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Running head: FORGETTING CHILDHOOD TRAUMA

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Abstract

Using a retrospective survey, we studied a sample of 1679 college women to determine whether reports of prior forgetting of sexual abuse, physical abuse, and other traumas could be explained by trauma severity and individual differences in the use of defensive emotion-regulation reactions (i.e., repressive coping, dissociation, and fantasy proneness). Among victims of physical abuse (but not sexual abuse or other types of trauma), those who experienced severe abuse and used defensive reactions were sometimes more likely to report temporary forgetting of abuse, but other times less likely to report forgetting. We also found unanticipated main effects of trauma severity on temporary forgetting. Our results provide an understanding of victims’ experiences of forgetting by demonstrating the importance of considering unique effects of trauma type, different aspects of trauma severity, and victims’ defensive reactions to trauma.
Trauma Severity and Defensive Emotion-Regulation Reactions as Predictors of Forgetting Childhood Trauma

Fifteen to sixty-four percent of victims report experiencing temporary forgetting of childhood sexual abuse experiences (e.g., Briere & Conte, 1993; Elliot & Briere, 1995; Epstein & Bottoms, 1998; Ghetti et al., 2006). Epstein and Bottoms (2002) found no differences in the prevalence of forgetting for childhood sexual and physical abuse, although victims of other types of childhood trauma (e.g., severe accidents) reported significantly less forgetting than victims of sexual abuse (see also Greenhoot, McCloskey, & Glisky, 2005; Melchert, 1999; Melchert & Parker, 1997). Thus, some trauma victims report temporary forgetting, others do not. Why? In this research, we examined whether trauma severity and individual differences in the use of various defensive emotion-regulation reactions (i.e., repressive coping, dissociation, and fantasy proneness) predicted forgetting for childhood sexual abuse, physical abuse, and other types of trauma. Trauma severity has been operationalized in numerous ways. For example, abuse is thought to be particularly severe when it starts at an earlier age, is more frequent and longer lasting, has a stronger emotional impact, or involves a greater degree of violence, etc. Therefore, we refer to various aspects of trauma as severity indicators, including early age of trauma onset, past and present emotional distress, perceived threat of injury, and, for abuse experiences, perceived emotional closeness to the perpetrator and duration and frequency of abuse.

The Synergistic Effect of Trauma Severity and Defensive Emotion-Regulation Reactions

Consistent with theories suggesting that forgetting should occur for events that are especially traumatic (e.g., Briere & Conte, 1993), forgetting of childhood sexual abuse is associated with early age of onset (Briere & Conte, 1993; Epstein & Bottoms, 1998), repetition over a long time period (Briere & Conte, 1993), and with being perceived as emotionally scarring (Elliot & Briere, 1995). Yet, other researchers have found no such relation in terms of early age of onset (Elliot & Briere, 1995; Freyd, DePrince, & Zurbriggen, 2001; Melchert, 1999), duration (Elliot & Briere, 1995; Epstein & Bottoms, 1998; Freyd et al., 2001; but see Dalenberg, 2006), closeness to perpetrator (Epstein & Bottoms, 1998; but see Freyd et al., 2001), or emotional impact (Epstein & Bottoms, 1998). A study of relations between trauma severity and
forgetting for nonsexual abuse experiences illustrated that adolescents were significantly more likely to forget family violence they reported 6 years earlier when it was more severe (e.g., burning, choking) rather than less severe (e.g., pushing, slapping) (Greenhoot et al., 2005).

Trauma severity might interact with individual differences to determine the likelihood of forgetting (Elliot & Briere, 1995; Goodman, Quas, & Ogle, 2010). Briere’s (1996) self-trauma model proposes that an individual’s emotional reactions to stressors are determined by how the individual reacts to an experience and deals with associated memories and affect. Individuals with adequate internal resources deal effectively with traumatic stressors (Briere, 1996); others resort to defensive emotion-regulation reactions to avoid painful memories. The more severe a trauma, the more likely it overwhelms internal resources, and the more likely are defensive reactions (Briere, 1996; Elliot & Briere, 1995). This theory could explain inconsistent relations between trauma severity and forgetting in previous research and why some individuals who experience abuse temporarily forget their experiences, whereas others do not. Some support for this theory comes from prior research examining relations among childhood trauma, trauma severity, and three types of defensive reactions: repressive coping, dissociation, and fantasy proneness.

**Repressive Coping and Temporary Forgetting**

Repressive coping, indicated by low anxiety and high defensiveness, is characterized by a disparity between subjective (self-reports) and objective (physiological/behavioral) measures of distress (e.g., Weinberger, 1990; Weinberger, Schwartz, & Davidson, 1979). Repressors report experiencing little distress in potentially anxiety-provoking situations, yet actually do register distress on physiological and behavioral measures (Weinberger, 1990). Being adept at diverting attention away from emotionally threatening material and memories (Bonanno, Davis, Singer, & Schwartz, 1991), repressors might have difficulty recalling instances in which they experience anxiety (Davis & Schwartz, 1987). In fact, compared to nonrepressors, repressors recall fewer negative childhood memories (Davis & Schwartz, 1987; Myers & Brewin, 1994), unless asked specifically about negative childhood events, when they are more likely to report distant paternal relationships characterized by lack of closeness (Myers & Brewin, 1994) and almost equally
likely to recall negative autobiographical memories (Davis, 1990). Similarly, repressor adolescents in Bonanno, Noll, Putnam, O’Neill, and Trickett’s (2003) sample were less likely to disclose a documented history of sexual abuse when asked to describe a distressing life event, but did disclose when asked directly about abuse.

