

# UCLA

## UCLA Previously Published Works

### Title

Childhood Sexual Abuse Severity and Disclosure as Predictors of Depression Among Adult African-American and Latina Women

### Permalink

<https://escholarship.org/uc/item/7764z6r5>

### Journal

The Journal of Nervous and Mental Disease, 199(7)

### ISSN

0022-3018

### Authors

Sciolla, Andres  
Glover, Dorothy A  
Loeb, Tamra B  
[et al.](#)

### Publication Date

2011-07-01

### DOI

10.1097/nmd.0b013e31822142ac

Peer reviewed



## Manuscript Information

**Journal name:** The Journal of nervous and mental disease

**NIHMSID:** NIHMS302924

**Manuscript Title:** Childhood sexual abuse severity and disclosure as predictors of depression among adult African American and Latina women

**Principal Investigator:**

**Submitter:** Lippincott, Williams And  
Wilkins (EditorialSolutions@lww.com)

## Grant/Project/Contract/Support Information

Name	Support ID#	Title
------	-------------	-------

## Manuscript Files

Type	Fig/Table #	Filename	Size	Uploaded
manuscript	1	NMD201262-TITLE PAGE_CSA Depression Family Adversity Chronic Stress_FINAL.doc	35840	2011-06-10 12:26:51
manuscript	2	NMD201262manuscript.doc	123392	2011-06-10 12:26:51
figure	1	NMD201262-FIGURE_CSA Depression Family Adversity Chronic Stress_FINAL.doc	31232	2011-06-10 12:26:51
figure	2	NMD201262_figure.doc	20992	2011-06-10 12:26:51
table		NMD201262- TABLES_CSA Depression Family Adversity Chronic Stress_FINAL.doc	59904	2011-06-10 12:26:52

This PDF receipt will only be used as the basis for generating PubMed Central (PMC) documents. PMC documents will be made available for review after conversion (approx. 2-3 weeks time). Any corrections that need to be made will be done at that time. No materials will be released to PMC without the approval of an author. Only the PMC documents will appear on PubMed Central -- this PDF Receipt will not appear on PubMed Central.

RUNNING TITLE: Child sexual abuse & depression in women

CORRESPONDING AUTHOR: Andres Sciolla, MD  
Assistant Clinical Professor  
University of California, San Diego  
9500 Gilman Drive  
La Jolla, CA 92093-9116-A  
Tel 858-534-4040  
Fax 858-822-0231  
Email [asciolla@ucsd.edu](mailto:asciolla@ucsd.edu)

COMPLETE TITLE: Childhood sexual abuse severity and disclosure as predictors of depression among adult African American and Latina women

AUTHORS: Andres Sciolla, MD<sup>1</sup>  
Dorie A. Glover, PhD<sup>2</sup>  
Tamra B. Loeb, PhD<sup>2</sup>  
Muyu Zhang, MS<sup>2</sup>  
Hector F. Myers, PhD<sup>3</sup>  
Gail E. Wyatt, PhD<sup>2</sup>

---

<sup>1</sup> Department of Psychiatry, University of California, San Diego, California, USA.

<sup>2</sup> Jane & Terry Semel Institute for Neuroscience & Human Behavior, University of California, Los Angeles, California, USA.

<sup>3</sup> Department of Psychology, University of California, Los Angeles, California, USA.

Support: 5R34MH077550-02 NIMH and ID08-SD-034 California HIV/AIDS Research Program (Dr. Sciolla).  
P50 MH073453 (Drs. Glover, Loeb, Myers and Wyatt, and Ms. Zhang).

## **Abstract**

A history of childhood sexual abuse (CSA) has been associated with adult depression, but data on abuse severity and disclosure are scant, particularly among low income ethnic minorities. CSA often co-occurs with other adversities, which also increase the risk of depression. This study examined the peri-trauma variable of abuse severity and the post-trauma variables of disclosure and self-blame as predictors of current depression symptoms in 94 low-income African American and Latina women with histories of CSA. After controlling for non-sexual childhood adversity and adult burden (i.e., chronic stress), severe CSA overall was associated with higher depression scores, especially among Latinas who disclosed their abuse. Depression symptoms among African American women were highest in those who disclosed and reported high levels of self-blame at the time of the incident. The link between depression and specific peri- and post-CSA factors in minority women may help guide future interventions.

## Introduction

Childhood sexual abuse (CSA), a traumatic experience associated with considerable adult psychopathology (Briere & Elliott, 2003), is reported by 15-22% of adult women and 7-9% of adult men in the general population (Gorey & Leslie, 1997). Robust linkages between CSA and adult major depression have been documented in cross-sectional (Kendler et al, 2004) and longitudinal studies (Fergusson et al, 1996; Schilling et al, 2007) in both clinical (Gibb et al, 2007) and community samples (Teicher et al, 2009; Wyatt et al, 2004).

In a comprehensive review of studies employing both nonclinical and clinical samples, Ullman (2003) noted that existing research on CSA is limited to convenience samples lacking in socio-economic diversity (e.g., college students). Low-income ethnic minority women living in impoverished urban areas report particularly high rates of multiple types of abusive and adverse experiences during childhood (Bradley et al, 2005; Brown et al, 2005; Davis et al, 2008; Gillespie et al, 2009). High adversity rates are even seen among “normal” control women of color without mental disorders (Hien & Bukszpan, 1999). Despite the likelihood of co-occurring adversities, a specific focus on CSA is needed because of increased risk in adulthood for re-victimization by an intimate partner (Classen et al, 2005; Desai et al, 2002), and the well-documented effects of CSA on adult mental health (Fletcher, 2009; Kendler et al, 2002; MacMillan et al, 2001; Teicher et al, 2009). However, there are few studies of CSA among women of color that have controlled for co-occurring nonsexual childhood adverse experiences and adult chronic stress. Failure to control for these other sources of risk may result in overestimating the contribution of CSA to risk for depression.

Past research on CSA by our team (Loeb et al, 2002; Wyatt et al, 1999; Wyatt et al, 2002; Wyatt et al, 2004; Myers et al., 2006), and others (Dong et al, 2003; Lange et al, 1999; Messman-Moore et al, 2000; Smith et al, 2000; Zanarini et al, 2002; Zink et al, 2009) has documented the effects of several characteristics of abuse incidents on risk for negative adult

psychosocial outcomes. These characteristics include severity (e.g., the presence of penetration); the age of the child; and relationship to the perpetrator (e.g., family member). The presence of coercion or violence, younger age at the time of the event, and abuse by a family member are associated with the most debilitating effects (Wyatt et al., 2002). Most recently, we found that penetrative CSA was a strong predictor of overall posttraumatic stress symptoms, especially avoidance/numbing symptoms in a convenience sample of low-income African American and Latina women (Glover et al, 2010).

### **Effects of CSA disclosure and self-blame**

In Spaccarelli's (1994) model of the mental health effects of CSA, CSA is seen as a stressor consisting of a series of abuse events, abuse-related events and disclosure-related events, where each contribute to increasing the risk for maladaptive outcomes. The model proposes that coping responses and cognitive appraisals mediate the effects of these events, that developmental and environmental factors moderate the relationships between events and victim responses, and that the victims' initial responses may affect subsequent levels of abuse-related stress.

