked score between personal self-concept and interpersonal intimacy. A linked score is denoted by using an abbreviation of the categories. For the previous example, an IP-I would go next to personal self-worth and a PC-SC would go next to interpersonal intimacy.

### **Overall Score Guidelines**

There will be separate overall positive, negative, and ambiguous scores for each change and/or relationship across multiple categories. Overall positive, overall negative, and overall ambiguous scores are meant to capture impact across the categories.

If one relationship or change is mentioned under a category, the overall positive/negative/ambiguous scores will be the same as the individual relationship or change positive/negative/ambiguous scores. For example:

- “The disclosure of the abuse has brought me and my husband closer than ever before. I feel like I can be myself around him now and that he better understands me. It has made our relationship so much better and I’m happier than I have been in a long time”

This statement would be coded as a positive 5; therefore, the overall positive score would be a 5 in changes in intimacy.

If multiple relationships or changes are mentioned under a category, there is an additive effect. If there is more than one score at different levels, the overall score has to be at least the score of the highest score, but also may be higher. The coder should use his/her own discretion to decide whether the change should be coded higher or not. For example:

- “I don’t think I can trust my parents anymore. I also seem to have issues trusting my boyfriend. The fact that I can’t trust my parents has really affected our relationship. I used to feel safe around them and now I don’t. I feel safe around my boyfriend but I have a difficult time believing he’s honest with me. Because if this, we get into fights a lot.”

The first relationship mentioned, family, would be coded as a negative 4 under changes in trust. The second relationship mentioned, significant other, would be coded as a negative 3 under changes in trust. The overall score here should at least be a 4 but in this case, it should probably get a 5. This is where coder discretion comes in.

For more than one positive/negative/ambiguous scores at the same level under the same category, the general rule is overall score = score + 1. For example:

- “I now feel motivated to go back to school and get a better job. I try to get out in the community and get involved. I’ve even started going to church more”

This statement would be coded as a positive 2 in changes in participation of activities, changes in goals and aspirations, and changes in spiritual behavior. The overall score here would be a positive 3 under the changes in life orientation category.

### **Coding Questions/Concerns**

If there are questions about a possible statement make a note of the domain, line number(s), and questions at the end of the coding sheet for later discussion.

- Specific questions to note include:
  - Overall interpersonal scores that include multiple relationships.
  - Disclosure. This does not include initial disclosure when the abuse is first known, but subsequent disclosure, perhaps to future friends or significant others.
  - Indirect changes are when the participant identifies a change as a result of the abuse and then identifies a change as a result of the second change.

### **Changes in World Views**

Changes in world views are defined as changes in the attitudes or ideas someone has about the world and the way it operates. For example, hypothetical relationships or imagined futures reflect how someone thinks about the world. These changes are coded though the views of the participant, not the coder. If the participant sees a change as a positive change, then it should be coded as such, even if the coder disagrees. If the participant sees a change as a negative change, then it should be coded as such, even if the coder disagrees. Changes in world views include:

#### **1. Changes in Feelings of Safety**

This category refers to how secure the participant feels in his/her environment. This can be seen in concerns for safety of the self or others and the amount of caution a participant says he/she exhibits. The area about which the participant is concerned should be checked.

Concern for the self can take two forms: general or relationships. Concern for the self usually takes the form of behaviors the participant exhibits or beliefs about one's own safety. General concern for the safety of the self could take the form of feeling safe or not safe or being more or less cautious in general.

A statement will be coded as a positive change in general concern for the safety of self if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- "I am glad that I am more cautious."

A statement will be coded as a negative change in general concern for the safety of self if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- "I do not feel safe and that scares me."

A statement will be coded as an ambiguous change in general concern for the safety of self if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- "I do not feel safe at night."

Relationship concern for the self refers to how safe the participant believes he/she is in specific relationships, such as intimate relationships, friendships, the opposite sex, or parenting.

A statement will be coded as a positive change in concern for the safety of self in relationships if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “It’s benefited me because I am more careful when choosing a boyfriend.”
- “I’m glad that I feel safe with my friends.”

A statement will be coded as a negative change in concern for the safety of self in relationships if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “It’s probably not good that I don’t feel safe with men.”