Thus, repressors might be more motivated than nonrepressors to direct attention away from traumatic experiences, therefore more likely to eventually forget them (temporarily or not) and not report them. If given specific retrieval cues, however, they might be no more likely than others to forget childhood trauma because the cues might dislodge consciously available memories that are merely difficult to access due to active cognitive avoidance. Level of trauma severity might also play an important role. We predicted that, the more severe the trauma, the more likely repressors would be to avoid and therefore forget traumas, even when asked specifically about them.

**Dissociation and Temporary Forgetting**

Dissociation involves a lack of integration of thoughts, feelings, and experiences (Bernstein & Putnam, 1986) characterized by feelings of depersonalization and disturbances in memory, awareness, or identity (Nemiah, 1980). There are well-documented relations between dissociation and traumatic experiences such as physical abuse and psychological abuse (e.g., Eisen & Carlson, 1998; but see Kisiel & Lyons, 2001) and childhood sexual abuse (e.g., Kisiel & Lyons, 2001; McNally, Clancy, Schacter, & Pitman, 2000; but see Eisen & Carlson, 1998; for review, see Putnam, 1985). Dissociative tendencies may develop or intensify when a victim’s internal resources are overwhelmed (Briere, 1996). Individuals who experience more versus less severe victimizations report more pronounced dissociative experiences (e.g., Maynes & Feinauer, 1994).

Dissociation may lead to memory impairments that enable individuals to avoid acknowledging painful or traumatic memories (e.g., Maynes & Feinauer, 1994). Women who report forgetting childhood sexual or physical abuse (Chu, Frey, Ganzel, & Matthews, 1999; Geraerts, Merckelbach, Jelicic, Smeets, & van Heerden, 2006; Geraerts, Smeets, Jelicic, van Heerden, & Merckelbach, 2005; Ghetti et al., 2006; but see McNally et al., 2000) and other
traumas (e.g., witnessing abuse, Chu et al., 1999) have higher dissociation scores compared to others.

Theoretically, temporary forgetting should be most likely when a victim has high levels of dissociation and experiences overwhelming trauma. In a study of 3- to 16-year-old children, Eisen, Goodman, Qin, Davis, and Crayton (2007) found that greater stress facilitated memory for an anogenital exam in low dissociators, but reduced memory in high dissociators. Chu and colleagues (1999) found that experiencing physical and sexual abuse at an early age was correlated with higher dissociation scores and more amnesia.

In our study, we expected that women with more severe abuse and higher levels of dissociation would be most likely to forget childhood trauma.

**Fantasy Proneness and Temporary Forgetting**

Fantasy proneness refers to the ability to hallucinate voluntarily, “become” imagined characters, and perceive fantasies as real, perhaps because of a need to escape from aversive childhood experiences (Wilson & Barber, 1983a). Fantasy-prone individuals report using this defensive strategy when experiencing negative affect (Wilson & Barber, 1983a). They also report having experienced significantly more childhood sexual abuse (Bryant, 1995; Eisen & Carlson, 1998; Geraerts et al., 2005; Geraerts et al., 2006; Rhue, Lynn, Henry, Buhk, & Boyd, 1990-1991) and childhood punishment (Rhue et al., 1990-1991) including physical abuse (Eisen & Carlson, 1998; but see Rauschenberger & Lynn, 1995), than others. A study defining severity in terms of early age of onset found a positive relation (Bryant, 1995), which raises the possibility that more severe abuse might relate to more fantasy proneness.

Re-experiencing traumatic events via remembering might be particularly painful for fantasy-prone individuals who experience memories vividly, so they might be highly motivated to avoid these memories (Wilson & Barber, 1983a), leading to temporary forgetting. In fact, some research (McNally et al., 2000) but not all (Geraerts et al., 2005, 2006) finds that women with recovered memories are higher in fantasy proneness than others. We expected that when an individual’s resources are particularly overwhelmed in severely traumatic circumstances, fantasy use would be associated with temporary forgetting.
Prior Tests of the Moderation Hypothesis and the Present Study

In a predominantly White (80%) sample of young college men and women, Melchert (1999) found no relations between repressive coping and a history of sexual, physical, or emotional abuse, abuse severity, or forgetting. Dissociation was not associated with sexual or physical abuse, but did significantly relate to experiencing emotional abuse, more severe abuse of all types, and more temporary forgetting of abuse generally. Melchert did not test whether dissociation moderated the effect of abuse severity on forgetting. Because only 25 participants reported temporary forgetting of any kind of abuse, Melchert was also unable to examine unique associations between defensive reactions, severity, and forgetting separately by abuse type—his analyses collapsed across victims of sexual, physical, and emotional abuse. Melchert also calculated an abuse severity score based on several indices of severity combined across sexual, physical, and emotional abuse, not taking into account unique effects that might emerge when each dimension is considered in relation to each separate trauma type.