Disclosure of CSA has been conceptualized as an active form of coping (problem-focused) and nondisclosure as avoidant coping (emotion-focused) thought to be associated with more negative outcomes (Whiffen & Macintosh 2005). Some evidence suggests that supportive responses to disclosure are associated with better outcomes (Ullman, 2007). However, a comprehensive review by Ullman (2003) documented a broad range of negative reactions to both child and adult disclosures of CSA that are associated with poor psychosocial adjustment. Notably, nonsupportive responses from mothers may be associated with their own histories of CSA (Hiebert-Murphy, 1998). Clearly, conditions under which disclosure is or is not an effective coping strategy (i.e., reduces negative outcomes of CSA) requires further study.

In population-representative samples approximately one-third of women never disclose their CSA experiences; although two-thirds disclose their abuse, many do it years later (Ullman, 2003). Wyatt (1990a) did not find ethnic differences between European American and African

American women in rates of disclosure. However, African American women were less likely to tell a family member or report it to the police and somewhat more likely to fear negative consequences of disclosing, as compared European American women (Wyatt, 1990b). While comparatively less attention has been paid to the CSA disclosure patterns among Latinas (Ulibarri et al, 2009), some studies suggest that less acculturated Latinas are more likely to report family members as perpetrators and wait comparatively longer to disclose than women from other ethnic groups (Houston et al, 1995; Katerndahl et al, 2005).

The Spaccarelli's (1994) model also proposes that cognitive appraisals and attributions of responsibility mediate effects of CSA on psychosocial adjustment. Therapeutic interventions for CSA survivors typically involves recounting the sexual abuse while simultaneously attempting to reprocess or restructure beliefs related to the experience(s), and decrease self-blame (Cole & Barney, 1987; Whiffen & Macintosh, 2005). Factors such as gender and age have been found to influence self-blame among survivors of childhood trauma. Thus, for example, females are more likely to blame themselves than males (Hunter et al, 1992), and younger females are more likely to blame themselves for CSA incidents than older females (Hazzard et al, 1995). Also, children who blame themselves for the abuse to themselves may take longer to disclose (Goodman-Brown et al, 2003). Children's appraisals of how other people may react to the disclosure along with their perceptions of responsibility for the abuse have been associated with the likelihood of disclosure (Goodman-Brown et al, 2003). Wyatt & Mickey (1988) reported that children were less likely to disclose when they attributed the cause of the incident to internal, as opposed to external events.

### **A model of peri and post-CSA predictors of depression and health risk**

Combining Spaccarelli's (1994) model and our findings of the importance of CSA severity on adult posttraumatic stress symptoms (Glover et al, 2010), we propose a new conceptual model of the relationship between CSA and depression. As shown in Figure 1, our model predicts that severity of CSA (i.e., penetrative) will be a direct contributor to risk for depression, and that this relationship will not be moderated by disclosure or self-blame. The

model also predicts, based on earlier findings, that less severe CSA will also be related to depression, but this relationship will be moderated by disclosure and self-blame. Thus, those who disclosed and blamed themselves for the abuse are expected to evidence greater depression symptoms than those who did not disclose and/or did not blame themselves. No African American and Latina group differences are expected in the pattern of these relationships.

## **Methods**

### **Sample**

A community-resident convenience sample of 132 African American and Latina women, 18-50 years of age with histories of CSA were recruited through a network of community-based organizations, hospitals, and clinics throughout Los Angeles County. CSA was classified using nine items from the Wyatt Sexual Health Questionnaire that includes an incident-based reporting system for all incidents of coercive sex experienced prior to age 18 (Wyatt et al, 1992). Women were prescreened by telephone according to the following criteria: female gender, age 18-50 years, self-reported identification as African-American or Latina, speak English, have a history of CSA, and are HIV-negative by self-report. Of 187 women prescreened, 132 met all eligibility criteria; of these, 96 were consented and 94 completed the study. The study was approved by the UCLA Institutional Review Board.

### **Procedures**

All eligible women were scheduled for an in-person interview. Transportation, childcare and refreshments were provided. After informed consent was obtained, histories of CSA and questions regarding CSA disclosure and appraisal were completed in private, face-to-face interviews. The remaining measures were completed by Audio Computer Assisted Self-Interview (NIMH, 2008). Assessments averaged 2.5 hours. Compensation of \$50 and referral for mental health services was provided as needed.

### **Measures**

Demographic characteristics included: age, race/ethnicity, personal and household income in the past year, education, employment, occupation, household composition, and marital or relationship status.

CSA characteristics were assessed using 9 items from the revised Wyatt Sexual History Questionnaire (Wyatt et al, 1992). Nine yes/no screening questions were asked about experiences with an adult or someone older than the victim before age 18, including fondling, frottage, attempted intercourse, intercourse, oral copulation, and digital or object penetration. A positive answer to any of these experiences indicating attempted or completed oral, vaginal, anal sex or rape was followed with questions about the age at the time of each experience, the victim's relationship to the perpetrator, and the duration. Recall was facilitated by use of "bounding and framing" techniques, which are designed to assist participants to recall the CSA event in more detail by anchoring the time period with other meaningful experiences.

Childhood adversities were assessed with the 16-item questionnaire of childhood adversities (Kessler & Magee, 1993). The questionnaire was used to assess seven types of childhood adversities, each focusing on an experience before the respondent was 16 years of age. They include (a) serious parental drinking problems, (b) serious parental mental health problem, (c) parental marital problems, (d) parental divorce or separation, (e) death of parent, (f) absence of a close and confiding relationship with parent or some adult, (g) experience or witness violence in the family. A reliable sum score was calculated (Cronbach  $\alpha = 0.81$ ), with a higher score indicating greater childhood adversity.

Chronic burden was assessed with the Chronic Burden Scale (Gurung et al, 2004), a 21-item measure of difficulties experienced in the past 6 months from a number of chronic stressors (e.g., economic, employment, crime, legal problems, discrimination, etc.). Responses range from (1) not a problem to (4) a major problem. A reliable sum score was calculated (Cronbach  $\alpha = 0.85$ ), with a higher score indicating greater stress burden.

CSA disclosure was assessed by asking women whether they ever disclosed the CSA experience (yes or no) and disclosers were compared to non-disclosers. A sub-sample (n=27)

of disclosers completed the 7-item unsupportive responses to disclosure subscale of the Checklist of Sexual Abuse and Related Stressors (Spaccarelli, 1995). Questions included “Some people in your family were angry at you when they found out what happened,” and “When they found out what happened some people in your family blamed it on you.” Scores ranged from 0 (no unsupportive responses) to 7 (maximum unsupportive response) (Cronbach  $\alpha = .70$ ). Due to the limited number of cases, this variable is reported in the descriptive table (Table 1), but is not included in the final regression models (Table 2).

CSA-related attribution of responsibility was assessed with 4 items from the Coffey et al. (1996) self-blame measure. Items included “How much do/(did) you feel that you were personally to blame for what happened?” and “How much do/(did) you feel to blame for this sexual experience occurring because you acted in a way to allow it to happen?” Responses ranged from (1) not at all to (7) very much so for a maximum total self-blame score of 28 (Cronbach  $\alpha = 0.81$ ). However, due to restriction of range and violations of normality in this sample, the self-blame score was dichotimized into high (4 and above) and low levels (<3).

