ABSTRACT

THE ASSOCIATION BETWEEN CHILD MALTREATMENT AND ADULT REVICTIMIZATION: THE CONTRIBUTION OF EARLY MALADAPTIVE SCHEMAS

by Mary K. Munroe

The phenomenon of revictimization is well-documented among women, although factors such as interpersonal beliefs and expectations have received relatively little attention in the extant literature exploring the mechanisms responsible for revictimization. Given that sexual victimization is by definition an interpersonal trauma, such interpersonal beliefs are likely relevant to the understanding of revictimization. The current study examined childhood sexual, physical, and emotional abuse in relation to adult revictimization in the forms of verbally coerced sexual assault, substance-facilitated sexual assault, and physically forced sexual assault among 781 female undergraduate students. The contributions of interpersonal beliefs in the form of early maladaptive schemas (abandonment/instability, mistrust/abuse, and defectiveness/shame) were examined as predictors of adult revictimization. Logistic regression analyses showed that the schemas, in addition to childhood maltreatment, predicted adult revictimization in the forms of verbally coerced and physically-forced sexual assault. However, no such relationship was found for substance-facilitated assault, suggesting differential risk factors may be relevant for this form of victimization in adulthood. Clinical implications are discussed.

THE ASSOCIATION BETWEEN CHILD MALTREATMENT AND ADULT
REVICTIMIZATION: THE CONTRIBUTION OF EARLY MALADAPTIVE SCHEMAS

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Mary K. Munroe

Miami University

Oxford, OH

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Advisor _____

Dr. Terri Messman-Moore

Reader _____

Dr. Margaret O'Dougherty-Wright

Reader _____

Dr. Aaron Luebbe

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Introduction

The link between childhood abuse experiences and subsequent adult sexual assault, or revictimization, is well-documented in women. The majority of women who experience sexual assault as an adult also reports physical or sexual abuse in childhood (Wyatt, Guthrie, & Notgrass, 1992). Both forms of child maltreatment are consistently associated with increased likelihood of adult sexual assault (Fargo, 2009; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Widom, Czaja, & Dutton, 2008), although research exploring whether childhood sexual (Merrill et al., 1999) or physical (Arata & Lindman, 2002) abuse are more strongly associated with adult victimization have yielded mixed results. Whether childhood emotional abuse may also create a diathesis for adult sexual victimization is unknown; although childhood emotional abuse is associated with adolescent dating violence (Rich, Gidycz, Warkentin, Loh, & Weiland, 2005), its relationship to adult sexual victimization specifically has received little research attention and remains unclear.

Indeed, all three types of childhood abuse—sexual, physical, and emotional—are consistently linked with a number of negative outcomes. Child sexual abuse (CSA) is associated with increased rates of depression, anxiety, alcohol and drug dependence, and decreased self-esteem in adulthood (Fergusson, McLeod, & Horwood, 2013), as well as dissociative symptoms, posttraumatic stress disorder, non-suicidal self-injury, and partner violence (Trickett, Noll, & Putnam, 2011). Women with histories of CSA also have higher rates of engaging in unprotected sex (Noll et al., 2003), and also report poorer dyadic consensus with their partners than women without such a history, indicating potential difficulties in relationship functioning and adjustment (Fairweather & Kinder, 2013). Similarly, physical abuse in childhood is associated with increased rates of depression and anxiety disorders, drug use, risky sexual behavior and unprotected sex, (Norman et al., 2012; Noll et al., 2003), and victimization in subsequent romantic relationships (Fiorillo, Papa, & Follette, 2013). Childhood emotional abuse specifically is associated with depression and anxiety disorders (Wright, Crawford & Del Castillo, 2009; Norman et al., 2012), drug use (Norman et al., 2012), eating disorders (Hund & Espelage, 2006), personality pathology (Cohen et al., 2013), insecure attachment style, poorer dyadic adjustment in adulthood (Riggs & Kaminsky, 2008), and adult intimate partner violence perpetration and victimization (Crawford & Wright, 2007).

Notably, all three forms of childhood abuse are associated not only with psychopathology, but with interpersonal victimization in adulthood. The strong link between child abuse and subsequent adult victimization is particularly concerning. Sexual revictimization specifically is associated with increased symptom complexity in post-traumatic stress disorder (Briere, Kaltman, & Green, 2008; Cloitre et al., 2009), increased psychological distress, including depression, anxiety, PTSD, and dissociation in women (Cuevas, Sabina, & Picard, 2010; Fiorillo, Papa, & Follette, 2013; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Najdowski & Ullman, 2011), and is associated with emotion regulation difficulties among incarcerated and college women (Messman-Moore, Walsh, & DiLillo, 2010; Walsh, DiLillo, & Scarlora, 2011). Outcomes associated with revictimization, such as PTSD, also appear to increase risk for further revictimization (Elwood et al., 2011; Messman-Moore, Ward, & Brown, 2009; Ullman, Najdowski, & Filipas, 2009).

To date, the majority of studies examining the association between childhood abuse and adult sexual victimization focus on sequelae of trauma such as PTSD, emotion dysregulation, risky sexual behavior, and substance use (Littleton & Ullman, 2013; Messman-Moore & Long, 2003; Messman-Moore, Ward, & Zerubavel, 2013; Orcutt, Cooper, & Garcia, 2005). Although these factors are certainly relevant to the study of sexual revictimization, it is surprising that sequelae related to interpersonal expectancies and individuals' beliefs about relationships have not garnered as much attention in the research literature. Given that both early trauma and adult sexual victimization are interpersonal traumas that by definition involve a person other than the victim (i.e., the perpetrator), such factors deserve attention. Limited research supports the notion that interpersonal expectancies and schemas may contribute to revictimization in the form of intimate partner violence (IPV; Valdez, Lim, & Lilly, 2013; Rich, Gidycz, Warkentin, Loh, & Weiland, 2005), and other research suggests that women who experienced multiple interpersonal traumas in their lives more strongly associate interpersonal relationships with harm; however, the extent to which such schemas relate to sexual revictimization is largely unexplored. The current research will examine the association between child maltreatment and sexual revictimization focusing specifically on ways in which an individual's concept of *herself* and her relationships with *others* may change as a result of early trauma, and the ways in which these beliefs relate to revictimization.

