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The role of dissociation in revictimization across the lifespan: A 32-year prospective study

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ABSTRACT

Exposure to childhood abuse puts women at risk for revictimization in adult intimate relationships, but knowledge about the mechanism by which it occurs is limited. The present study investigated whether dissociation mediates the effect of exposure to physical or sexual child abuse on intimate partner violence in adulthood. We tested this using prospective data collected from birth to age 32 from 80 female participants in the Minnesota Longitudinal Study of Risk and Adaptation. We found that women who experienced sexual or physical abuse during the first 17.5 years of life ($n = 37$) were more likely ($r = 0.30$, $p < .01$) to experience intimate partner violence in adulthood (ages 20–32). Furthermore, we found that dissociation partially mediated this effect. Specifically, exposure to childhood abuse predicted greater dissociation in late adolescence (age 19), which in turn predicted more intimate partner violence during early to mid-adulthood. The results of this study highlight the mediating role played by dissociation in the revictimization of women abused during childhood, and speak to the need to develop interventions designed to prevent intimate partner violence among abused girls or adult women with a history of abuse.

1. Introduction

Child abuse is a significant public health problem with very detrimental long-term consequences. A nationally representative survey conducted in 2011 indicated that nearly 1 in 10 children in the United States experience physical abuse (9.6%) or sexual victimization (9.5%) by the age of 18 (Finkelhor, Turner, Shattuck, Hamby, & Kracke, 2015). One of the long-term adverse implications of childhood abuse is the tendency to experience later victimization in intimate relationships, a phenomenon termed revictimization (Cascardi, 2016; Desai, Arias, Thompson, & Basile, 2002; Lohman, Neppel, Senia, & Schofield, 2013). Cross-sectional research indicates that women who report a history of physical or sexual child abuse are 2 to 3 times more likely to experience intimate partner violence than women without such a history (Coid et al., 2001; Desai et al., 2002; Whitfield, Anda, Dube, & Felitti, 2003). Moreover, a longitudinal prospective study found that abused girls ages 6–16 (referred by child protective services) reported 1.6 times as many physical affronts, including domestic violence, than a non-abused comparison group during 6 to 7 years from baseline. In this study, of the 70 abused girls, 51.4% reported domestic violence in adulthood (Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003).

Physical intimate partner violence can lead to adverse physical and psychological consequences, such as injury, depression,

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anxiety, low self-esteem, and suicide attempts (Black et al., 2011; Coker et al., 2002; Coker, Smith, & Fadden, 2005; Simmel, Postmus, & Lee, 2016). Given the high prevalence of child abuse and the negative impact of exposure to intimate partner violence on women's well-being (Black et al., 2011), it is important to explore the mechanisms through which physical and sexual abuse during childhood are replicated as physical intimate partner violence in adulthood. The scientific literature highlights the role of dissociation in explaining the link between child abuse and intimate partner violence (e.g., Alexander, 1992; Chu, 1992; Polusny & Follette, 1995; van der Kolk, 1989), but prospective longitudinal studies exploring this process from birth to adulthood are lacking. The current study examines whether dissociation mediates the effect of child abuse on physical intimate partner violence in women, using prospective data collected over 32 years.

1.1. Revictimization

Empirical research systematically examining revictimization began in the mid-1980s with a few pioneering studies showing that young women who retrospectively report being sexually abused as children are more prone to experiencing repeated sexual victimization in adulthood (Alexander & Lupfer, 1987; Koss & Dinero, 1989; Russell, 1986). Over the past three decades, revictimization has been primarily studied in the context of sexual violence, especially among college students (Arata, 2002; Filipas & Ullman, 2006; Messman-Moore, Ward, & Zerubavel, 2013; Miron & Orcutt, 2014; Walsh, Blaustein, Knight, Spinazzola, & van der Kolk, 2007). However, research has since indicated that both sexual and physical abuse are associated with physical intimate partner violence (Afifi, Mota, Sareen, & MacMillan, 2017; Cherlin, Hurt, Burton, & Purvin, 2004; Cherlin et al., 2004; DiLillo, Giuffre, Tremblay, & Peterson, 2001; DiLillo et al., 2001; Kim, Talbot, & Cicchetti, 2009; Lang, Stein, Kennedy, & Foy, 2004; Lang et al., 2004; Wendy, Sarah Myers, Jennifer, Tonya, & Jerry, 2015; Zamir & Lavee, 2014b). Although sexual revictimization is more likely to occur in non-intimate relationships, female child abuse victims are more likely to be the target of physical violence by an intimate partner than by other individuals (Desai et al., 2002).

The literature on revictimization has focused almost exclusively on women (e.g., DiLillo et al., 2001; Kim et al., 2009; Lang et al., 2004; Zamir & Lavee, 2014a). Whereas both girls and boys are targets of child abuse, women are more prone to domestic physical violence than men, especially to revictimization in the form of physical intimate partner violence (Black et al., 2011; Desai et al., 2002). Women also exhibit more complications related to intimate partner violence, including fear, concern for safety, injury, need for medical care, or for housing services compared to men (Breiding, Chen, & Black, 2014).