Depressive symptoms were assessed by the Center for Epidemiological Studies-Depression Scale (CES-D) (Radloff, 1977), which yields a reliable sum score (Cronbach alpha of 0.88). Scores range from 0 to 60, with higher scores indicating more symptoms of depression. CES-D scores of 16 to 26 are considered indicative of mild to moderate depression and scores of 27 or greater indicative of major depression (Zich et al. 1990, Ensel 1986). A cut-off score of 21 was chosen as the criterion for clinically meaningful depression symptoms.

### **Statistical Analyses**

Data analyses were conducted in four phases. First, frequency distributions were examined for each variable and data were categorized when necessary to ensure adequate cell frequencies for statistical analyses of the primary aims. The first incident of CSA was selected as the focus for primary analyses because too few women reported more than one incident. Normality and homogeneity assumptions were tested and transformations made (and indicated) when necessary. Second, descriptive analyses of ethnic differences on the primary variables

were examined with Chi-Square for categorical variables and Analysis of Variance (ANOVA) for continuous variables. Third, mixed linear models were conducted for depression with childhood adversity and adult stress burden included as covariates, and CSA severity, disclosure, self-blame, and their interactions entered in invariant order in a series of steps. The recommendations by Kraemer and colleagues (2008) outlining the MacArthur approach to evaluating mediators and moderators were followed. Two variables, sum chronic burden and childhood adversity scores, both of which could have independent effects on depression, were treated as covariates in all analyses.

## Results

The final study sample consisted of 94 women (63 African Americans and 31 Latinas) who were relatively young (age  $M=35.1$ ,  $SD=9.3$  years) and had limited economic resources: 68 percent reported little or no income, 60 percent were unemployed, 95 percent were living below the monthly eligibility standards for poverty (USDA, 2009), and more than half were unemployed or unable to work. In addition to these substantial vulnerabilities, they also reported long-standing stressors, including childhood adversities ( $M=4.88$ ,  $SD=2.9$ ) and moderately high chronic burden ( $M=30.16$ ,  $SD=10.8$ ). Slightly over half of the women (55%) described their relationship status as “dating”, with only 20% reported living with a partner. Though most of the women in our sample were mothers of at least one child, African American women had significantly more children ( $M=2.10$ ,  $SD=1.97$ ) than Latinas ( $M=1.29$ ,  $SD=1.66$ ) [ $F(1,92) = 3.83$ ,  $p=.05$ ].

Statistical analyses comparing the two ethnic groups on all demographic, CSA characteristics, covariates (i.e., relationship to the perpetrator, age of occurrence, duration of the abuse) and outcome variables yielded no significant differences. Thus, ethnic groups were combined in the regression model analyses. Exploratory analyses run separately for each ethnic group were conducted to assess evidence for distinct patterns to be tested in future studies.

### Characteristics of First-Incident Child Sexual Abuse

Participants reported between 1 to 5 distinct incidents of CSA ( $M=1.5$ ,  $SD=0.9$ ). A small percentage (11 percent) of the sample reported that the first incident lasted less than 1 week, and 33 percent estimated that it lasted about one week. Of the remaining participants (57 percent), the duration of the first CSA incident ranged from 2 weeks to many years ( $M= 4.2$ ,  $SD=3.9$  years). In most cases, there was one perpetrator (typically a family member). The mean age at the first incident was 9.58 years ( $SD=3.93$ ), and was more likely to have occurred prior to or during elementary school years (57 percent) than during adolescence (42 percent). Chi-square analysis for peri-trauma variables revealed that only age at the time of the first CSA incident was linked to disclosure, with younger victims more likely to be non-disclosers than those victimized as teens (38 percent vs. 25 percent) ( $X^2(2) =12.47$ ,  $p=.002$ ).

Frequency distributions and violations of normality resulted in the need to categorize the type of first CSA experience as either severe (digital penetration, attempted rape, rape, oral copulation, and anal sex) or moderately severe (fondling and frottage). A severe first-incident child sexual abuse was reported by 53 percent of the sample.

### **Depression Symptoms and Child Sexual Abuse Characteristics**

Nearly two-thirds of the women (63.8%) had scores indicating the presence of depression ( $CES-D \geq 16$ ), despite being recruited in non-clinical community venues. Mean depressive symptoms and prevalence of clinically significant symptoms ( $CES-D$  score  $>21$ ) as a function of the severity of CSA, disclosure (yes or no), response to disclosure (low unsupportive response or high unsupportive) and self-blame at the time (low or high) are presented in Table 1. None of these variables were moderated by the victim's age at the first incident, the duration of the episode, or by the relationship to the perpetrator. Severe incidents of CSA were associated with significantly greater depression scores than moderately severe CSA [ $F(1,90)=4.77$ ,  $p=.03$ ]. The prevalence of clinically meaningful symptom levels was greater among those with severe (60 percent) compared to those with moderately CSA (40 percent) [ $X^2(1)=3.48$ ,  $p=.05$ ]. More than half of the women (52 percent,  $N=49$ ) were categorized as non-disclosers. Although ANOVA indicated no differences between the discloser and non-discloser

groups on mean depression scores, there was a trend for greater prevalence of clinically significant symptoms among disclosers (60.5 percent) compared to non-disclosers (42.9 percent) [ $X^2(1)=2.44$ ,  $p=.08$ .] There were also no differences in depression scores as a function of the level of unsupportive responses among those who disclosed their CSA experiences. Women who reported high self-blame at the time of the first CSA incident had greater rates of clinically significant symptoms (64.7 percent) than those reporting low-self-blame (43.9 percent) [ $X^2(1)=3.71$ ,  $p=.05$ ]. Also, there was a trend for self-blame to be associated with higher overall levels of depressive symptoms [ $F(1,89)=3.49$ ,  $p=.07$ ].

### **Peri- and Post-Trauma Models**

Linear regression analyses were conducted to predict levels of depression, with chronic burden and childhood adversities treated as covariates. CSA severity, disclosure status and self-blame at the time of the incident were entered in invariant order. Primary models included the total sample, while models for each ethnic group were run separately for exploratory purposes. To examine the effects of CSA severity and of disclosure, analyses were conducted in two steps, as shown in Table 2, beginning with the most parsimonious model examining CSA severity and disclosure as predictors.

Controlling for the covariates of chronic burden ( $p<.01$ ) and childhood adversity ( $p<.01$ ), there was a significant effect for CSA severity ( $p<.05$ ), but not for disclosure. Adding ethnicity to the model yielded no significant main effect or interactions. However, exploratory examination of the model run separately for each ethnic group revealed two sets of findings. First, chronic burden was significantly associated with depressive symptoms for Latinas ( $p<.001$ ), but not for African American women. Second, severe CSA was strongly related to depression among Latinas ( $p<.001$ ), but not among African American women. These findings should be treated with caution because of the relatively small sample sizes.