Early Maladaptive Schemas

It is not yet clear whether changes in global interpersonal beliefs following victimization may underlie difficulty responding to future sexual assault risk. Related, little research explores how beliefs and expectations about relationships and interpersonal functioning arising from early abuse experiences may impact sexual revictimization. One study of interpersonal schemas held by women with varying levels of exposure to sexual trauma (childhood sexual abuse only, sexually revictimized women, and nonvictims) found that women without a history of victimization expected significantly more friendly and fewer hostile and distant responses in interpersonal relationships than did women who experienced childhood sexual abuse alone or revictimization (Cloitre, Cohen, & Scarvalone, 2002). Women who were revictimized also expected more mistrustful responses than did women who experienced CSA or were nonvictims, and expected the most negative responses from others (e.g., hostile & distant responses) relative to the other two groups. Given that victims of sexual assault frequently know their perpetrators (Messman-Moore & Long, 2000), interpersonal beliefs and schemas may be particularly likely to influence the way in which women respond to sexual assault risk. For example, if negative expectations of others (e.g., that others will behave in an abusive, hostile manner) and the self (e.g., that one will be unable to protect oneself from unwanted sexual advances) are deeply held as a result of previous abuse experiences, such beliefs may impact an individual's behavior in interpersonal situations. In relation to sexual situations specifically, such beliefs may negatively influence a woman's appraisal of her own efficacy, impairing her ability to engage in assertive, self-protective behavior when she is faced with a situation in which sexual assault might occur. Further, negative interpersonal schemas related to expectations of hostility from others may create very real deterrents to behave in assertive ways even when they are identified as viable responses, if setting such a limit is expected to escalate an already bad situation rather than result in safety.

Although there is evidence that interpersonal schemas comprised of negative self- and other-beliefs are related to revictimization (Cloitre, Cohen, & Scarvalone, 2002; Katz, May, Sorensen, & DelTosta, 2010), to date limited research has explored these schemas as an underlying factor in the association between early abuse experiences and sexual revictimization. Because child sexual, physical, and emotional abuse experiences are interpersonal traumas associated with *another* interpersonal trauma, revictimization (Arata & Lindman, 2002; Merrill

et al., 2009; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Messman-Moore & Brown, 2004; Rich, Gidycz, Warkentin, Loh, & Weiland, 2005; Widom, Czaja, & Dutton, 2008), exploring interpersonal schemas as a potential mechanism for revictimization may be particularly fruitful.

One articulation of interpersonal schemas was developed by Jeffrey Young (Young, Klosko, & Weishaar, 2003). Young proposed that adults who had the most significant intra- and interpersonal dysfunction were those who developed rigid sets of deleterious beliefs in childhood, which he believed resulted from significant adverse experiences such as early trauma, abuse, and neglect. He called these beliefs early maladaptive schemas (EMS), which have been associated with psychological distress such as anxiety, depression, and PTSD in college students and adults (Wright, Crawford, & Del Castillo, 2009; Renner, Lobbetael, Peeters, Arntz, & Huibers, 2012; Camara & Calvete, 2012; Harding, Burns, & Jackson, 2012), preoccupied and fearful adult attachment styles (Mason, Platts, & Tyson, 2005; Simard, Moss, & Pascuzzo, 2011), traits of personality disorders, broadly (Carr & Francis, 2010), as well as borderline personality disorder, specifically (Lawrence, Allen, & Chanen, 2011; Specht, Chapman, & Cellucci, 2009).

Young based his theory on the assumption that EMS develop in response to traumatic experiences in childhood such as child maltreatment; however, few studies have examined this issue. There is evidence that EMS are associated with a number of negative childhood experiences, including emotional abuse (Messman-Moore & Coates, 2007; Wright, Crawford, & Del Castillo, 2009), physical abuse and neglect, and sexual abuse (McGinn, Cukor, & Sanderson, 2005; Harding, Burns, & Jackson, 2012). Among adults, EMS are associated with decreased relationship satisfaction (Dumitrescu & Rusu, 2012), supporting the assumption that abuse experiences in childhood influence both intra- and inter-personal functioning in adulthood, and a subset of schemas have been shown to mediate the relationship between childhood emotional abuse and experiences of partner violence in adulthood (Gay, Harding, Jackson, Burns, & Baker, 2013). Further, EMS mediate the relationship between childhood psychological abuse and adult interpersonal conflict in college women, and coping styles developed in response to these schemas partially mediate the relationship between the EMS and interpersonal conflict (Messman-Moore & Coates, 2007). Thus, it appears that EMS may not only influence the beliefs one holds about relationships, but also interpersonal behavior and overall relationship

functioning, creating a rigid interpersonal style that does not provide the flexibility necessary to respond to interpersonal situations in novel ways. These fixed styles are not unlike the ways in which women showed *characterological* (e.g. ingrained, schema-like) self-blame and difficulty responding to sexual assault risk in assertive ways in previous research (Katz, May, Sorensen, & DelTosta, 2010). Negative interpersonal schemas may therefore create vulnerability for revictimization, as ingrained maladaptive beliefs about one's self (e.g., defectiveness, shame) and others (e.g., others are likely to respond in hostile ways and cannot be trusted) learned in childhood may influence one's ability to respond to and function effectively in interpersonal situations as an adult.

Purpose of the Current Study

Although sexual revictimization among women is a recognized phenomenon (Casey & Nurius, 2005; Messman-Moore & Brown, 2004; Messman-Moore & Long, 2000) and is by definition an interpersonal trauma, little research focuses on core relational beliefs that may play a role in an individual's risk for revictimization. Further, prior literature suggests that differential risk factors may predict substance-facilitated versus verbally and physically forced sexual assault (Testa, Livingston, Vanzile-Tamsen, & Frone, 2003; Messman-Moore, Coates, Gaffey & Johnson, 2008). The current research will expand upon extant literature by exploring the contribution of early maladaptive schemas to the association between child maltreatment and adult revictimization. Specifically, the current work will examine the links between child sexual, physical, and emotional abuse experiences, early maladaptive schemas, and adult sexual revictimization in the forms of verbally coerced, substance-facilitated, and physically forced sexual assault experiences, testing whether early maladaptive schemas predict adult sexual assault over and above the effects of child abuse experiences. Specific hypotheses:

1. Child maltreatment (e.g., sexual, physical, and psychological) will be associated with increased rates of adult sexual assault (i.e., verbally coerced, substance-facilitated, and forcible).
2. Child maltreatment will be associated with greater endorsement of early maladaptive schemas, in particular, EMS within the disconnection and rejection domain including abandonment/instability, mistrust/abuse, and defectiveness/shame.
3. Adult sexual assault (i.e., revictimization) will be predicted by EMS above and beyond the effects of childhood maltreatment.

Method

Participants

Participants were 830 female undergraduate students enrolled in Introduction to Psychology at a Midwestern university, ages 18-24. Course credit was provided in compensation for participation. Mean age was 18.76 ($SD = .97$), 91.4% were Caucasian, 92.8% were unmarried, and 69.2% reported a family income of at least \$50,000 per year.

Procedure

Participants completed measures as part of a larger study of women's beliefs in interpersonal relationships. Participants were informed of their rights as a participant and that their responses would be anonymous (i.e., labeled with subject IDs). Each signed consent forms prior to completing the questionnaires and was debriefed following her participation.