We extended Melchert’s (1999) research by conducting a retrospective survey of a young, nonclinical sample of college women to examine relations between defensive reactions, severity, and forgetting separately for physical and sexual abuse, but also for other kinds of severe trauma (e.g., car accidents, witnessing traumas). We measured severity more specifically by assessing frequency, duration, emotional closeness to perpetrator, fear of injury, and emotional distress (past and present). In addition, we used a more reliable measure of repressive coping and multivariate analyses to test whether each severity index interacted with the different types of defensive reactions (including, for the first time, fantasy proneness) to predict forgetting of sexual abuse, physical abuse, and other types of traumas. We used a more diverse and larger (by three times) sample of college women.

Of importance, all retrospective self-report methods limit the ability to make definitive conclusions because neither claims of abuse or trauma nor forgetting of such experiences can be validated. Yet recovered memories of traumatic experiences are difficult to study and this method was recently recognized as representing “the best methodology currently available” for understanding some aspects of this phenomenon (Piper, Lillevik, & Kritzer, 2008, p. 235).
Further, based on their review of 14 empirical studies, Hardt and Rutter (2004) concluded that “when abuse or neglect is retrospectively reported to have taken place, these positive reports are likely to be correct” (p. 270).

We predicted an interaction of trauma severity and use of defensive reactions such that victims who report experiencing more severe experiences and use more defensive emotion-regulation reactions would be more likely to report temporary forgetting than others. Our study is a more specific test of this theory because we explored whether women who experience particularly severe childhood sexual abuse, physical abuse, and other traumas (i.e., in terms of past and present emotional distress, perceived threat of injury, and, for abuse experiences, perceived emotional closeness to the perpetrator and duration and frequency of abuse) are most likely to report temporary forgetting of those experiences when they have defensive reactions of repressive coping, dissociation, or fantasy proneness.

**Method**

**Participants**

In return for course credit, 1,679 women from four colleges/universities throughout the United States participated. The sample was ethnically diverse (21% African-American, 21% Asian-American, 35% Caucasian, 15% Hispanic/Latino, 6% other) and ranged in age from 17 to 60 years old ($M = 21$, $SD = 5$). Twenty percent of participants’ parents earned less than $20,000 per year; 34% earned $20,000–$39,999; 27% earned $40,000–$59,999; 16% earned $60,000–$79,999; and 17% earned $80,000 or more.

**Materials**

**Personal History Questionnaire.** As part of a larger survey study (Epstein & Bottoms, 2002), experiences of and memory for childhood sexual abuse, physical abuse, and trauma were assessed with the Personal History Questionnaire, the same measure used by Epstein and Bottoms, described next.

**Measures of abuse and trauma experiences.** In three separate sections of the Personal History Questionnaire, respondents were asked to indicate whether they had ever experienced sexual abuse, physical abuse, and other types of trauma. Sexual abuse was assessed
with the following question: “When you were 17 years old or younger, did you ever have any of the following experiences with someone at least 5 years older than you? (Note: this could mean that you did these things to someone or someone did them to you).” The following specific experiences were as listed: “(a) Viewed or took part in child pornography; (b) Exhibitionism (inappropriately exposed to adult’s genitals); (c) Fondling (touching) genitals, breasts, or buttocks directly or through clothing; (d) Oral sex (mouth/genital contact); (e) Anal sex (penetration of anus with genitals, fingers, or other object); (f) Attempted vaginal intercourse (attempted penetration with penis, fingers, or other object); (g) Completed vaginal intercourse (penetration with penis, fingers, or other object).” Participants were also asked a general screening question to assess whether they subjectively labeled themselves as abuse victims (e.g., “When you were 17 years old or younger, were you a victim of childhood sexual abuse?”). We identified respondents as sexual abuse victims if they answered either this or the initial question affirmatively. This method avoids underestimating the true number of abuse victims, because some individuals who have had abusive experiences fail to self-label as victims. Questions were modeled after Finkelhor (1979) and reviewed by J. Briere (personal communication, April 22, 1997), the author of articles that provide, in part, the theoretical basis for our study.

A similar question assessing physical abuse was based on definitions from Straus and Gelles (1988): “When you were 17 years old or younger, did you ever have any of the following experiences where someone at least 5 years older than you used excessive physical force on you that resulted in welts, bruises, bleeding, or other physical injuries?” Response alternatives were “(a) You were spanked, whooped, or whipped and it resulted in welts, bruises, bleeding, or other physical injuries; (b) You were slapped or choked and it resulted in welts, bruises, bleeding, or other physical injuries; (c) You were punched, kicked, or beaten up and it resulted in welts, bruises, bleeding, or other physical injuries; (d) You were hit with an object and it resulted in welts, bruises, bleeding, or other physical injuries.” After completing this question, participants were also asked, “When you were 17 years old or younger, were you a victim of childhood physical abuse?” We considered respondents physical abuse victims if they answered either this or the initial question affirmatively.
Forgetting Childhood Trauma

The screening question for other traumas was “When you were 17 years old or younger, did you ever have any of the following experiences? Note: Please do NOT report sexual or physical abuse in this section.” Response alternatives were “(a) Severe car accident, (b) Other type of severe accident, (c) Been in a fire, (d) Victim of a major crime, (e) Witnessed domestic abuse, (f) Witnessed a murder, (g) Emotional or verbal abuse, (h) Neglect that threatened your health, (i) Surgery/hospitalization.”