## **Discussion**

The purpose of this retrospective study was to examine the relationship between abuse severity, abuse disclosure, and self-blame in response to the first CSA incident and current depressive symptoms in a sample of socioeconomically vulnerable adult African American and Latina women. Importantly, we wanted to examine this relationship while statistically accounting for the effect of non-sexual childhood adversities and adult chronic stress on depressive symptoms.

First, and consistent with our conceptual model and prior findings, women with severe CSA were significantly more likely to report greater overall, as well as greater clinically meaningful levels of depression compared to women with moderately severe CSA.

Second, disclosure of the first incident was not protective against adult depression in the overall sample. When modeling each ethnic group separately, disclosure was actually associated with *increased* depression among Latinas, particularly in the presence of severe CSA.

Third, depressive symptoms in the overall sample were not directly affected by a) the degree of unsupportive responses after disclosing the incident, or b) self-blame at the time of the abuse.

### **Childhood Adversity, Adult Stress and Depression**

Although women were recruited for their histories of CSA and not for the presence of mental health symptoms, almost two thirds of participants reported clinically meaningful symptoms of depression. The high prevalence of significant psychological distress reflects the substantial past and current vulnerabilities experienced by socially disadvantaged women of color, which is consistent with our own work (Myers et al, 2009) and reports from others (Bradley et al, 2005; Brown et al, 2005; Davis et al, 2008; Gillespie et al, 2009; Hien & Bukszpan, 1999). Also, the previously established relationships between depression and *nonsexual* childhood adversity (Molnar et al, 2001), as well as adult chronic (stress) burden (You & Conner, 2009) were confirmed. Notably, childhood nonsexual adversity and chronic burden were independent contributors to risk for depression. Working with the childhood adversities questionnaire we used others found that chronic interpersonal stress fully mediated

the relationship between childhood family violence and adult depression (Kessler & Magee, 1994), and that depressive reactions follow lower levels of stressors among women who were exposed to significant childhood adversity, when chronic stress is controlled for (Hammen et al, 2000). Differences among findings are likely due to sample characteristics (in our case ethnic minority women with histories of CSA) and the type of instrument used to measure chronic stress (in our case a measure explicitly design to capture the burden of socioeconomically vulnerable women).

### **Effects of Characteristics of CSA**

Slightly more than half of this sample reported that their first CSA incident was severe and a majority of these experiences were chronic, lasting from more than several weeks to many years. Consistent with other research, most women did not disclose their first CSA experience (Arata, 1998; Hébert et al, 2009; Smith et al, 2000), and CSA involving penetration was unrelated to whether or not the first incident was disclosed (Wyatt & Newcomb, 1990). Disclosure is generally considered an effective component of many therapeutic approaches to treating the long-term symptoms associated with CSA (Bradley & Follingstad, 2001), and some studies have found that nondisclosure or delayed disclosure is associated with worse adult psychopathology (Broman-Fulks et al, 2007; Hébert et al, 2009; Ruggiero et al, 2004). However, our results indicated that disclosure was not associated with lower depression in adulthood when childhood adversity and chronic burden were accounted for. In fact, in exploratory analyses disclosure was associated with *higher* levels of depression among the Latinas, particularly when the CSA incident was severe.

Clearly, there is a need to understand the circumstances under which disclosure may lead to positive outcomes (Arata, 1998). Research on the effect of disclosure on outcomes has shown effects of timing (Roesler, 1994), relationship between victim and perpetrator (Foynes et al, 2009; Ullman, 2007), and the victim's age (Kogan, 2004; Smith et al, 2000) in predicting the long term effects of disclosure of abuse. The current data suggest that racial/ethnic/cultural factors may also play a role in influencing mental health in adulthood.

### **Negative Responses to Disclosure and Self-Blame**

Our results did not support some prior work indicating higher rates of depression symptoms in women who reported highly unsupportive responses to disclosure of their abuse (Briere & Jordan, 2004). This is unsurprising, given that disclosure is multiply determined by a complex interplay of factors related to child characteristics, family environment, community influences, and cultural and societal attitudes (Alaggia, 2010). Future studies should collect information regarding both supportive and unsupportive responses to, and the nature of the disclosure (voluntary vs. compulsory). Additionally, the consequences of disclosure likely vary depending on whether CSA is disclosed to a family member, friend, or other individual. This study did not examine to whom the CSA was disclosed, but future studies should examine this issue.

Given the literature, we also expected to find significantly higher depressive symptoms among women with high self-blame, as compared to women with low self-blame (Barker-Collo, 2001; Feiring & Cleland, 2007; Jonzon & Linblad, 2004; Lange et al, 1999; Quas et al, 2003; Ullman, 2007). The absence of main effects for unsupportive response to disclosure and self-blame may be due to the assessment method. Thus, the assessment of self-blame used in this study examined only self- versus other-blame (internal versus external attributions), which is consistent with the majority of research on attributions of CSA (Whiffen & Macintosh, 2005). However, other studies have investigated the construct of self-blame with additional dimensions (i.e., whether the attributions are global and stable), but these additional dimensions failed to predict overall adult symptomatology (Barker-Collo, 2001). Attributing blame for the event is complex, and can encompass failing to avoid or control CSA, not seeking help, and participating in the sexual behavior(s) (Celano, 1992). Future research should consider the inclusion of all three forms of attributions (internal, global, and stable) when examining the effects of CSA on adult depression.

### **Limitations**

There are several limitations that are worthy of note. These are common in studies of CSA, including use of a relatively small convenience sample and the use of retrospective accounts of CSA (Owens & Chard, 2003). However, by focusing on a sample of socially

disadvantaged women of color, our findings contribute to fill an important knowledge gap (Kenny & McEachern, 2000). An additional limitation is the focus on the first CSA incident rather than the full burden of CSA exposure. This decision was necessary because, although the range was from one to five distinct CSA incidents, relatively few women reported multiple incidents. Also, the information we present is based on the retrospective recollection of CSA incident that occurred at the participant's youngest age. However, research has noted that the influence of the first reaction to sexual abuse is especially important (Jonzon & Linblad, 2005). The study's focus on the first CSA incident adds to the growing body of evidence on how non-disclosure, the context and perceptions of unsupportive disclosure, and self-blame at the time of the abuse enhance risk for depression and biological outcomes later in life. The attributions and behaviors associated with this first event may set a template for subsequent CSA experiences. In fact, research has noted that the influence of the first reaction received in response to disclosing child sexual abuse may be especially important in predicting future outcomes (Jonzon & Linblad, 2005).

Although examining adult CSA survivors' reports of attributions of blame made during childhood is not uncommon, recall of the extent of self-blame at the first incident may have been colored by later incidents or subsequent life experiences, or may not be actual reflections of attributions made at that time (Barker-Collo, 2001). Attributing blame for an emotionally charged and highly stigmatized event in childhood is complex, and can depend on perceptions of failing to avoid or control the abuse, not seeking help, and participating in the sexual behavior(s) (Celano, 1992). Future research examining the effects of CSA on adult depression should consider the inclusion of multiple dimensions of attributions, such as internal versus external locus, and stability over time.