Measures

Child maltreatment. Child maltreatment was assessed with the paper-and-pencil version of the Computer Assisted Maltreatment Inventory (CAMI; DiLillo, Hayes-Skelton, Fortier, Perry, Evans, Messman-Moore, et al., 2010) a retrospective measure used to gather data about the presence and severity of childhood emotional, physical, and sexual abuse experiences. The instrument demonstrates good internal reliability, and shows high test-retest reliability; Nash et al. (2002) found that 91% of participants reported abuse consistently across two different administrations. Three subscales of the CAMI were utilized to assess childhood emotional abuse, physical abuse, and sexual abuse severity.

Sexual abuse (CSA). Participants responded to questions about a range of sexual abuse experiences occurring prior to the age of 14. Events assessed included sexual touching or sexual kissing as well as oral, vaginal, or anal intercourse with a person who was a family member or was five years older than the participant. A dichotomous variable was created in which participants were identified as having experienced CSA if they endorsed any contact experiences that were unwanted and reported that activity was a result of 1) coercion, 2) occurred with a family member, or 3) occurred with a perpetrator more than 5 years older than the respondent. Participants were identified as nonvictims in the event that they denied any such experiences.

Physical abuse (CPA). Participants responded 'yes' or 'no' to 13 items following the question, "Before you were 18, did either a parent or any other adult caregiver ever..." The items following this question were behaviorally specific and inquired about various experiences of

physical abuse with a parent or caregiver (e.g., "...hit you with a fist," "...use a weapon, such as a gun or a knife, against you."). A dichotomous variable was created in which participants were identified as having experienced physical abuse if they endorsed any of the items with the exception of open-handed slapping and spanking. Participants were identified as nonvictims if they denied all items.

Emotional abuse (CEA). Participants responded to 57 questions about experiences they had with their parents in childhood, drawn from the five types of psychological maltreatment outlined by Hart and Brassard (1986), including: spurning, terrorizing, isolating, spurning/corrupting, and denying emotional responsiveness. Each of the 57 questions is responded to on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A dichotomous variable was created such that those with scores one standard deviation above the mean were coded as having experienced CEA, and those below this cutoff were coded as nonvictims (Coates & Messman-Moore, 2014).

Early Maladaptive Schemas. The Young Schema Questionnaire, short form (YSQ-SF; Young et al., 2003) is a self-report questionnaire used in the present study to assess early maladaptive schemas within the domain of Disconnection and Rejection, which are related to college women's experiences of childhood emotional, physical, and sexual abuse in previous research (Roemmele & Messman-Moore, 2011). Three EMS were assessed:

Abandonment/Instability, referred to as "abandonment," the belief that significant others will be unavailable for support because they will abandon the person; *Mistrust/Abuse*, referred to as "mistrust," the belief that a person will be hurt, abused, lied to, betrayed, or taken advantage of by others; and *Defectiveness/Shame*, referred to as "defectiveness," which is the belief that one is fundamentally defective, shameful, or unworthy. Individual subscales measure the extent to which an individual holds negative schemas, or core beliefs, about herself and others. To assess the strength of each schema, participants responded to five questions on a Likert scale from 1 (completely untrue of me) to 6 (describes me perfectly). The sum of the five items was then calculated. The schemas demonstrated good internal reliability; Cronbach's alphas for abandonment, mistrust, and defectiveness were .92, .91, and .93, respectively.

Adult Sexual Victimization. Participants reported their experiences of adult sexual victimization using a modified form of the *Sexual Experiences Survey* (Koss, Gidycz, & Wisniewski, 1987; Messman-Moore & Long, 2000). The SES is used to gather information on

participants' experiences of attempted and completed unwanted sexual experiences after the age of 14, using a series of yes/no questions, followed by an answer blank in which the participants writes the number of times she experienced each event. The instrument includes questions about the type(s) of coercion used, based on four descriptions (continual arguments or pressure, misuse of authority, inability to consent or resist due to alcohol/drug use by the survivor, and threats or use of physical force) as well as types of adult sexual victimization, such as unwanted kissing/fondling, oral-genital contact, penetration with objects, and vaginal and anal intercourse. Because the extant literature on sexual victimization suggests different proximal risk factors may be at play by type of assault (i.e., sexual coercion vs. substance-facilitated sexual assault vs. forcible rape; Franklin, 2010; Messman-Moore, Coates, Gaffey, & Johnson, 2008; Testa, Livingston, Vanzile-Tamsen, & Frone, 2003), three types of adult sexual victimization were examined separately: 1) verbally-coerced sexual assault (unwanted sexual activity occurring due to the use of continual arguments/pressure or misuse of authority), 2) substance-facilitated sexual assault (sexual activity without consent due to the victim's consumption of alcohol or drugs), and 3) physically forced sexual assault (sexual activity occurring due to the use or threat of physical force). For each type of adult sexual victimization (verbally coerced sexual assault, substance-facilitated sexual assault, and physically forced sexual assault), a dichotomous variable was created. Participants who endorsed one or more items consistent with unwanted sexual experiences in the domains of verbal coercion, substance-facilitated assault, and physically forced assault were coded as victims in the relevant domain. Those who denied all experiences described in the relevant portions of the modified SES were coded as nonvictims.

Results

Missing Data

The original data set included 830 participants. Data were examined to identify patterns of missing responses. Participants who did not provide any information (did not respond to any questions) assessing study variables were removed: CSA (n=11), CPA (n=9), CEA (n=4), early maladaptive schemas (n=10), or adult sexual victimization (n=5); in addition, those who responded to fewer than half the items on the CEA subscale (n=2) were also removed. In the event that participants did not respond to all items of the modified SES and therefore had incomplete data related to one or more forms of sexual victimization (e.g., verbal coercion), they were excluded from that specific analysis as their adult victimization status could not be reliably

determined. This resulted in a total of 779 of participants with usable data for physically forced sexual assault, 777 for substance-facilitated sexual assault, and 781 for verbally coerced sexual assault. Using the Missing Value Analysis in SPSS 16.0 (SPSS, 2008), Little's MCAR test was non-significant, $\chi^2(3) = 1.53, p = .68$, suggesting that missing data likely occurred at random. The EM algorithm was used (with child maltreatment variables, early maladaptive schemas, and adult victimization variables) to impute missing data on the child emotional abuse subscale and the YSQ subscales of abandonment, mistrust, and defectiveness.

Descriptive Analyses

Correlation analyses were conducted to assess to the extent to which childhood maltreatment, early maladaptive schemas, and adult victimization were associated with one another. Results are presented in Table 1. In addition, preliminary analyses were conducted to test whether significant differences existed between victimized and nonvictimized groups in terms of age, race, or family income. No significant differences in age emerged for those who experienced adult verbal coercion, substance-facilitated sexual assault, or physically forced sexual assault, $t_s < 1.85, p_s > .05$. Similarly, there were not significant differences between victimized and nonvictimized groups in terms of family income, $t_s < 1.41, p_s > .10$. No differences emerged in rates of the three types of assault on the basis of race when racial identity was collapsed into "Caucasian" versus "Woman of Color," $\chi^2_s < 1.16, p_s > .30$.