A statement will be coded as an ambiguous change in concern for the safety of self in relationships if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I try to be more careful with my children.”
- “It is bad that I feel safe with my husband because I shouldn’t let my guard down.”
- “I will never be safe so I might as well be reckless.”

Concern for others can also take two forms: general and relationships. Concern for others usually takes the form of beliefs about how safe the participant believes other people are in a general sense. General concern for the safety of others could be about anyone: men, women, or children.

A statement will be coded as a positive change in general concern for the safety of others if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “I’m happy that I know that children are not safe because it helps me protect them.”

A statement will be coded as a negative change in general concern for the safety of others if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “It makes me angry that no woman is safe from abuse.”

A statement will be coded as an ambiguous change in general concern for the safety of others if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “No one is safe in this world.”

Concern for others in relationships refers to beliefs that the participant has about how safe others are in specific relationships, such as, intimate relationships, friendships, the opposite sex, adults, and parents.

A statement will be coded as a positive change in concern for the safety of others in relationships if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “I’m glad that I know that wives can never trust their husbands to treat them well.
- “I’m happy that women can always feel safe around their friends.”

A statement will be coded as a negative change in concern for the safety of others in relationships if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “It makes me angry that children can never be safe around men.”
- “It’s sad that adults cannot control their urges around children.”

A statement will be coded as an ambiguous change in general concern for the safety of others if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “There is always the possibility that other parents are abusing their children.”

## **2. Changes in Spirituality**

This category refers to how a participant’s ideas about spirituality have changed as an effect of the abuse. This category is looking for changes in spiritual ideology, not changes in spiritual behaviors. For example, if the participant says that since the abuse, she goes to church or prays every day, this would be coded under self views. In world views, changes in spirituality are alterations in global beliefs about how spirituality affects the participant and his/her environment.

A statement will be coded as a positive change in spirituality if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “I’m happy that I know that God has a plan for everyone.”
- “I’m happy that I have become more/less religious.”

A statement will be coded as a negative change in spirituality if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “I’m sad that God has abandoned me like this.”

A statement will be coded as an ambiguous change in spirituality if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “Converting to Christianity has made me see that I am a sinner for letting the abuse happen to me. I’m glad I know that now.”
- “I have converted to Christianity.”
- “I know that there is/isn’t a God now.”

### **3. Changes in Trust in Society**

This category refers to how a participant’s trust in society has changed as an affect of the abuse. This category is looking for general changes in trust across groups of people, not in specific relationships. For example, if the participant says that she does not trust her boyfriend, this would be coded under interpersonal views. In world views, changes in trust are alterations in a global sense of trust in people or groups of people.

A statement will be coded as a positive change in trust if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “It’s good that I don’t trust anybody anymore.”
- “It’s good that I don’t trust men anymore because they can’t be trusted.”
- “It’s smart that I can only trust women now.”

A statement will be coded as a negative change in trust if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “It’s bad that I don’t trust anybody anymore.”
- “I hate that I can only trust women.”
- “I hate that I can’t trust men.”

A statement will be coded as an ambiguous change in trust in society if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I don’t trust anybody.”
- “I don’t trust men.”
- “I only trust women.”

### **4. Changes in Belief of Fairness of Life**

This category refers to how a person’s belief in the fairness of life has changed. This category has two subcategories: changes in beliefs about fairness of society and changes in beliefs about fairness of life.

#### **a. Changes in Beliefs about Fairness of Society**

This category refers to how the participant’s beliefs about the fairness of society’s rules or norms have changed as an affect of the abuse. This category is looking specifically for beliefs about the fairness of society, not the fairness of relationships. For example, if the participant says that she

thinks it is unfair that her family treats her differently, this would be coded under interpersonal views. In world views, changes in beliefs about fairness of society are alterations in a global sense of beliefs about how fair society's rules or norms are.

A statement will be coded as a positive change in fairness of society if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- "I'm glad that I have realized that the legal system doesn't care about getting the bad guys."
- "It makes me happy that can trust that the legal system will always come through for me."
- "I'm happy that I have realized that society cares about those affected by abuse."

A statement will be coded as a negative change in fairness of society if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- "It's make me angry that I am treated differently because I am an abuse victim."
- "I'm angry that the legal system doesn't care enough to catch the bad guys."
- "It upsets me that society doesn't care about those affected by abuse."