Finally, our results were obtained with a sample of socially disadvantaged African American and Latina women, and may not be generalizable to women of other socioeconomic or ethnic groups. Nevertheless, as argued in the Introduction, our findings fill a knowledge gap that has considerable public health implications, as disadvantaged women of color are at increased risk for childhood abuse and violence, and adult revictimization.

Despite these limitations, however, our findings underscore the importance of peri- and post-traumatic CSA factors in predicting adult depressive symptoms, as well as the separate contribution of nonsexual childhood adversities and adult chronic stress. Treatment strategies for CSA survivors, particularly those who experienced severe CSA, should include a focus on current life stress and nonsexual childhood adversity, in addition to the social and cultural context of CSA (Briere & Jordan, 2004). Our results also reinforce Ullman & Filipas' (2005) contention that future studies need to include large, representative samples of ethnic minority groups to further our understanding of ethnic differences and the factors that explain these differences. Further examination of peri-traumatic factors, post-traumatic variables and their impact on depression may identify factors that ameliorate depressive symptoms in ethnic minority female survivors of CSA.

## References

- Agriculture, U.S.D.o. (2009). *Income Eligibility Standards.*, United States Department of Agriculture.
- Alaggia, R. (2010). "An ecological analysis of child sexual abuse disclosure: considerations for child and adolescent mental health." *J Can Acad Child Adolesc Psychiatry* 19(1): 32-9.
- Alim, T.N., Graves, E., Mellman, T.A., Aigbogun, N., Gray, E., Lawson, W.Charney, D.S. (2006). "Trauma exposure, posttraumatic stress disorder and depression in an African-American primary care population." *J Natl Med Assoc* 98(10): 1630-6.
- Anda, R.F., Felitti, V.J., Bremner, J.D., Walker, J.D., Whitfield, C., Perry, B.D., Dube, S.R.Giles, W.H. (2006). "The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology." *Eur Arch Psychiatry Clin Neurosci* 256(3): 174-86.
- Andrews, B. (1995). "Bodily shame as a mediator between abusive experiences and depression." *J Abnorm Psychol* 104(2): 277-85.
- Arata, C.M. (1998). "To tell or not to tell: Current functioning of child sexual abuse survivors who disclosed their victimization." *Child Maltreatment* 3: 63-71.
- Arata, C.M.Burkhart, B.R. (1998). "Coping appraisals and adjustment to nonstranger sexual assault." *Violence Against Women* 4(2): 224-39.
- Barker-Collo, S.L. (2001). "Adult reports of child and adult attributions of blame for childhood sexual abuse: predicting adult adjustment and suicidal behaviors in females." *Child Abuse Negl* 25(10): 1329-41.
- Berliner, L.Conte, J.R. (1995). "The effects of disclosure and intervention on sexually abused children." *Child Abuse Negl* 19(3): 371-84.
- Bradley, R.G.Follingstad, D.R. (2001). "Utilizing disclosure in the treatment of the sequelae of childhood sexual abuse: a theoretical and empirical review." *Clin Psychol Rev* 21(1): 1-32.
- Briere, J.Elliott, D.M. (2003). "Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women." *Child Abuse Negl* 27(10): 1205-22.
- Briere, J.Jordan, C.E. (2004). "Violence against women: outcome complexity and implications for assessment and treatment." *J Interpers Violence* 19(11): 1252-76.
- Briggs, F.Hawkins, R.M. (1996). "A comparison of the childhood experiences of convicted male child molesters and men who were sexually abused in childhood and claimed to be nonoffenders." *Child Abuse Negl* 20(3): 221-33.
- Broman-Fulks, J.J., Ruggiero, K.J., Hanson, R.F., Smith, D.W., Resnick, H.S., Kilpatrick, D.G.Saunders, B.E. (2007). "Sexual assault disclosure in relation to adolescent mental health: results from the National Survey of Adolescents." *J Clin Child Adolesc Psychol* 36(2): 260-6.

Brown, D.W., Anda, R.F., Tiemeier, H., Felitti, V.J., Edwards, V.J., Croft, J.B., Giles, W.H. (2009). "Adverse childhood experiences and the risk of premature mortality." *Am J Prev Med* 37(5): 389-96.

Carlson, E.D., Chamberlain, R.M. (2005). "Allostatic load and health disparities: a theoretical orientation." *Res Nurs Health* 28(4): 306-15.

Celano, M.P. (1992). "A developmental model of victims' internal attributions of responsibility for sexual abuse." *Journal of Interpersonal Violence*(7): 57-69.

Classen, C.C., Palesh, O.G., Aggarwal, R. (2005). "Sexual revictimization: a review of the empirical literature." *Trauma Violence Abuse* 6(2): 103-29.

Coffey, P., Leitenberg, H., Henning, K., Turner, T., Bennett, R.T. (1996). "Mediators of the long-term impact of child sexual abuse: perceived stigma, betrayal, powerlessness, and self-blame." *Child Abuse Negl* 20(5): 447-55.

Cole, C.H., Barney, E.E. (1987). "Safeguards and the therapeutic window. A group treatment strategy for adult incest survivors." *Am J Orthopsychiatry* 57(4): 601-9.

Danese, A., Moffitt, T.E., Harrington, H., Milne, B.J., Polanczyk, G., Pariante, C.M., Poulton, R., Caspi, A. (2009). "Adverse childhood experiences and adult risk factors for age-related disease: depression, inflammation, and clustering of metabolic risk markers." *Arch Pediatr Adolesc Med* 163(12): 1135-43.

Danese, A., Moffitt, T.E., Pariante, C.M., Ambler, A., Poulton, R., Caspi, A. (2008). "Elevated inflammation levels in depressed adults with a history of childhood maltreatment." *Arch Gen Psychiatry* 65(4): 409-15.

Davis, R.G., Ressler, K.J., Schwartz, A.C., Stephens, K.J., Bradley, R.G. (2008). "Treatment barriers for low-income, urban African Americans with undiagnosed posttraumatic stress disorder." *J Trauma Stress* 21(2): 218-22.

Desai, S., Arias, I., Thompson, M.P., Basile, K.C. (2002). "Childhood victimization and subsequent adult revictimization assessed in a nationally representative sample of women and men." *Violence Vict* 17(6): 639-53.

Dong, M., Anda, R.F., Dube, S.R., Giles, W.H., Felitti, V.J. (2003). "The relationship of exposure to childhood sexual abuse to other forms of abuse, neglect, and household dysfunction during childhood." *Child Abuse Negl* 27(6): 625-39.

Drotar, D., Eckerle, D., Satola, J., Pallotta, J., Wyatt, B. (1990). "Maternal interactional behavior with nonorganic failure-to-thrive infants: a case comparison study." *Child Abuse Negl* 14(1): 41-51.

Ensel, W. (1986). Measuring depression: The CES-D Scale. Social Support, Life Events and Depression. New York, Academic Press.

Feiring, C., Cleland, C. (2007). "Childhood sexual abuse and abuse-specific attributions of blame over 6 years following discovery." *Child Abuse Negl* 31(11-12): 1169-86.

Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., Koss, M.P., Marks, J.S. (1998). "Relationship of childhood abuse and household dysfunction to many of

the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study." *Am J Prev Med* 14(4): 245-58.