Rates of Child Abuse, Adult Sexual Assault, and Revictimization

Child sexual abuse (CSA) was defined as unwanted sexual contact prior to age 14 that involved either: a) someone 5 or more years older than the victim; or b) contact by a family member. Based on this definition, 7% of participants ($n=55$) reported a history of CSA. Child physical abuse (CPA) was defined as an experience of physical violence between a caregiver and a child that either leaves a mark (e.g., a bruise), or involves injury or potential injury, or includes the use of a weapon. Based on this definition, 24.7% of participants ($n = 193$) reported a history of CPA. Participants were categorized as experiencing child emotional abuse (CEA) if the sum their score on the emotional abuse portion of the CAMI was one standard deviation above the mean of the sample; those whose scores were within or below one standard deviation of the mean score were categorized as nonvictims of child emotional abuse. Based upon this definition, 13.8% of participants ($n = 108$) were identified as experiencing CEA.

Adult Verbal Sexual Coercion. A chi-square test was performed to determine whether verbal coercion occurred at higher rates than expected for those who experienced child maltreatment (i.e., CSA, CPA, CEA). Results are displayed in Table 2. Lifetime verbal sexual coercion occurred more often than expected for those who experienced CSA, $\chi^2(1, 781) = 24.35$, $p < .001$, CPA, $\chi^2(1, 781) = 22.72$, $p < .001$, and CEA, $\chi^2(1, 781) = 29.42$, $p < .001$. This suggests that all three types of child abuse are associated with increased risk for revictimization in the form of adult verbal coercion. Indeed, individuals who experienced CSA in particular had almost double the rates of verbally-coerced experiences in adulthood. The prevalence of verbal sexual coercion was lower than expected for individuals who did not experience physical abuse in childhood, suggesting that the absence of physical abuse in childhood may be a protective factor against verbal coercion experiences in adulthood. Individuals who did not experience CSA and those who did not experience CEA did not have rates of verbal coercion that were significantly different from the base rate, though there was a trend for CEA nonvictims reporting lower rates of verbal coercion.

Adult Substance-Facilitated Sexual Assault. Chi-square tests were performed to test whether substance-facilitated sexual assault occurred at similar rates to what would be expected for those who reported a history of childhood maltreatment. Results are displayed in Table 2. There was a significant relationship between adult substance-facilitated assault and CEA, with this form of victimization in adulthood occurring at higher rates than expected for those who reported emotional abuse in childhood, $\chi^2(1, 779) = 9.16$, $p = .002$. In addition, prior to the application of the Bonferroni correction, there was a significant Chi Square test for substance-facilitated sexual assault occurring at higher rates than expected for those who reported CSA and CPA. However, these results were not significant after Bonferroni correction ($p = .01$).

Adult Physically Forced Sexual Assault. Chi-square tests were conducted to test whether physically forced sexual assault occurred at rates that were different than expected for victims and nonvictims of CSA, CPA, and CEA. Results are displayed in Table 1. Results showed that individuals who experienced CSA in childhood had almost three times the odds of experiencing physically forced sexual assault in adulthood, $\chi^2(1, 777) = 14.48$, $p < .001$. Individuals who experienced CPA in childhood, $\chi^2(1, 777) = 17.66$, $p < .001$, as well as individuals who reported a history of CEA, $\chi^2(1, 777) = 16.78$, $p < .001$, had almost double the base rate of forcible sexual assault in adulthood. In addition, individuals who were nonvictims of CPA showed lower rates

of physically forced assault in adulthood than expected. Results held after the Bonferroni correction ($p = .01$).

Childhood Maltreatment and Early Maladaptive Schemas

Mean scores for early maladaptive schemas on the YSQ were in the low-moderate range. The highest mean subscale score was for abandonment, ($M = 10.28$, $SD = 5.75$), followed by mistrust, ($M = 11.24$, $SD = 5.67$) and defectiveness, ($M = 7.65$, $SD = 4.47$). Linear regression analysis was used to determine whether the presence of the three types of childhood maltreatment predicted the presence of each schema. Results are displayed in Table 3.

Regression analyses revealed that all three forms of child maltreatment predicted all three types of schemas. CSA significantly predicted scores on the abandonment schema, $F(1,779) = 18.85$, $p < .001$, the mistrust schema, $F(1,779) = 18.80$, $p < .001$, and the defectiveness schema, $F(1,779) = 13.13$, $p < .001$. CPA significantly predicted the schemas of abandonment, $F(1,779) = 32.16$, $p < .001$, mistrust, $F(1,779) = 44.06$, $p < .001$, and defectiveness, $F(1,779) = 21.04$, $p < .001$. CEA accounted for the largest proportion of variance in the schemas of abandonment, $F(1,779) = 72.01$, $p < .001$, mistrust, $F(1,779) = 107.17$, $p < .001$, and defectiveness, $F(1,779) = 106.27$, $p < .001$ (see Table 3).

Early Maladaptive Schemas and Adult Victimization

Logistic regression was utilized to test the association between each of the three early maladaptive schemas and adult experiences of verbal coercion, substance-facilitated sexual assault, and physically forced sexual assault. Results are presented in Table 4. All three schemas predicted adult victimization in the forms of adult verbal coercion and adult forcible assault. The schemas of mistrust and defectiveness, but not abandonment, predicted adult substance-facilitated sexual assault.

Testing the Models of Revictimization

Logistic regression analyses were conducted in a hierarchical fashion for each combination of the three forms of childhood maltreatment and the early maladaptive schemas on each of the forms of adult sexual victimization. The child abuse variable of interest was entered at step one, and the early maladaptive schema was entered at step 2. To reduce the risk of Type-I error, a Bonferroni correction was applied to each family of analyses conducted (i.e., for verbally coerced, substance-facilitated, and physically-forced sexual assault). Thus, analyses were conducted using adjusted alpha levels of .005.

Predicting Adult Verbally-Coerced Sexual Assault

All forms of child abuse (i.e., CSA, CPA, and CEA) were significant predictors of adult verbal coercion when considered in a model alone. Furthermore, each of the schemas were significant predictors of verbal coercion, over and above the effects of childhood maltreatment. Results are presented in Table 5.