**Trauma severity questions.** Respondents who reported any type of abuse or trauma were asked about (a) the age of onset (“Approximately how old were you when the [sexual abuse started, physical abuse started, traumatic experience happened]?”); (b) fear of injury (“When you experienced [your sexual abuse, your physical abuse, this traumatic experience], did you worry about being seriously injured or killed?”), ranging from 1 (no, not at all) to 7 (yes, very much); (c) past emotional distress (“At the time it occurred, was [your sexual abuse, your physical abuse, this traumatic experience] emotionally upsetting or distressing to you?”), ranging from 1 (no, not at all upsetting) to 7 (yes, very upsetting); and (d) current emotional distress (“Is [your sexual abuse, your physical abuse, this traumatic experience] emotionally upsetting or distressing to you now?”), ranging from 1 (no, not at all upsetting) to 7 (yes, very upsetting). Victims of sexual and physical abuse were also asked about (a) frequency (“Approximately how many times did the abuse occur?”), with response options of 1, 2, 3-5, 6-10, 11-20, or 21+; (b) duration, calculated by subtracting age of onset from age of offset (“Approximately how old were you when the [sexual, physical] abuse stopped?”); and (c) closeness to the perpetrator (“How emotionally close were you to the abuser prior to the [sexually, physically] abusive experience?”), ranging from 1 (not close at all) to 7 (extremely close). Trauma severity questions were like those used by Epstein and Bottoms (1998).

**Temporary forgetting question.** Forgetting was defined as a respondent’s affirmative answer to the general screening question, “Was there ever a time when you could not remember (your sexual abuse, your physical abuse, this traumatic) experience?” This question was modeled after those used by previous researchers (e.g., Epstein & Bottoms, 1998, 2002; Melchert & Parker, 1997).
Measures of defensive emotion-regulation reactions.

Repressive coping. Two measures were used in combination to determine repressive coping (Weinberger, 1990). The short form of the Marlowe-Crowne Social Desirability Scale (MCSDS; Strahan & Gerbasi, 1972) measured defensiveness (i.e., the tendency to protect one’s self-esteem by maintaining rigid standards of self-control) with 20 true or false statements regarding personal attitudes and traits (e.g., “I’m always willing to admit it when I make a mistake”). This was reliable in our sample (α = .70) as in others (αs = .73-.87, Strahan & Gerbasi, 1972). The Taylor Manifest Anxiety Scale-Short Form (TMAS; Bendig, 1956) included 20 true or false statements such as “I feel anxiety about something or someone almost all the time”. It was reliable in our sample (α = .83), as in others (α = .76, Bendig, 1956). Out of a possible score of 20 on both measures, participants scored $M = 9.74$ ($SD = 3.50$) on the MCSDS and $8.87$ ($SD = 4.68$) on the TMAS. Participants were grouped as either repressors (based on median splits, those with low anxiety on the TMAS and high defensiveness on the MCSDS; $n = 476$ or 28% of the sample) or nonrepressors (i.e., all others; $n = 1203$ or 72% of the sample). Weinberger (1990) and Weinberger et al. (1979) established the construct validity of this approach.

Dissociation. On the Dissociative Experiences Scale (DES; Carlson & Putnam, 1993), participants rated 28 items such as “Some people have the experience of finding themselves in a place and having no idea how they got there” from 0% to 100%, representing the percentage of time they have had each experience. The measure has good test-retest and internal reliabilities and adequate construct, discriminant, convergent, and concurrent validities (e.g., Bernstein & Putnam, 1986). It was highly reliable in our sample (α = .94), with overall average dissociation scores ranging from 0% to 68% ($M = 13\%, SD = 12\%$), consistent with scores in young nonclinical samples (Carlson & Putnam, 1993).

Fantasy proneness. Participants completed the Inventory of Childhood Memory and Imaginings (ICMI; Wilson & Barber, 1983b), a 52-item list of imaginative and fantasy experiences (e.g., “As an adult, I occasionally pretend I am someone else”) scored on dichotomous (yes or no) scales. As have others (e.g., Bryant, 1995; Rhue et al., 1990-1991), we
used the scale to measure levels of fantasy proneness as a continuous dependent measure. The scale was reliable in our sample ($\alpha = .84$). Summed fantasy proneness scores ranged from 0 to 44 ($M = 16.82, SD = 7.25$), consistent with scores in other nonclinical populations (Rhue et al., 1990-1991).

**Procedure**

The ordering of questions about experiences of sexual abuse, physical abuse, and other types of childhood trauma was rotated across surveys according to a Latin square design, and the order of the Personal History Questionnaire and defensive reactions measures was counterbalanced. Participants received the measures either in a take-home packet that they returned in a sealed envelope, or during an experimental session in a large room where at least two chairs separated them from others. All received the same instructions and survey materials. Participants were assured that their answers would remain confidential and anonymous. Signed informed consent forms were returned separately from surveys to ensure anonymity. All procedures were approved by the colleges’ institutional review boards.