Fergusson, D.M., Lynskey, M.T., Horwood, L.J. (1996). "Childhood sexual abuse and psychiatric disorder in young adulthood: I. Prevalence of sexual abuse and factors associated with sexual abuse." *J Am Acad Child Adolesc Psychiatry* 35(10): 1355-64.

Fletcher, J.M. (2009). "Childhood mistreatment and adolescent and young adult depression." *Soc Sci Med* 68(5): 799-806.

Foynes, M.M., Freyd, J.J., DePrince, A.P. (2009). "Child abuse: betrayal and disclosure." *Child Abuse Negl* 33(4): 209-17.

Gibb, B.E., Chelminski, I., Zimmerman, M. (2007). "Childhood emotional, physical, and sexual abuse, and diagnoses of depressive and anxiety disorders in adult psychiatric outpatients." *Depress Anxiety* 24(4): 256-63.

Gillespie, C.F., Bradley, B., Mercer, K., Smith, A.K., Conneely, K., Gapen, M., Weiss, T., Schwartz, A.C., Cubells, J.F., Ressler, K.J. (2009). "Trauma exposure and stress-related disorders in inner city primary care patients." *Gen Hosp Psychiatry* 31(6): 505-14.

Glover, D. (2002). "Health Behaviors Questionnaire." *Unpublished instrument*.

Glover, D.A., Garcia-Aracena, E.F., Lester, P., Rice, E., Rothram-Borus, M.J. (2009). "Stress Biomarkers as Outcomes for HIV+ Prevention: Participation, Feasibility and Findings Among HIV+ Latina and African American Mothers." *AIDS Behav*.

Glover, D.A., Garcia-Aracena, E.F., Mohlman, J. (2008). "Peripheral biomarker composite associated with smaller hippocampal volume." *Neuroreport* 19(13): 1313-6.

Glover, D.A., Loeb, T.B., Carmona, J.V., Sciolla, A., Zhang, M., Myers, H.F., Wyatt, G.E. (2010). "Childhood sexual abuse severity and disclosure predict posttraumatic stress symptoms and biomarkers in ethnic minority women." *J Trauma Dissociation* 11(2): 152-73.

Glover DA, L.T., Carmona J, Sciolla A, Zhang M, Wyatt G. (In press). "Effects of abuse severity, disclosure and self-blame on posttraumatic stress and a composite biomarker index in African American and Latina women with histories of childhood sexual abuse." *Journal of Trauma and Dissociation*.

Goodman-Brown, T.B., Edelstein, R.S., Goodman, G.S., Jones, D.P., Gordon, D.S. (2003). "Why children tell: a model of children's disclosure of sexual abuse." *Child Abuse Negl* 27(5): 525-40.

Gorey, K.M., Leslie, D.R. (1997). "The prevalence of child sexual abuse: integrative review adjustment for potential response and measurement biases." *Child Abuse Negl* 21(4): 391-8.

Group, N.M.H.S.P.T.f.A.A.C. (2008). "Designing an audio computer-assisted self-interview (ACASI) system in a multisite trial: a brief report." *J Acquir Immune Defic Syndr* 49 Suppl 1: S52-8.

Gurung, R.A.R., Taylor, S.E., Kemeny, M., & Myers, H.F. (2004). "HIV is not my biggest problem": The impact of HIV and chronic burden on depression in women at risk for AIDS." *J. of Social & Clinical Psychology* 23(4): 490-511.

Gurung, R.T., SE Kemeny, M Myers, H (2004). ""HIV is not my biggest problem": the impact of HIV and chronic burden on depression in women at risk for AIDS." *Journal of Social & Clinical Psychology* 23(4): 490-511.

Hammen, C., Henry, R.Daley, S.E. (2000). "Depression and sensitization to stressors among young women as a function of childhood adversity." *J Consult Clin Psychol* 68(5): 782-7.

Hazzard, A., Celano, M., Gould, J., Lawry, S.Webb, C. (1995). "Predicting symptomatology and self-blame among child sex abuse victims." *Child Abuse Negl* 19(6): 707-14.

Hebert, M., Tourigny, M., Cyr, M., McDuff, P.Joly, J. (2009). "Prevalence of childhood sexual abuse and timing of disclosure in a representative sample of adults from Quebec." *Can J Psychiatry* 54(9): 631-6.

Hiebert-Murphy, D. (1998). "Emotional distress among mothers whose children have been sexually abused: the role of a history of child sexual abuse, social support, and coping." *Child Abuse Negl* 22(5): 423-35.

Hien, D.Bukszpan, C. (1999). "Interpersonal violence in a "normal" low-income control group." *Women Health* 29(4): 1-16.

Higgins, D.J.McCabe, M.P. (2000). "Relationships between different types of maltreatment during childhood and adjustment in adulthood." *Child Maltreat* 5(3): 261-72.

Hunter JA, G.D., Wilson RJ (1992). "Attributions of blame in child sexual abuse victims: An analysis of age and gender influences." *Journal of Child Sexual Abuse*. 1(3): 75-89.

Huston, R.L., Parra, J.M., Prihoda, T.J.Foulds, D.M. (1995). "Characteristics of childhood sexual abuse in a predominantly Mexican-American population." *Child Abuse Negl* 19(2): 165-76.

Irish, L., Kobayashi, I.Delahanty, D.L. (2009). "Long-term Physical Health Consequences of Childhood Sexual Abuse: A Meta-Analytic Review." *J Pediatr Psychol*.

Jonzon, E., Linblad, F (2005). "Adult female victims of child sexual abuse: Multitype maltreatment and disclosure characteristics related to subjective health." *Journal of Interpersonal Violence* 20(6): 651-666.

Katerndahl, D.A., Burge, S.K., Kellogg, N.D.Parra, J.M. (2005). "Differences in childhood sexual abuse experience between adult Hispanic and Anglo women in a primary care setting." *J Child Sex Abus* 14(2): 85-95.

Kendler, K.S., Gardner, C.O.Prescott, C.A. (2002). "Toward a comprehensive developmental model for major depression in women." *Am J Psychiatry* 159(7): 1133-45.

Kendler, K.S., Kuhn, J.W.Prescott, C.A. (2004). "Childhood sexual abuse, stressful life events and risk for major depression in women." *Psychol Med* 34(8): 1475-82.

Kenny, M.C.McEachern, A.G. (2000). "Racial, ethnic, and cultural factors of childhood sexual abuse: a selected review of the literature." *Clin Psychol Rev* 20(7): 905-22.

Kessler, R.C.Magee, W.J. (1993). "Childhood adversities and adult depression: basic patterns of association in a US national survey." *Psychol Med* 23(3): 679-90.