Child Sexual Abuse. Three analyses were conducted which focused on CSA and the abandonment, mistrust, and defectiveness schemas. In the first model examining abandonment, the Block 1 model which contained only CSA yielded a correct classification of only 13.9% of verbal coercion victims and 95.9% of verbal coercion non-victims for an overall correct classification of 70.9% of the sample. Adding the YSQ abandonment schema in Block 2 yielded a correct classification of 71.5% of adult verbal coercion nonvictims (a decrease from the earlier model) and 51.3% of adult verbal coercion (an increase from the earlier model), with an overall accurate identification of 65.3% of the sample. Adding the abandonment schema to the model improved prediction for adult verbal coercion victims only, and resulted in an almost four-fold increase in correct identification of adult verbal coercion victims, suggesting that knowledge of the extent to which an individual holds the abandonment schema significantly improves prediction of adult (re)victimization above information regarding the presence or absence of CSA. However, the abandonment schema actually decreased the correct classification of nonvictims of adult verbal coercion, suggesting a unique prediction of the presence, but not the absence, of adult verbal coercion. A similar pattern was found when the mistrust schema was added at Block 2, which resulted in correct identification of 53.8% of victims (an increase from the original model) and 70.3% of nonvictims (a decrease from the original model), for an overall correct classification of 65.3%. Finally, the defectiveness schema was added at Block 2, which increased correct classification of victims to 41.2%, and decreased correct classification of nonvictims to 77.9%, for an overall correct classification rate of 66.7%. Overall, findings suggest that all three types of schemas improve prediction of risk for adult verbal sexual coercion, with the mistrust schema showing a slightly stronger prediction compared to abandonment and defectiveness. Nonetheless, each of the three schemas improved prediction over and above the impact of CSA by approximately 27-40%. This suggests the extent to which an individual holds such schemas in addition to information regarding history of CSA may be

particularly useful in identifying those likely to experience adult victimization in the form of verbal coercion.

Child Physical Abuse. The Block 1 model of CPA yielded a correct classification of 35.7% of verbal coercion victims and 80.2% of nonvictims, for an overall classification of 66.6%. Adding abandonment at Block 2 increased correct classification of victims to 57.6% and decreased accurate identification of nonvictims to 67% for an overall correct classification of 64.7% of participants. The effects were similar when mistrust was added at Block 2; classification of victims and nonvictims rose to 56.3% and fell to 67.8%, respectively, for an overall accurate classification of 64.3%. When defectiveness was added at Block 2, correct classification of victims increased to 50.8%. Classification of nonvictims fell to 71.8%, for an overall correct classification of 65.4%. Findings suggest that knowledge of CPA resulted in more accurate identification of adult victims than did CSA, and that knowledge of the extent to which an individual holds each schema increases accurate identification for victims of adult verbal coercion, but does not facilitate the identification of nonvictims.

Child Emotional Abuse. The Block 1 model of CEA yielded a correct classification of 90.6% of verbal coercion nonvictims and 23.9% of verbal coercion victims for an overall correct classification of 70.3% of the sample. Adding the abandonment schema at Block 2 yielded a correct classification of 73.8% of adult verbal coercion nonvictims (a decrease from the earlier model) and 52.1% of adult verbal coercion (an increase from the earlier model), with an overall accurate identification of 67.2% of the sample. A similar pattern was found for adding the mistrust schema at Block 2, which resulted in a correct classification of 72.6% of verbal coercion nonvictims (a decrease) and 49.2% of victims (an increase), for an overall accurate classification of 65.4%. Adding defectiveness at Block 2 resulted in correct classification of 80.7% of nonvictims (a decrease from the original model) and 37.8% of victims (a smaller increase from the original model) for an overall classification of 67.6%. Similar to analyses with CPA, when examined in the context of CEA the three schemas improved prediction of adult verbal sexual coercion, particularly for victims. This effect was most pronounced in the context of CSA, and less pronounced in the context of CPA and CEA. Together, these three sets of analyses suggest that overall, information about an individual's history of childhood maltreatment in combination with the extent to which they hold individual schemas allows for improved accurate

classification of 37.8%-57.6% of verbal coercion victims, but that information about schemas does not facilitate identification of verbal coercion nonvictims.

Predicting Adult Substance-Facilitated Sexual Assault

It is important to note that all forms of child abuse (i.e., CSA, CPA, and CEA) were significant predictors of adult substance-facilitated sexual assault when considered in a model alone. However, once the different types of schemas were included, and once the Bonferroni correction was applied ($p = .005$), there were no significant predictors of adult substance-facilitated sexual assault. Results are presented in Table 6. Prior to the Bonferroni correction, CSA and CPA as well as the schemas were typically non-significant predictors. In contrast, CEA was a significant predictor of substance-facilitated sexual assault in two of three models prior to the Bonferroni correction (see Table 6).

Predicting Adult Physically-Forced Sexual Assault

All forms of child abuse (i.e., CSA, CPA, and CEA) were significant predictors of adult physically-forced sexual assault when considered in a model alone. Furthermore, each of the schemas was a significant predictor of physically forced sexual assault, over and above the effects of childhood maltreatment. Results are presented in Table 7.

Child Sexual Abuse. For physically forced sexual assault, Block 1 model of CSA yielded a correct classification of 93.9% of physically forced non-victims and 19.6% of physically forced victims for an overall correct classification of 88.5% of the sample. Adding the EMS of abandonment at Block 2 resulted in a correct classification of 73.0% of physically forced non-victims and 58.9% of physically forced assault victims for an overall correct classification of 71.9% of the sample. Similarly, adding mistrust at Block 2 resulted in an accurate identification of 72.7% of nonvictims (a decrease) and 53.6% of victims (an increase), for an overall classification of 71.3%. Adding defectiveness resulted in an accurate identification of 73.9% of nonvictims and 53.6% of victims, for an overall classification of 72.5%. Overall, each of the three types of schemas improved prediction of physically forced sexual assault by 34-39% after accounting for the impact of CSA.

Child Physical Abuse. Block 1 model of CPA yielded a correct classification of 77.0% of physically forced non-victims and 48.2% of physically forced victims for an overall correct classification of 74.9% of the sample. Adding the EMS of abandonment at Block 2 resulted in a correct classification of 70.2% of physically forced non-victims (a decrease) and 62.5% (an

increase) of physically forced victims for an overall correct classification of 69.6% of the sample. Adding mistrust at Block 2 resulted in a correct classification of 67.1% of physically forced non-victims (a decrease) and 66.1% (an increase) of physically forced victims for an overall correct classification of 67.1% of the sample. Adding defectiveness at Block 2 resulted in the correct classification of 70.2% of physically forced assault nonvictims and 57.1% of victims, for an overall classification of 69.2%. By itself, CPA predicted a very high proportion of physically forced assault victims (almost 50%), but the addition of each schema improved prediction beyond this base rate, and in the case of abandonment, predicted almost 70% of physically forced sexual assault victims.

Child Emotional Abuse. The Block 1 model of CEA yielded accurate classification of 87.5% of physically forced assault victims and 32.1% of nonvictims, for an overall accurate classification of 83.5%. Adding the EMS of abandonment at Block 2 resulted in correct classification of 71.8% of nonvictims (a decrease from the original model) and 60.7% of victims, for an overall correct classification of 71.0%. Similarly, adding mistrust yielded correct classification of 71.3% of nonvictims (a decrease) and 53.6% of victims (an increase), for an overall accurate classification of 70.0%. The schema of defectiveness resulted in the accurate classification of 76.7% of physically forced assault nonvictims and 48.2% of victims, for an overall correct classification of 74.6%. Overall, each of the three types of schemas improved prediction of physically forced sexual assault by 16-29% after accounting for the impact of CEA.