**Results**

First, we report the frequency with which participants reported experiencing each type of trauma and temporary forgetting associated with each type of trauma. (The reader is cautioned that these are all participants’ reports, which we do not know to be true.) Then, for each trauma type, we used three separate logistic regression equations to test whether a greater likelihood of forgetting was predicted by (a) trauma severity, (b) defensive emotion-regulation reactions (i.e., repressive coping style, dissociation, and fantasy proneness), and (c) interactions between trauma severity and defensive reactions. Interaction terms were created by centering each of the trauma severity indices (except age of onset), then separately multiplying them with the categorical measure of repressive coping style and continuous measures of dissociation and fantasy proneness. In each equation, temporary forgetting was simultaneously regressed onto all trauma severity measures (i.e., age of onset, past and present emotional distress, fear of injury, emotional closeness to one’s perpetrator, and duration and frequency of abuse), the defensive reaction, and the interaction between each trauma severity measure with the defensive reaction, as
recommended by Baron and Kenny (1986). We present the statistics from these analyses in tables and discuss only significant effects. For significant interactions, we tested the effects of trauma severity indices separately for victims who were high or low on the defensive reactions (i.e., victims who were one standard deviation above and below the mean, respectively). We report predicted interactions, then unanticipated main effects.

**Frequency of Trauma and Temporary Forgetting**

Only 36% \((n = 605)\) of participants reported no history of childhood sexual abuse, physical abuse, or other traumas. Twenty-eight percent \((n = 469)\) reported experiencing childhood sexual abuse, 30% \((n = 511)\) reported childhood physical abuse, and 43% \((n = 714)\) reported other types of childhood trauma. Twenty-nine percent \((n = 481)\) reported experiencing more than one type of abuse or trauma (5%, \(n = 85\), reported sexual abuse and physical abuse; 6%, \(n = 107\), reported sexual abuse and other traumas; 9%, \(n = 150\), reported physical abuse and other traumas; 8%, \(n = 139\), reported sexual abuse, physical abuse, and other traumas). Other researchers who considered forgetting across various types of trauma (e.g., Melchert & Parker, 1997) did not consider whether victims experienced multiple traumas nor group these individuals separately in analyses comparing forgetting rates by trauma type. To make our results comparable, we examined forgetting rates for each type of trauma, irrespective of multiple trauma status and mutual exclusivity of categories.

Of the 469 childhood sexual abuse victims, 14% \((n = 66)\) reported experiencing temporary forgetting of their abuse experiences. Of the 511 physical abuse victims, 9% \((n = 44)\) reported forgetting. Of the 714 victims of other traumas, 6% \((n = 44)\) reported forgetting.

**Defensive Reactions as Moderators of Relations between Trauma Severity and Forgetting**

Repressive coping did not interact significantly with any measures of trauma severity to predict reports of temporary forgetting of sexual abuse, physical abuse, or other traumas (see Table 1).

As predicted, dissociation significantly interacted with fear of injury and past emotional distress to predict reports of temporary forgetting of physical abuse (see Table 2). Specifically, simple slopes analyses revealed that neither fear of injury \((B = -.10, OR = .90)\), Wald = .80, *ns,*
nor past emotional distress ($B = -.06, OR = .94$), Wald = .30, ns, was related to reports of temporary forgetting for women who were low in dissociation and experienced physical abuse. Surprisingly, women who were high in dissociation were significantly less likely to report temporary forgetting of physical abuse as past emotional distress increased ($B = -.48, OR = .62$), Wald = 4.47, $p < .05$. As expected, however, women who were high in dissociation were significantly more likely to report forgetting of physical abuse as fear of injury at the time of abuse increased ($B = .66, OR = 1.94$), Wald = 7.39, $p < .01$.

Fantasy proneness also significantly interacted with fear of injury to predict reports of temporary forgetting of physical abuse (see Table 3). Specifically, tests of the simple slopes revealed that fear of injury at the time of physical abuse was unrelated to reports of forgetting in women who were low in fantasy proneness ($B = .22, OR = 1.24$), Wald = 1.66, ns, but, as hypothesized, women who were high in fantasy proneness were significantly more likely to report a period of forgetting as fear increased ($B = .67, OR = 1.96$), Wald = 3.83, $p = .05$.

**Other Predictors of Forgetting**

Age of sexual abuse onset was consistently significantly related to forgetting. (See Tables 1, 2, and 3 for all relations as a function of repressive coping, dissociation, and fantasy proneness, respectively.) That is, the younger victims were when they first experienced sexual abuse, the more likely they were to report a time that they did not remember it. This was also true for women who experienced other traumas when accounting for repressive coping and dissociation. In the model including dissociation, women who experienced longer lasting sexual abuse were significantly less likely to report temporary forgetting (see Table 2). In the models including dissociation and fantasy proneness, but not repressive coping style, women who experienced other traumas (but not sexual abuse or physical abuse) and who were more fearful of injury or death at that time were significantly more likely to report temporary forgetting (see Tables 2 and 3). There were no other significant main effects of trauma severity indices or defensive reactions on temporary forgetting of any trauma type.

**Discussion**

Self-reported rates of sexual abuse, physical abuse, and other types of childhood trauma
and of forgetting those experiences were consistent with those reported elsewhere (Epstein & Bottoms, 2002). Although Melchert (1999) found some associations between abuse severity, defensive reactions, and forgetting, our study is the first to test directly whether trauma severity interacts with defensive reactions such as repressive coping style, dissociation, and fantasy proneness to produce temporary forgetting for different types of childhood trauma. Contrary to predictions, defensive reactions did not generally moderate relations between severity and forgetting. Sometimes defensive reactions (dissociation and fantasy proneness) interacted with trauma severity (fear of injury during the abuse) to predict more forgetting. In one case, however, defensive reactions (dissociation) interacted with trauma severity (past emotional distress) to predict less forgetting. This is consistent with studies suggesting that higher levels of dissociation might be protective against forgetting emotional material and even facilitate memory (Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2008). This would be consistent with our hypotheses if the women who reported low past emotional distress at the time of the abuse had actually experienced high distress but dissociated from it. Even so, these interactive effects emerged only for physical abuse victims.