- Kessler, R.C., Magee, W.J. (1994). "Childhood family violence and adult recurrent depression." *J Health Soc Behav* 35(1): 13-27.
- Kogan, S.M. (2004). "Disclosing unwanted sexual experiences: results from a national sample of adolescent women." *Child Abuse Negl* 28(2): 147-65.
- Kraemer, H.C., Kiernan, M., Essex, M., Kupfer, D.J. (2008). "How and why criteria defining moderators and mediators differ between the Baron & Kenny and MacArthur approaches." *Health Psychol* 27(2 Suppl): S101-8.
- Lange, A., de Beurs, E., Dolan, C., Lachnit, T., Sjollem, S., Hanewald, G. (1999). "Long-term effects of childhood sexual abuse: objective and subjective characteristics of the abuse and psychopathology in later life." *J Nerv Ment Dis* 187(3): 150-8.
- Loeb TB, W.J., Carmona JV, Rivkin I, Wyatt GE, Chin D, Asuan-O'Brien A (2002). "Child sexual abuse: associations with the sexual functioning of adolescents and adults." *Annu Rev Sex Res* 13: 307-45.
- MacMillan, H.L., Fleming, J.E., Streiner, D.L., Lin, E., Boyle, M.H., Jamieson, E., Duku, E.K., Walsh, C.A., Wong, M.Y., Beardslee, W.R. (2001). "Childhood abuse and lifetime psychopathology in a community sample." *Am J Psychiatry* 158(11): 1878-83.
- Messman-Moore, T.L., Long, P.J., Siegfried, N.J. (2000). "The revictimization of child sexual abuse survivors: an examination of the adjustment of college women with child sexual abuse, adult sexual assault, and adult physical abuse." *Child Maltreat* 5(1): 18-27.
- Metzger, D.S., Koblin, B., Turner, C., Navaline, H., Valenti, F., Holte, S., Gross, M., Sheon, A., Miller, H., Cooley, P., Seage, G.R., 3rd (2000). "Randomized controlled trial of audio computer-assisted self-interviewing: utility and acceptability in longitudinal studies. HIVNET Vaccine Preparedness Study Protocol Team." *Am J Epidemiol* 152(2): 99-106.
- Molnar, B.E., Buka, S.L., Kessler, R.C. (2001). "Child sexual abuse and subsequent psychopathology: results from the National Comorbidity Survey." *Am J Public Health* 91(5): 753-60.
- Myers, H.F., Sumner, L.A., Ullman, J.B., Loeb, T.B., Carmona, J.V., Wyatt, G.E. (2009). "Trauma and psychosocial predictors of substance abuse in women impacted by HIV/AIDS." *J Behav Health Serv Res* 36(2): 233-46.
- Myers, H.F., Wyatt, G.E., Loeb, T.B., Carmona, J.V., Warda, U., Longshore, D., Rivkin, I., Chin, D., Liu, H. (2006). "Severity of child sexual abuse, post-traumatic stress and risky sexual behaviors among HIV-positive women." *AIDS Behav* 10(2): 191-9.
- O'Leary, P., Cooney, C., Easton, S.D. (2010). "The effect of severe child sexual abuse and disclosure on mental health during adulthood." *J Child Sex Abuse* 19(3): 275-89.
- Owens, G.P., Chard, K.M. (2003). "Comorbidity and psychiatric diagnoses among women reporting child sexual abuse." *Child Abuse Negl* 27(9): 1075-82.
- Paine, M.L., Hansen, D.J. (2002). "Factors influencing children to self-disclose sexual abuse." *Clin Psychol Rev* 22(2): 271-95.

Palmer, S.E., Brown, R.A., Rae-Grant, N.I., Loughlin, M.J. (1999). "Responding to children's disclosure of familial abuse: what survivors tell us." *Child Welfare* 78(2): 259-82.

Quas, J.A., Goodman, G.S., Jones, D. (2003). "Predictors of attributions of self-blame and internalizing behavior problems in sexually abused children." *J Child Psychol Psychiatry* 44(5): 723-36.

Radloff, L. (1977). "The CES-D scale: A self-report depression scale for research in the general population." *Applied Psychological Measurement*(1): 385-401.

Roesler, T.A. (1994). "Reactions to disclosure of childhood sexual abuse. The effect on adult symptoms." *J Nerv Ment Dis* 182(11): 618-24.

Ruggiero, K.J., Smith, D.W., Hanson, R.F., Resnick, H.S., Saunders, B.E., Kilpatrick, D.G., Best, C.L. (2004). "Is disclosure of childhood rape associated with mental health outcome? Results from the National Women's Study." *Child Maltreat* 9(1): 62-77.

Schilling, E.A., Aseltine, R.H., Jr., Gore, S. (2007). "Young women's social and occupational development and mental health in the aftermath of child sexual abuse." *Am J Community Psychol* 40(1-2): 109-24.

Smith, D.W., Letourneau, E.J., Saunders, B.E., Kilpatrick, D.G., Resnick, H.S., Best, C.L. (2000). "Delay in disclosure of childhood rape: results from a national survey." *Child Abuse Negl* 24(2): 273-87.

Spaccarelli, S. (1994). "Stress, appraisal, and coping in child sexual abuse: a theoretical and empirical review." *Psychol Bull* 116(2): 340-62.

Spaccarelli S. (1995). "Measuring abuse stress and negative cognitive appraisals in child sexual abuse: validity data on two new scales." *J Abnorm Child Psychol* 23(6): 703-27.

Szanton, S.L., Gill, J.M., Allen, J.K. (2005). "Allostatic load: a mechanism of socioeconomic health disparities?" *Biol Res Nurs* 7(1): 7-15.

Teicher, M.H., Samson, J.A., Polcari, A., Andersen, S.L. (2009). "Length of time between onset of childhood sexual abuse and emergence of depression in a young adult sample: a retrospective clinical report." *J Clin Psychiatry* 70(5): 684-91.

Turner, R.J., Avison, W.R. (2003). "Status variations in stress exposure: implications for the interpretation of research on race, socioeconomic status, and gender." *J Health Soc Behav* 44(4): 488-505.

Ulibarri, M.D., Ulloa, E.C., Camacho, L. (2009). "Prevalence of sexually abusive experiences in childhood and adolescence among a community sample of Latinas: a descriptive study." *J Child Sex Abus* 18(4): 405-21.

Ullman, S.E. (2003). "Social reactions to child sexual abuse disclosures: a critical review." *J Child Sex Abus* 12(1): 89-121.

Ullman, S.E. (2007). "Relationship to perpetrator, disclosure, social reactions, and PTSD symptoms in child sexual abuse survivors." *J Child Sex Abus* 16(1): 19-36.

Ullman, S.E., Filipas, H.H. (2005). "Ethnicity and child sexual abuse experiences of female college students." *J Child Sex Abus* 14(3): 67-89.

USDA.

Whiffen, V.E., Macintosh, H.B. (2005). "Mediators of the link between childhood sexual abuse and emotional distress: a critical review." *Trauma Violence Abuse* 6(1): 24-39.

Wickrama, K.A., Conger, R.D., Abraham, W.T. (2005). "Early adversity and later health: the intergenerational transmission of adversity through mental disorder and physical illness." *J Gerontol B Psychol Sci Soc Sci* 60 Spec No 2: 125-9.

Wyatt, G., Mickey (1998). "Ameliorating effects of child sexual abuse: An exploratory study of support by parents and others." *Journal of Interpersonal Violence*(2): 403-414.

Wyatt, G.E., Loeb, T.B., Solis, B., Carmona, J.V. (1999). "The prevalence and circumstances of child sexual abuse: changes across a decade." *Child Abuse Negl* 23(1): 45-60.