Together, these three sets of analyses suggest that overall, information about an individual's history of childhood maltreatment in combination with the extent to which they hold individual schemas allows for improved accurate classification of physically forced sexual assault victims. Schemas improved prediction of physically forced sexual assault victims for all types of child maltreatment, but was most pronounced among CSA and CEA victims, and to a lesser degree among CPA victims. However, CPA by itself predicted high rates of physically forced sexual assault, and when considered with schemas, some models predicted up to 70% of physically forced sexual assault victims. Similar to analyses on adult verbal sexual coercion, information about schemas does not facilitate identification of physically forced sexual assault nonvictims. This suggests that when considered as a risk factor for adult sexual assault, early maladaptive schemas may be sensitive, but not specific predictors. Although they improve correct classification of adult sexual assault for women with histories of child maltreatment, in

contrast schemas actually decrease accurate prediction of adult sexual assault for women without a history of childhood maltreatment.

Discussion

In the present research, all three types of child maltreatment were consistently associated with increased risk of adult sexual assault in the forms of verbally coerced and physically forced sexual assault. All three types of child maltreatment were also associated with the early maladaptive schemas of abandonment, mistrust, and defectiveness; childhood emotional abuse was most strongly associated all three of the schemas under investigation. Logistic regression analyses suggested an additive effect such that the presence of abuse experiences in childhood and early maladaptive schemas predicted the experience of adult sexual assault in the forms of verbally coerced and physically forced sexual assault. In contrast, early maladaptive schemas did not aid the prediction of adult substance-facilitated sexual assault, suggesting this form of revictimization may be more heavily influenced by proximal risk factors. Notably, schemas did not facilitate the accurate classification of women without a history of maltreatment, suggesting that schemas may be sensitive, but not specific, predictors of adult revictimization outcomes. The current research is consistent with extant literature identifying a relationship between childhood maltreatment, early maladaptive schemas, and adult victimization (Crawford & Wright, 2007). Although previous research focused on partner violence revictimization, findings from these analyses suggest that schemas may also be relevant to the understanding of sexual revictimization across interpersonal contexts.

In the current investigation, different types of adult sexual victimization were examined to determine whether common or unique patterns exist for different types of revictimization. For the experience of adult forcible assault, all tested combinations of child maltreatment and early maladaptive schemas significantly predicted revictimization. The schemas predict adult forcible assault above and beyond the effects of child maltreatment. This suggests that it may be the way in which an individual processes abuse experiences and the subsequent beliefs she develops about herself and expectations she holds of others that create particular risk for this form of revictimization, rather than solely the presence of abuse in childhood. The current findings are consistent with previous research that identified a relationship between negative self-other beliefs and revictimization (Cloitre, Cohen, & Scarvalone, 2002; Katz, May, Sorensen, & DelTosta, 2010).

The pattern of findings among childhood maltreatment, schemas, and adult sexual assault were fairly similar for adult verbal coercion and physically forced sexual assault. This suggests that the types of schemas linked to risk for physically-forced sexual assault and for verbally coerced sexual assault may be similar in nature, and that reducing risk for both forms of victimization may occur if early maladaptive schemas are targeted for intervention. It may also be that these types of early maladaptive schemas, related to expectations of mistrust and abandonment, reflect vulnerability to revictimization that occurs in the context of negative dynamics within a partnership that may at times escalate into the use of coercive sexual strategies. Indeed, Crawford and Wright (2007) found that early maladaptive schemas increased risk for IPV among college students with a history of child maltreatment. Unfortunately, the nature of the partnership or prior relationship with the perpetrator of sexual coercion was not assessed in the current study. Additional studies are needed to examine the nature of the relationships in which sexual coercion takes place to determine the relevance of particular schemas for revictimization.

Current findings linking CSA and CPA to adult sexual victimization, particularly victimization in the form of verbally coerced sexual assault and physically forced sexual assault, is consistent with previous research endeavors (Fargo, 2009; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Widom, Czaja, & Dutton, 2008). However, the current project expanded upon extant literature by including CEA as a potential risk factor for adult sexual victimization, a hypothesis that was supported for verbally and physically coerced sexual adult victimization. These findings suggest that, although often overlooked in the literature, CEA may not only increase risk for poorer relationship functioning and experiences of partner violence in adulthood (Riggs & Kaminsky, 2008; Crawford & Wright, 2007), but may also increase vulnerability for sexual victimization, particularly when it occurs in a negative family context that involves heightened control and low levels of emotional expressiveness and cohesion (Messman-Moore & Brown, 2004).

Risk for substance-facilitated sexual assault was not well-explained by a history of child maltreatment nor by early maladaptive schemas. In contrast to physical sexual assault and verbal coercion, hypotheses that early maladaptive schemas would play a role in the association between childhood maltreatment and adult substance-facilitated sexual assault were not supported. The failure to link CSA and later substance-facilitated sexual assault is consistent

with earlier studies. Indeed, none of the three forms of child abuse directly predicted substance-facilitated sexual assault, consistent with several earlier studies of CSA (Testa, et al., 2003; Walsh, Messman-Moore, Zerubavel, Chandley, DeNardi, & Walker, 2013), suggesting that proximal and behavioral risk factors such as alcohol/substance use may be more relevant to this form of sexual victimization. Not surprisingly, substance use, particularly alcohol use, is a common factor in sexual assaults of college women (Lawyer, Resnick, Bakanic, Burkett, & Kilpatrick, 2010; Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004). Given that substance-facilitated experiences are often characterized by a loss of consciousness and impaired decision-making on the part of the victim, rather than manufactured consent (via verbal coercion) or physically forced compliance, beliefs held by victims may be less relevant under these circumstances.

Study Strengths and Limitations

This study is one of the first to examine whether early maladaptive schemas explain sexual revictimization, and in particular is among the first to examine multiple types of childhood maltreatment and three distinct types of adult sexual victimization. Given the predictive nature of hypotheses, the current conclusions must be tempered by the cross-sectional design which prohibits causal and temporal interpretations of the models under consideration. It is possible that schemas increase in strength and generalizability with additional revictimization experiences in adulthood. Thus, a prospective study may determine whether such beliefs serve as a risk factor as well as an outcome of revictimization. Related, the only other studies on schemas and revictimization (e.g., Cloitre, Cohen, & Scarvalone, 2002; Crawford & Wright, 2007), also retrospective studies, suggest that extant schemas tend to be generalized to current relationships, and that EMS in particular may be relevant in situations of intimate partner violence. In the current study we did not assess information about the relationship to the perpetrator, and thus, additional research is needed to determine the salience of early maladaptive schemas to sexual violence by multiple types of coercion that may have occurred within or outside the context of an intimate partnership. In addition, generalization of findings is limited given the population under study is a racially and socioeconomically homogenous population of high-achieving college students admitted to a selective institution, and thus generally assumed to be fairly high-functioning. This may have impacted the endorsement of early maladaptive schemas, which are more common among individuals with longstanding psychological difficulties (Young, et al.,

2003). Future studies including more diverse populations would be useful to understand the ways in which these schemas are associated with revictimization in other populations.