A few severity indices affected temporary forgetting of sexual abuse and other traumas. Consistent with prior research (Briere & Conte, 1993; Epstein & Bottoms, 1998; but see Melchert, 1999), victims who were younger when they first experienced abuse or trauma were more likely to report temporary forgetting. Other indices, however, were related to forgetting of either sexual abuse or other traumas (not both), and then, not always in the expected direction: Victims who were more fearful of injury or death at the time of other traumas were significantly more likely to forget, but victims who experienced longer lasting sexual abuse were less likely to forget. Thus, results using different measures of trauma severity revealed conflicting findings. Issues of measurement could explain prior findings of inconsistent relations between severity and forgetting. Our measures of trauma and severity were broad, although similar to those used in prior research, and based on the assumption that severity is multi-dimensional—represented both by objective qualities of an event and subjective ratings of its emotional impact. There are presently no universally accepted measures of trauma severity, and severity definitions often
differ across studies, depend on intuitive theories, and are obtained by unreliable measurements (Chaffin, Wherry, Newlin, Crutchfield, & Dykman, 1997). Ghetti et al. (2006) reported that subjective severity assessments predicted forgetting of childhood sexual abuse whereas objective documentation of abuse severity predicted more accurate memory. Thus, methodological issues could explain such discrepancies. It is also possible that some measures of severity are proxies for other variables. Consider duration of abuse: This variable might be associated with less likelihood of temporary forgetting not because duration is a marker of severity, but rather because longer lasting abuse involves multiple episodes, which might strengthen gist memory (e.g., Farrar & Goodman, 1992). Alternatively, relations previously found between trauma severity, defensive reactions, and temporary forgetting might have been spurious.

Defensive emotion-regulation reactions were poor predictors of temporary forgetting. Perhaps they are indeed unrelated, but this counters theory that memory loss is a defining feature of both dissociation and fantasy proneness (e.g., Nemiah, 1980; Wilson & Barber, 1983a), and that women might be vulnerable to developing false abuse memories if they are highly dissociative (Giesbrecht et al., 2008). In fact, our finding that highly dissociative women were less likely to forget as their past emotional distress increased suggests that using defensive reactions alone does not decrease the reliability of women’s abuse reports.

**Limitations, Future Directions, and Conclusions**

Women’s forgetting of childhood trauma is a complex phenomenon needing further theoretical and empirical attention. Future work should address the limitations of our study, such as relying on retrospective self-reports, which could be avoided by using prospective designs. A second limitation is that we did not ask respondents explicitly whether they retrieved their forgotten memories. It is possible that some victims forgot portions of their traumas, retained awareness of their incomplete memory, but failed to retrieve the forgotten memories. For example, an individual could have memories of being in a car accident, but fail to recall which direction the car spun when it was struck. On our survey, she might report experiencing a time during which she could not recall portions of the trauma; however, she might mean that the time of forgetting is still occurring since the memories have not been, and may never be, retrieved.
Third, we might have missed some instances of forgetting because we used only one item to measure this construct, as have others (e.g., Epstein & Bottoms, 1998; Ghetti et al., 2006; Melchert, 1999). More questions might have given victims more opportunity to remember their traumas. Even so, participants reviewed many specific abuse and trauma experiences which could have triggered memories, and any potential errors in this regard make our conclusions more conservative.

Fourth, although college samples are representative of a large portion of society (53% of Americans have college experience, U.S. Census Bureau, 2009), our sample might not have included enough individuals in the clinically significant range of defensive reactions to make our study a fair test of predicted relations. Using a young sample might also underestimate the frequency with which women experience temporary forgetting of childhood trauma, as older women might have more time to forget and recover such memories.

Finally, despite using the largest sample to date, our cell sizes are small when reduced to the number of women who experienced and temporarily forgot severe trauma and had a particular defensive reaction. This reduces the likelihood of having sufficient power to detect effects, especially since our effects were small (according to Chen, Cohen, & Chen’s, 2010, guidelines). Future prospective designs with larger samples will be more effective in testing our theoretically derived hypotheses. Very large samples, while hard to obtain, could even allow for testing hypotheses within groups of victims who have experienced exactly the same kinds of trauma. (We necessarily collapsed across a number of different experiences, e.g., our sexual abuse victims’ experiences ranged from viewing child pornography to experiencing completed vaginal intercourse.) A larger sample size could also allow for better measurement of forgetting. That is, when victims say there “was a time they could not remember” their traumas (Epstein & Bottoms, 2002), they mean psychological mechanisms ranging from common forgetting and active cognitive avoidance to the relabeling of unforgotten benign experiences as traumatic. Trauma severity and defensive reactions probably relate differently to various types of forgetting. Also, studies of larger samples could incorporate measures of cognitive abilities, which is important because Zhu et al. (2010) recently found that some personality variables
increase susceptibility to developing false memories in response to misinformation only among those who are low in cognitive abilities.