Wyatt, G.E., Longshore, D., Chin, D., Carmona, J.V., Loeb, T.B., Myers, H.F., Warda, U., Liu, H., Rivkin, I. (2004). "The efficacy of an integrated risk reduction intervention for HIV-positive women with child sexual abuse histories." *AIDS Behav* 8(4): 453-62.

Wyatt, G.E., Newcomb, M. (1990). "Internal and external mediators of women's sexual abuse in childhood." *J Consult Clin Psychol* 58(6): 758-67.

Wyatt, G.L., J Vodounon, A & Mickey, MR (1992). "The Wyatt Sex History Questionnaire: A structured interview for female sexual history taking." *Journal of Child Sexual Abuse* 1(4): 51-68.

You, S., Conner, K.R. (2009). "Stressful life events and depressive symptoms: influences of gender, event severity, and depression history." *J Nerv Ment Dis* 197(11): 829-33.

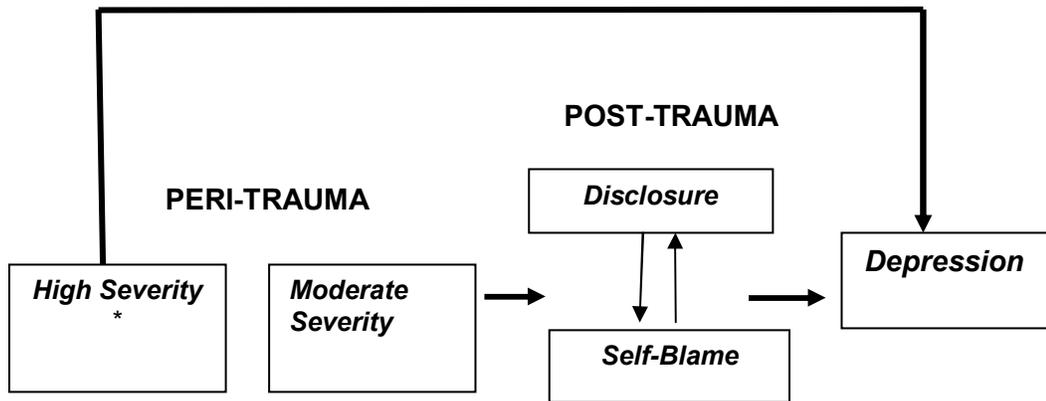
Zanarini, M.C., Yong, L., Frankenburg, F.R., Hennen, J., Reich, D.B., Marino, M.F., Vujanovic, A.A. (2002). "Severity of reported childhood sexual abuse and its relationship to severity of borderline psychopathology and psychosocial impairment among borderline inpatients." *J Nerv Ment Dis* 190(6): 381-7.

Zich, J.M., Attkisson, C.C., Greenfield, T.K. (1990). "Screening for depression in primary care clinics: the CES-D and the BDI." *Int J Psychiatry Med* 20(3): 259-77.

Zink, T., Klesges, L., Stevens, S., Decker, P. (2009). "The development of a sexual abuse severity score: characteristics of childhood sexual abuse associated with trauma symptomatology, somatization, and alcohol abuse." *J Interpers Violence* 24(3): 537-46.

Type of file: figure  
Label: 1  
Filename: NMD201262-FIGURE\_CSA Depression Family Adversity Chronic Stress\_FINAL.doc

Figure 1. Conceptual model. Primary pathway shows peri-traumatic CSA severity predicts depression directly. Secondary pathway predicts that the CSA severity-depression link may be mediated by the interaction of post-trauma disclosure and self-blame.



\*Severity is defined as severe (e.g. digital penetration, attempted rape, rape, oral copulation, and anal sex) or moderate (fondling and frottage).

Type of file: figure

Label: 2

Filename: NMD201262\_figure.doc

**FIGURE 1.** Conceptual model. Primary pathway shows that peritraumatic CSA severity predicts depression directly. Secondary pathway predicts that the CSA severity–depression link may be mediated by the interaction of posttrauma disclosure and self-blame. CSA indicates childhood sexual abuse. \*Severity is defined as severe (e.g., digital penetration, attempted rape, rape, oral copulation, and anal sex) or moderate (e.g., fondling and frottage).

Type of  
file: table

Label:

Filename: NMD201262-TABLES\_CSA Depression Family Adversity Chronic  
Stress\_FINAL.doc

**Table 1.** Depression symptoms as a function of CSA severity, disclosure (yes/no), response to disclosure (low or high unsupportive response), and self-blame at the time.

<b>CES-D Depression Mean (SD)</b>		<b>African American</b>	<b>Latina</b>	<b>Total Sample</b>	<b>Prevalence Among those with CES-D&gt;21</b>
<b>CSA Severity</b>	<b>Severe</b> n=50	23.72 (13.7)	23.71 (10.4)	23.72 (12.73)	60.0% (n=30)
	<b>Moderately Severe</b> n=42	18.69 (10.9)	18.00 (9.3)	18.40 (10.2)	40.5% (n=17)
<b>Disclosure</b>	<b>No</b> n=49	21.27 (13.0)	18.25 (10.9)	20.29 (12.3)	42.9% (n=21)
	<b>Yes</b> n=43	22.03 (12.5)	23.07 (8.7)	22.39 (11.2)	60.5% (n=26)
<b>Disclosure Response</b>	<b>Low Unsuptive</b> n=18	19.59 (13.2)	23.67 (3.8)	20.94 (11.0)	55.6% (n=10)
	<b>High Unsuptive</b> n=19	25.00 (12.4)	24.86 (11.6)	24.95 (11.9)	94.7% (n=18)
<b>Self-Blame Then</b>	<b>Low</b> n=57	20.03 (13.71)	19.94 (9.11)	20.00 (12.36)	43.9% (n=25)
	<b>High</b> n=34	24.91 (10.24)	22.25 (11.68)	23.97 (10.67)	64.7% (n=22)

NR-Negative Response \* p < .05

a: Missing data for disclosure response from 49 who disclosed, response available for 37 (missing=12).

b: Missing data for self-blame then n=1

**Table 2.** Linear regression models predicting depression from CSA severity, disclosure and self-blame at the time of the abuse.

Depression beta estimates	Model 1			Model 2		
	Primary	Exploratory		Primary	Exploratory	
	1a	1b	1c	2a	2b	2c
Analysis:	Total N=91	AA n=55	LA n=26	Total N=89	AA N=59	LA N=30
Chronic Burden	.29**	.21	.78***	0.31**	.16	.71***
Childhood Adversity	1.06**	1.32*	0.26	0.58	1.06*	.30
CSA Severity	-4.93*	-4.16	-11.87***	-.62	-4.20	-11.60***
Disclosure (yes/no)	-2.80	-.55	-9.27**	-2.14	-10.29*	-11.63*
CSA Severity X Disclosure	NS	NS	NS	-	-	-
Self-blame Then	-	-	-	-8.73	-10.78*	-3.38
CSA Severity X Self—blame	-	-	-	NS	NS	NS
Disclosure X Self-blame	-	-	-	18.08*	15.18*	3.02

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

AA=African American    LA=Latina    SB=Self-Blame