A statement will be coded as an ambiguous change in fairness of society if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- "The legal system doesn't care about catching the bad guys."
- "Society doesn't care about the abused."
- "The legal system doesn't work."
- "I'm glad I know that the legal system doesn't work because that allows me do break the law without fear of getting caught"

#### *b. Changes in Beliefs about the Fairness of Life*

This category refers to the participant's beliefs about how fair life is and about actions having consequences. This category is looking for a global sense of believing that life is fair.

A statement will be coded as a positive change in fairness of life if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- "I'm glad that I know now that life is unfair."
- "I'm glad that I have realized that bad things happen to good people."

A statement will be coded as a negative change in fairness of life if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “I’m angry that I had to learn that life is unfair this way.”
- “It makes me sad that I learned that bad things happen to good people.”

A statement will be coded as an ambiguous change in fairness of life if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I know now that people get what they deserve.”
- “I know now that bad things happen to good people.”
- “I know now that life is unfair.”
- “Bad people don’t always get punished.”
- “People always get what’s coming to them.”
- “I’m glad that I know that no one gets punished for doing bad things because that means I can do whatever I want.”

### 5. Changes in Empathy

This category refers to changes in empathy towards others in a global sense. This category has two subcategories: changes in understanding others and changes in desire to help others.

#### a. Changes in Understanding Others

This category refers to the participant’s beliefs about how well he/she understands the problems or lives of others as an effect of the abuse. This category is looking for changes in understanding in a global sense, not in specific relationships. For example, if the participant says that she is better at understanding the problems of her friends or boyfriend, this would be coded under interpersonal views. Changes in understanding others in world views is looking for changes in understanding in a general sense or in broad groups of people.

A statement will be coded as a positive change in understanding others if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “The only good thing about my experience is that I have become more understanding of other abuse victims.”
- “I’m glad that I am more able to understand people.”

A statement will be coded as a negative change in understanding others if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “I wish I was able to understand others better but I can’t since the abuse.”
- “I’m angry that I cannot understand what motivates any abuse.”

A statement will be coded as an ambiguous change in spirituality if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I am more understanding.”

- “I am now able to understand the issues facing women.”
- “I am more understanding of other abuse victims.”
- “I do not understand what would motivate any abuse.”
- “I am less able to understand others.”
- “Now I understand why the perp did what he did and I want to be like that too.”

#### *b. Changes in Desire to Help Others*

This category refers to the participant’s desire to help other people as an effect of the abuse. This category is looking for global changes in the desire to help people, not for the desire to help specific people or simply enjoying an activity. For example, if the participant says that she has more of a desire to help her friends who have been abused, this would be coded under interpersonal views. If the participant says that now she enjoys volunteering, but says nothing about wanting to help others, this would be coded as a self-view. In world views, changes in desire to help others are alterations in the desire to help in general or the desire to help broad groups of people.

A statement will be coded as a positive change in desire to help others if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “The only good thing about my experience is that I am now more motivated to help others in the same situation.”
- “Since the abuse, I enjoy helping other people.”

A statement will be coded as a negative change in desire to help others if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “I wish that I had more drive to help other people but it makes me uncomfortable so I never do.”
- “I do not want to help others in the same situation because it reminds me of the abuse and it upsets me.”

A statement will be coded as an ambiguous change in desire to help others if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I now want to help others.”
- “I now want to help other abuse victims.”
- “I now have no desire to help others because nobody helped me.
- “I like to help others because I enjoy seeing other people in more pain than me.”

#### *6. Changes in Views on Relating to Others*

This category refer to how the participant relates to other people in a global sense. This may be reflected in changes in attitudes or behaviors towards others or changes in beliefs about how others view the participant. These statements do not include changes in views on specific relationships. For example, if the participant says that his or her feelings towards a specific person have changed, this would be coded under interpersonal views. In world views, changes in views on relating to others are alterations in views of broad groups of people or general changes in viewpoints.

A statement will be coded as a positive change in views on relating to people if the participant expresses it as such or there is evidence that the change is positive. Examples of statements that reflect a positive change are:

- “The abuse has changed my views on family/children/men/women for the better.”
- “I think other people see me as a stronger person because I went through this.”