In closing, our work demonstrates the importance of understanding the effects of specific indices of severity and defensive reactions on forgetting childhood traumas. Our findings neither strongly support nor refute Briere’s (1996) self-trauma theory, but instead suggest many directions for future studies which could advance our understanding of women’s experiences of forgetting childhood traumas.
References


depends upon victim-perpetrator relationship. *Journal of Trauma & Dissociation, 2*, 5-16.


Footnote

1. An anonymous reviewer wondered whether the dissociation and fantasy proneness interactions with fear of injury remained significant when entered simultaneously as predictors of temporary forgetting of physical abuse. An additional logistic regression analysis including the main effects of dissociation, fantasy proneness, each of the six trauma severity indices, and all dissociation X trauma severity and fantasy proneness X trauma severity interaction effects (i.e., combining the variables shown in Tables 2 and 3 into one model) revealed that the dissociation X fear of injury interaction remained significant (p = .008), but the fantasy proneness X fear of injury interaction only trended toward significance (p = .16). This might have occurred because of reduced power, but probably not because of multicollinearity because another multiple regression analysis predicting forgetting of physical abuse with dissociation, fantasy proneness, and the trauma severity indices showed that all variables had tolerance \( \geq .57 \) and VIFs \( \leq 1.75 \).
Table 1

Logistic Regression Models Predicting Forgetting as a Function of Trauma Severity and Repressive Coping Style for Each Trauma Type

<table>
<thead>
<tr>
<th></th>
<th>Sexual abuse</th>
<th></th>
<th>Physical abuse</th>
<th></th>
<th>Other traumas</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \chi^2(15, 386) = 68.84^{***} )</td>
<td>( \chi^2(15, 411) = 9.12 )</td>
<td>( \chi^2(9, 603) = 18.87^{*} )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of abuse onset</td>
<td>-.28</td>
<td>.75</td>
<td>24.65^{***}</td>
<td>-.04</td>
<td>.96</td>
<td>.31</td>
</tr>
<tr>
<td>Duration of abuse</td>
<td>-.07</td>
<td>.94</td>
<td>.76</td>
<td>.02</td>
<td>1.02</td>
<td>.04</td>
</tr>
<tr>
<td>Frequency of abuse</td>
<td>.02</td>
<td>1.02</td>
<td>.02</td>
<td>.11</td>
<td>1.12</td>
<td>.55</td>
</tr>
<tr>
<td>Emotional closeness to perpetrator</td>
<td>.01</td>
<td>1.01</td>
<td>.02</td>
<td>-.01</td>
<td>.99</td>
<td>.00</td>
</tr>
<tr>
<td>Past emotional distress</td>
<td>-.14</td>
<td>.87</td>
<td>2.61</td>
<td>-.02</td>
<td>.98</td>
<td>.03</td>
</tr>
<tr>
<td>Current emotional distress</td>
<td>.07</td>
<td>1.07</td>
<td>.56</td>
<td>.15</td>
<td>1.17</td>
<td>2.12</td>
</tr>
<tr>
<td>Fear of injury</td>
<td>-.00</td>
<td>1.00</td>
<td>.00</td>
<td>-.10</td>
<td>.91</td>
<td>.78</td>
</tr>
<tr>
<td>Repressive coping style</td>
<td>1.54</td>
<td>4.68</td>
<td>1.71</td>
<td>-.47</td>
<td>.63</td>
<td>.12</td>
</tr>
<tr>
<td>Age of abuse onset × Repressive coping style</td>
<td>.11</td>
<td>1.12</td>
<td>.63</td>
<td>-.01</td>
<td>.99</td>
<td>.00</td>
</tr>
<tr>
<td>Duration of abuse × Repressive coping style</td>
<td>-.23</td>
<td>.80</td>
<td>.82</td>
<td>-.03</td>
<td>.97</td>
<td>.04</td>
</tr>
<tr>
<td>Frequency of abuse × Repressive coping style</td>
<td>.61</td>
<td>1.85</td>
<td>3.14</td>
<td>-.10</td>
<td>.91</td>
<td>.08</td>
</tr>
<tr>
<td>Closeness to perpetrator × Repressive coping style</td>
<td>-.36</td>
<td>.70</td>
<td>2.49</td>
<td>.08</td>
<td>1.09</td>
<td>.11</td>
</tr>
<tr>
<td>Past emotional distress × Repressive coping style</td>
<td>-.13</td>
<td>.88</td>
<td>.46</td>
<td>-.15</td>
<td>.87</td>
<td>.35</td>
</tr>
<tr>
<td>Current emotional distress × Repressive coping style</td>
<td>.14</td>
<td>1.15</td>
<td>.53</td>
<td>.25</td>
<td>1.29</td>
<td>.55</td>
</tr>
<tr>
<td>Fear of injury × Repressive coping style</td>
<td>-.74</td>
<td>.48</td>
<td>1.72</td>
<td>-.11</td>
<td>.90</td>
<td>.14</td>
</tr>
</tbody>
</table>

Note. * \( p < .05 \), ** \( p < .01 \), and *** \( p < .001 \).
Table 2

Logistic Regression Models Predicting Forgetting as a Function of Trauma Severity and Dissociation for Each Trauma Type