Although college samples do limit generalization of findings, the population used in the current research is particularly relevant to the study of adult sexual assault because a woman is most at risk for sexual assault in her late teens and early twenties (Black, et al., 2011). Despite these limitations, this is one of the few studies to examine early maladaptive schemas as a factor that may increase risk for revictimization, at least in terms of unwanted sexual experiences due to physical or verbal coercion. Findings suggest that child abuse and early maladaptive schemas are both independent and significant predictors of sexual revictimization and deserve continued attention in the literature. Understanding the sequelae of childhood experiences and areas of difficulty for women with histories of childhood maltreatment may be used to better inform the ways in which we educate the public, and college students specifically, about what constitutes consent in order to create a cultural climate of non-coercive communication.

Clinical Implications

Notably, and consistent with the theoretical underpinnings of the YSQ (Young, Klosko, & Weishaar, 2003), all forms of child maltreatment were associated with higher scores on the early maladaptive schemas of abandonment, mistrust, and defectiveness. This suggests that experiences of abuse in childhood are indeed associated with internalized negative beliefs about oneself as well as others, which replicates and expands upon previous research linking these schemas with psychological distress, including PTSD (Wright, et al., 2009), interpersonal difficulties (Mason, et al., 2005; Simard, et al., 2011; Lawrence, et al., 2011; Specht, et al., 2009), and interpersonal violence (Crawford & Wright, 2007). Early maladaptive schemas may be a particularly fruitful area of intervention for individuals with experiences of childhood maltreatment, and have been a target for treatment aimed to reduce chronic PTSD in adult survivors of childhood abuse (e.g., Cloitre, et al., 2006). Those who are at risk for revictimization due their childhood experiences of abuse cannot change their history (i.e., the presence of this risk factor, *per se*). However, understanding the beliefs an individual developed about herself as a result of these experiences, the extent to which she trusts her assessments of others' behavior and the situations with which she is faced, and her expectations of the type of behavior she can expect from others, are factors that *are* malleable and, if given clinical attention, may serve to attenuate her adult risk of victimization.

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Table 1

Correlation Matrix of Childhood Maltreatment, Interpersonal Schemas, and Adult Victimization

	1	2	3	4	5	6	7	8	9
1. CSA	1								
2. CPA	.18**	1							
3. CEA	.18**	.36**	1						
4. YSQ Abandonment	.15**	.20**	.29**	1					
5. YSQ Mistrust	.13**	.23**	.35**	.55**	1				
6. YSQ Defectiveness	.15**	.16**	.35**	.56**	.56**	1			
7. Adult Verbal Coercion	.18**	.17**	.19**	.22**	.24**	.18**	1		
8. Adult Substance- Facilitated SA	.08*	.08*	.11**	.06**	.10**	.06*	.40**	1	
9. Adult Physically Forced Assault	.14**	.15**	.15**	.20**	.16**	.18**	.29**	.23*	1
Prevalence/Mean	7%	24.7%	13.8%	10.28	11.24	7.65	30.5%	18.6%	7.2%
SD	---	---	---	5.78	5.67	4.47	---	---	---

* $p < .05$ ** $p < .01$

Table 2

Chi-Square tests of Adult Verbally Coerced, Substance-Facilitated, and Physically Forced Sexual Assault by Childhood Sexual, Physical, and Emotional Abuse

		Endorsed Childhood Abuse		χ^2 (df = 1)	p-value	Φ
		Yes % (Res)	No % (Res)			
Verbally Coerced Sexual Assault (Base Rate = 30.5%)				(N = 781)		
	CSA	60% (4.0)	28.2% (-1.1)	24.35	<.001	.18
	CPA	44% (3.4)	26% (-2.0)	22.72	<.001	.17
	CEA	52.8% (4.2)	26.9% (-1.7)	29.43	<.001	.19
Substance-Facilitated Sexual Assault (Base Rate = 18.6%)				(N = 779)		
	CSA	29.6% (1.9)	17.8% (-0.5)	4.65	.03	.08
	CPA	24% (1.7)	16.9% (-1.0)	4.81	.03	.08
	CEA	29.2% (2.5)	5.7% (-1.0)	9.16	.002	.11
Physically Forced Sexual Assault (Base Rate = 7.2%)				(N = 777)		
	CSA	20% (3.5)	6.2% (-1.0)	14.48	<.001	.14
	CPA	14% (3.5)	5.0% (-2.0)	17.66	<.001	.15
	CEA	16.7% (3.7)	5.7% (-1.5)	16.78	<.001	.15

Table 3

Linear Regressions of Childhood Sexual, Physical, and Emotional Abuse on the Interpersonal Schemas of Abandonment, Mistrust, and Defectiveness

	Predictor	B	SE(B)	β	t	R^2	p
Abandonment							
	CSA	3.45	.80	.15	4.34	.02	<.001
	CPA	2.65	.47	.20	5.67	.04	<.001
	CEA	4.84	.57	.29	8.49	.09	<.001
Mistrust							
	CSA	2.91	.79	.13	3.70	.02	<.001
	CPA	3.04	.46	.23	6.64	.05	<.001
	CEA	5.71	.55	.35	10.35	.12	<.001
Defectiveness							
	CSA	2.68	.62	.15	4.34	.02	<.001
	CPA	1.69	.37	.16	4.59	.03	<.001
	CEA	4.49	.44	.35	10.31	.12	<.001

Table 4

Logistic Regressions of Abandonment, Mistrust, and Defectiveness on Verbally Coerced, Substance-Facilitated, and Physically Forced Sexual Assault

	Predictor Variable	<i>B</i>	<i>SE</i>	Wald χ^2	-2 Log likelihood	Nagelkerke R Square	Odds Ratio	<i>P</i>
<i>Verbal Coercion</i>								
Block 1 Model				35.86	924.50	.06		<.001
	Abandonment	.08	.01	34.93			1.08	<.001
Block 1 Model				41.63	918.73	.07		<.001
	Mistrust	.09	.01	40.27			1.09	<.001
Block 1 Model				23.82	936.54	.04		<.001
	Defectiveness	.08	.08	23.24			1.08	<.001
<i>Substance-Facilitated</i>								
Block 1 Model				2.89	745.84	.01		.09
	Abandonment	.03	.02	2.98			1.03	.08
Block 1 Model				7.82	740.91	.02		<.01
	Mistrust	.04	.02	8.05			1.05	<.01
Block 1 Model					743.55	.01		.02
	Defectiveness	.04	.02	5.50			1.04	.02
<i>Physically Forced</i>								
Block 1 Model				26.77	375.66	.08		<.001
	Abandonment	.11	.02	28.55			1.11	<.001

Block 1 Model				17.40	385.03	.06	<.001
	Mistrust	.09	.02	18.37			1.10 <.001
Block 1 Model				18.67	385.76	.06	<.001
	Defectiveness	.10	.02	21.68			1.11 <.001