A statement will be coded as a negative change in views on relating to people if the participant expresses it as such or there is evidence that the change is negative. Examples of statements that reflect a negative change are:

- “The abuse has changed my views on family/children/men/women for the worse.”
- “I think other people look at me different because I went through this.”

A statement will be coded as an ambiguous change in views on relating to people if the participant does not identify the change as being either positive or negative, if the participant is ambivalent, or makes a counterintuitive statement. Examples of statements that reflect an ambiguous change are:

- “I don’t like men/women/ parents/strangers now.”
- “The abuse has changes my thoughts about family.”
- “It’s good that people see me as a terrible person.”

## Trauma Symptom Inventory

In the last 6 months, how often have you experienced:

Sexual Concerns Subscale:

- 9. Not being satisfied with your sex life
- 33. Bad thoughts or feelings during sex
- 39. Confusion about your sexual feelings
- 47. Sexual thoughts or feelings when you thought you shouldn't have them
- 52. Problems in your sexual relations with another person
- 61. Wishing you could stop thinking about sex
- 68. Sexual problems
- 77. Feeling ashamed about your sexual feelings or behaviors
- 95. Wishing you didn't have any sexual feelings

Dysfunctional Sexual Behavior Subscale:

- 18. Having sex with someone you hardly knew
- 28. Getting into trouble because of sex
- 36. Having sex or being sexual to keep from feeling lonely or sad
- 46. Flirting or "coming on" to someone to get attention
- 69. Using sex to feel powerful or important
- 71. Acting "sexy" even though you didn't really want sex
- 73. Using sex to get love or attention
- 76. Wishing to have sex with someone who you knew was bad for you
- 81. Having sex that had to be kept secret from other people

### Risky Sexual Behavior Index

For the following set of questions, answer by clicking either yes or no.

Have you ever...

1. Had sexual intercourse or oral sex without a condom?
2. Had sexual intercourse or oral sex with an IV drug user?
3. Had sexual intercourse or oral sex with someone who is bisexual?
4. Had sexual intercourse or oral sex with a gay male?
5. Had sexual intercourse or oral sex with a person who had multiple partners?
6. Had sexual intercourse or oral sex in a "one-night stand"?
7. Had sexual intercourse or oral sex while using drugs or alcohol?

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**THE ROLE OF WORLD VIEW CHANGES IN LONGITUDINAL ASSOCIATIONS  
BETWEEN DEPRESSION AND PTSD SYMPTOMS AND LATER SEXUAL  
PROBLEMS**

by

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Childhood sexual abuse (CSA) is a risk factor for the development of depression and posttraumatic stress disorder (PTSD) symptoms, as well as sexual problems. Additionally, previous research supports a relationship between symptoms of depression and PTSD and sexual problems in both sexually abused and non-abused samples. There has been little attempt, however, to explain the mechanisms responsible for this relationship. The current study proposed that abuse-related changes in world views might be one such mechanism and examined whether world view changes mediate longitudinal associations between depression and PTSD symptoms and sexual problems (sexual concerns, dysfunctional sexual behavior, and risky sexual behavior). This study is unique in that it considered the effects of both positive and negative world view changes on this relationship. Over half of youth in the study reported at least one world view change, with the preponderance of changes being negative. Thus, youth appear to be cognizant of ways in which their experiences of CSA have affected their beliefs. No straightforward relationship between early abuse reactions and world views emerged, as neither depression nor PTSD predicted world view changes. Although higher levels of symptomatology and stronger world view changes were related to sexual concerns, they were unrelated to dysfunctional or

risky sexual behaviors. The reasons for this differentiation could include the nature of constructs or the measures focus on hyper-sexuality. This study contributes to the extant literature by highlighting the implications of CSA experiences for emerging world views and their associations with emerging sexuality.

**AUTOBIOGRAPHICAL STATEMENT**

The author was born in Worcester, Massachusetts, August 18, 1988. She graduated from Gabriel Richard High School, Riverview, Michigan in June 2006. She graduated with her Bachelor of Science in Psychology from Wayne State University, Detroit, Michigan in May 2011. She will graduate with her Master of Arts in Clinical Psychology from Wayne State University, Detroit, Michigan, in August 2013.