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Sexual abuse</th>
<th>Physical abuse</th>
<th>Other traumas</th>
</tr>
</thead>
<tbody>
<tr>
<td>χ²(15, 385) = 68.50***</td>
<td>B</td>
<td>OR</td>
<td>Wald</td>
</tr>
<tr>
<td>Age of abuse onset</td>
<td>-.32</td>
<td>.73</td>
<td>18.86***</td>
</tr>
<tr>
<td>Duration of abuse</td>
<td>-.24</td>
<td>.78</td>
<td>3.80*</td>
</tr>
<tr>
<td>Frequency of abuse</td>
<td>.23</td>
<td>1.26</td>
<td>1.76</td>
</tr>
<tr>
<td>Emotional closeness to perpetrator</td>
<td>-.10</td>
<td>.90</td>
<td>.63</td>
</tr>
<tr>
<td>Past emotional distress</td>
<td>-.20</td>
<td>.82</td>
<td>3.12</td>
</tr>
<tr>
<td>Current emotional distress</td>
<td>-.01</td>
<td>.99</td>
<td>.01</td>
</tr>
<tr>
<td>Fear of injury</td>
<td>-.17</td>
<td>.85</td>
<td>.99</td>
</tr>
<tr>
<td>Dissociation</td>
<td>-.05</td>
<td>.95</td>
<td>2.26</td>
</tr>
<tr>
<td>Age of abuse onset × Dissociation</td>
<td>.00</td>
<td>1.00</td>
<td>1.17</td>
</tr>
<tr>
<td>Duration of abuse × Dissociation</td>
<td>.01</td>
<td>1.01</td>
<td>2.66</td>
</tr>
<tr>
<td>Frequency of abuse × Dissociation</td>
<td>-.01</td>
<td>.99</td>
<td>.71</td>
</tr>
<tr>
<td>Closeness to perpetrator × Dissociation</td>
<td>.01</td>
<td>1.01</td>
<td>1.05</td>
</tr>
<tr>
<td>Past emotional distress × Dissociation</td>
<td>.00</td>
<td>1.00</td>
<td>.21</td>
</tr>
<tr>
<td>Current emotional distress × Dissociation</td>
<td>.01</td>
<td>1.01</td>
<td>2.19</td>
</tr>
<tr>
<td>Fear of injury × Dissociation</td>
<td>.01</td>
<td>1.01</td>
<td>.38</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01, and *** p < .001.
### Table 3

**Logistic Regression Models Predicting Forgetting as a Function of Trauma Severity and Fantasy Proneness for Each Trauma Type**

<table>
<thead>
<tr>
<th></th>
<th>Sexual abuse</th>
<th>Physical abuse</th>
<th>Other traumas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\chi^2(15, 384) = 67.79^{***}$</td>
<td>$\chi^2(15, 410) = 19.57$</td>
<td>$\chi^2(9, 602) = 21.97^{**}$</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td><strong>OR</strong></td>
<td><strong>Wald</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>Age of abuse onset</td>
<td>-.29</td>
<td>.75</td>
<td>4.18*</td>
</tr>
<tr>
<td>Duration of abuse</td>
<td>-.53</td>
<td>.59</td>
<td>3.38</td>
</tr>
<tr>
<td>Frequency of abuse</td>
<td>.20</td>
<td>1.23</td>
<td>.35</td>
</tr>
<tr>
<td>Emotional closeness to perpetrator</td>
<td>-.12</td>
<td>.89</td>
<td>.25</td>
</tr>
<tr>
<td>Past emotional distress</td>
<td>-.34</td>
<td>.71</td>
<td>2.60</td>
</tr>
<tr>
<td>Current emotional distress</td>
<td>.04</td>
<td>1.04</td>
<td>.03</td>
</tr>
<tr>
<td>Fear of injury</td>
<td>-.53</td>
<td>.59</td>
<td>1.96</td>
</tr>
<tr>
<td>Fantasy proneness</td>
<td>.01</td>
<td>1.01</td>
<td>.01</td>
</tr>
<tr>
<td>Age of abuse onset $\times$ Fantasy proneness</td>
<td>.00</td>
<td>1.00</td>
<td>.02</td>
</tr>
<tr>
<td>Duration of abuse $\times$ Fantasy proneness</td>
<td>.02</td>
<td>1.02</td>
<td>2.43</td>
</tr>
<tr>
<td>Frequency of abuse $\times$ Fantasy proneness</td>
<td>-.01</td>
<td>.99</td>
<td>.11</td>
</tr>
<tr>
<td>Closeness to perpetrator $\times$ Fantasy proneness</td>
<td>.01</td>
<td>1.01</td>
<td>.22</td>
</tr>
<tr>
<td>Past emotional distress $\times$ Fantasy proneness</td>
<td>.01</td>
<td>1.01</td>
<td>1.40</td>
</tr>
<tr>
<td>Current emotional distress $\times$ Fantasy proneness</td>
<td>.00</td>
<td>1.00</td>
<td>.08</td>
</tr>
<tr>
<td>Fear of injury $\times$ Fantasy proneness</td>
<td>.02</td>
<td>1.02</td>
<td>1.39</td>
</tr>
</tbody>
</table>

*Note.* *p < .05, **p < .01, and ***p < .001.