Table 5

Logistic Regressions of the Predictors of Adult Verbal Coercion

Block	Predictor Variable	B	SE	Wald χ^2	-2 Log likelihood	Nagelkerke R Square	Odds Ratio	p
Block 1 Model				22.13	938.23	.04		<.001*
	CSA	1.34	.29	21.69			3.81	<.001*
Block 2 Model				51.10	909.26	.09		<.001*
	CSA	1.15	.30	15.04			3.16	<.001*
	Abandonment	.07	.01	28.50			1.08	<.001*
Block 2 Model				57.52	902.84	.10		<.001*
	CSA	1.17	.30	15.66			3.23	<.001*
	Mistrust	.08	.01	34.51			1.09	<.001*
Block 2 Model				40.34	920.02	.07		<.001*
	CSA	1.19	.30	16.35			3.30	<.001*
	Defectiveness	.07	.02	17.89			1.08	<.001*
Block 1 Model				21.38	938.97	.04		<.001*
	CPA	.81	.17	21.73			2.24	<.001*
Block 2 Model				48.57	911.78	.09		<.001*
	CPA	.64	.18	12.95			1.90	<.001*
	Abandonment	.07	.01	26.79			1.07	<.001*
Block 2 Model				52.43	907.93	.09		<.001*
	CPA	.60	.18	11.00			1.82	.001*
	Mistrust	.08	.01	30.46			1.08	<.001*
Block 2 Model				39.32	921.03	.07		<.001*
	CPA	.70	.18	15.79			2.02	<.001*
	Defectiveness	.07	.02	17.80			1.08	<.001*
Block 1 Model				27.32	933.04	.05		<.001*
	CEA	1.11	.21	27.62			3.04	<.001*
Block 2 Model				49.43	910.93	.09		<.001*
	CEA	.83	.22	13.78			2.29	<.001*
	Abandonment	.07	.01	22.00			1.07	<.001*
Block 2 Model				51.98	908.38	.09		<.001*
	CEA	.74	.23	10.50			2.09	.001*
	Mistrust	.07	.02	24.45			1.08	<.001*
Block 2 Model				38.21	922.15	.07		<.001*
	CEA	.86	.23	14.65			2.38	<.001*
	Defectiveness	.06	.02	10.86			1.06	.001*

Note. Table 5 reports the last significant block of the logistic regression analysis. For all analyses, variables were entered in a hierarchical fashion: 1) child abuse, 2) child abuse and YSQ schema.

*Regression significant after applying the Bonferroni adjusted alpha of $p = .005$

Table 6

Logistic Regressions of the Predictors of Substance-Facilitated Sexual Assault

	Predictor Variable	B	SE	Wald χ^2	-2 Log likelihood	Nagelkerke R Square	Odds Ratio	p
Block 1 Model				4.15	744.58	.01		.04
	CSA	.67	.31	4.51			1.95	.03
Block 2 Model				6.06	742.67	.01		.05
	CSA	.59	.32	3.40			1.80	.07
	Abandonment	.02	.02	1.96			1.02	.16
Block 2 Model				10.62	738.11	.02		.01
	CSA	.55	.32	2.99			1.74	.08
	Mistrust	.04	.02	6065			1.04	.01
Block 2 Model				7.99	740.75	.02		.02
	CSA	.56	.32	3.00			1.74	.08
	Defectiveness	.04	.02	4.03			1.04	.05
Block 1 Model				4.60	744.13	.01		.03
	CPA	.44	.20	4.76			1.55	.03
Block 2 Model				10.18	738.55	.02		.01
	CPA	.32	.21	2.42			1.38	.12
	Mistrust	.04	.02	5.72			1.04	.02
Block 2 Model				8.46	740.27	.02	.02	.02
	CPA	.38	.21	3.37			1.45	.07
	Defectiveness	.04	.02	4.07			1.04	.04
Block 1 Model				8.29	740.44	.02		<.05
	CEA	.71	.24	8.88			2.03	<.01
Block 2 Model				11.84	736.87	.02		<.01
	CEA	.53	.26	4.21			1.69	.04
	Mistrust	.03	.02	3.65			1.03	.06

Note. Table 6 reports the last significant block of the logistic regression analysis. For all analyses, variables were entered in a hierarchical fashion: 1) child abuse, 2) child abuse and YSQ schema

*Regression significant after applying the Bonferroni adjusted alpha of $p = .005$

Table 7

Logistic Regressions of the Predictors of Physically-Forced Sexual Assault

Predictor Variable	<i>B</i>	<i>SE</i>	Wald χ^2	-2 Log likelihood	Nagelkerke R Square	Odds Ratio	<i>p</i>
Block 1 Model			10.47	391.96	.03		<.001*
CSA	1.33	.37	12.78			3.76	<.001*
Block 2 Model			32.44	369.99	.10		<.001*
CSA	.99	.39	6.46			2.7	<.01
Abandonment	.10	.02	23.30			1.1	<.001*
Block 2 Model			24.47	377.97	.08		<.001*
CSA	1.10	.38	8.21			3.00	<.001*
Mistrust	.08	.02	14.71			1.09	<.001*
Block 2 Model			24.77	377.66	.08		<.001*
CSA	1.04	.39	7.03			2.83	.01
Defectiveness	.09	.02	16.09			1.10	<.001*
Block 1 Model			15.03	386.93	.05		<.001*
CPA	1.14	.28	26.72			3.11	<.001*
Block 2 Model			35.64	366.79	.11		<.001*
CPA	.89	.29	9.19			2.42	<.01
Abandonment	.10	.02	21.31			1.10	<.001*
Block 2 Model			26.72	375.71	.08		<.001*
CPA	.91	.29	9.64			2.48	<.01
Mistrust	.08	.02	11.74			1.08	.001*
Block 2 Model			30.02	372.41	.09		<.001*
CPA	.99	.29	11.81			2.69	.001*
Defectiveness	.10	.02	16.61			1.10	<.001*
Block 1 Model			13.33	389.10	.04		<.001*
CEA	1.20	.31	31.61			3.32	<.001*
Block 2 Model			31.61	370.83	.10		<.01
CEA	.75	.33	5.18			2.12	.02
Abandonment	.09	.02	19.47			1.10	<.001*
Block 2 Model			22.56	379.87	.07		<.001*
CEA	.79	.34	5.50			2.20	.02
Mistrust	.07	.02	9.67			1.08	<.01
Block 2 Model			23.56	378.87	.07		<.001*
CEA	.78	.34	5.26			2.19	.02
Defectiveness	.08	.03	11.26			1.09	.001*

Note. Table 7 reports the last significant block of the logistic regression analysis. For all analyses, variables were entered in a hierarchical fashion: 1) child abuse, 2) child abuse and YSQ schema

*Regression significant after applying the Bonferroni adjusted alpha of $p = .005$