For women with a child abuse history, which is oftentimes committed by a close, trusted person in their lives (USDHHS, 2017), the repeated experience of violence by an intimate partner in adulthood can lead to multiple and often serious marital and inter-spousal disruptions. Indeed, being the target of intimate partner violence is associated with lower marital satisfaction, increased aggressive behavior, and a higher divorce rate (Lawrence & Bradbury, 2001; Schumacher & Leonard, 2005). These major consequences of revictimization by an intimate partner underscore the need to explore how some women with a history of childhood abuse go on to experience intimate partner violence.

1.2. Dissociation and revictimization

The search for the underlying process of revictimization dates back almost a hundred years. In the early 20th century, in his essay *Beyond the Pleasure Principle*, Freud (1920) identified the phenomenon of “repetition compulsion” by which individuals repeat the same unpleasant experiences over and over again throughout life. He explained it as a reenactment of repressed painful experiences instead of remembering them. With the growth of empirical work on revictimization during the 1980s and 1990s, new theoretical models have been developed to explain the process by which revictimization occurs. Relying on the latest literature in the fields of trauma, human development, and cognitive-behavioral science, several theorists pointed to dissociation as a possible risk factor for revictimization (e.g., Alexander, 1992; Chu, 1992; van der Kolk, 1989).

Dissociation is defined as “the lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory” (Bernstein & Putnam, 1986 p. 727). Dissociation can range from normal dissociative states such as daydreaming or highway hypnosis to maladaptive dissociation, such as detachment, numbing, or ‘out-of-body’ experiences, to the extreme state of multiple personality disorder. Dissociation is considered a normal defense mechanism allowing individuals to tolerate traumatic experiences such as childhood abuse by keeping trauma-related memories, circumstances, or feelings outside of conscious awareness (Putnam, 1997). A recent review of the connection between trauma and dissociation indicates that although dissociation levels rise immediately after trauma exposure and gradually decline over time for many people, they can persist for many years following a trauma exposure for some people (Carlson, Dalenberg, & McDade-Montez, 2012; Carlson et al., 2012). Indeed, associations between retrospective reports of child physical or sexual abuse and dissociation in adulthood have been documented in clinical and non-clinical samples of women (Carlson et al., 2012; Chu & Dill, 1990; Cloitre, Scarvalone, & Difede, 1997; DiTomasso & Routh, 1993; Merckelbach & Muris, 2001). For example, women in-patients who are victims of childhood sexual and physical abuse report higher levels of dissociative symptoms compared to women in-patients without such a history (Chu & Dill, 1990).

Polusny and Follette (1995) have proposed a model explaining how dissociation accounts for revictimization. They posited that children coping with abuse might use dissociation to alleviate overwhelming abuse-related thoughts, feelings, and memories. Although dissociation can provide immediate emotional relief in childhood, a rigid reliance on dissociation as a coping strategy that continues into adulthood may place women at risk for revictimization. Specifically, dissociation may result in minimizing or ignoring social cues in potentially violent situations, resulting in disrupted capacity to recognize and respond adaptively (e.g., withdraw) when violent situations arise in intimate relationships (Polusny & Follette, 1995).

A growing body of research has identified a link between dissociation and retrospective reports of sexual revictimization (Arata, 2002; Bockers, Roepke, Michael, Renneberg, & Knaevelsrud, 2014; Cloitre et al., 1997). To our knowledge, however, only three prospective studies have examined how dissociation forecasts greater risk for revictimization in intimate relationships. Among social service-seeking intimate partner violence victims, for example, one prospective study has found that dissociation predicts physical intimate partner violence 6 months later (Iverson et al., 2013), however this study investigated revictimization as a repetition of intimate partner violence during adulthood. Another prospective study has revealed that psychological distress (a composite of depression, internalizing symptoms, post-traumatic stress, and dissociation) mediates the effect of child maltreatment (physical and emotional abuse, assessed in early adolescence) and dating violence in young adulthood (Cascardi, 2016). Finally, Noll et al. (2003) followed female abuse victims (referred by child protective agencies) and a comparison group from mid-to-late childhood into early adulthood. They found that sexual and physical revictimization were both positively associated with dissociation.

1.3. The current research

Despite the increasing attention to revictimization (e.g., Afifi et al., 2017; DiLillo et al., 2001; Zamir & Lavee, 2014b), the existing literature on intimate partner violence and revictimization remains limited in several ways. First, the vast majority of prior studies have relied on retrospective cross-sectional designs (e.g., Afifi et al., 2017; Lang et al., 2004; Zamir & Lavee, 2014a), which cannot capture the time-order of the process of revictimization, thus preclude conclusions about causal relations between childhood abuse and victimization in adulthood. In addition, retrospective reports of child abuse may be biased by selective memories of childhood abuse experiences (Arata, 2002). Prospective research improves confidence about the direction of the association between variables and eliminates memory bias.

Second, very few prospective studies have focused on the mechanisms through which women with child abuse history are revictimized by an intimate partner (e.g., Cascardi, 2016; Noll et al., 2003), and none has examined the role of dissociation in mediating the effect of physical and sexual abuse on physical intimate partner violence from birth to adulthood. Instead, they have followed victims for a confined time-period, either through adulthood only (Iverson et al., 2013), or from mid-childhood or adolescence to emerging adulthood (e.g., Cascardi, 2016; Noll et al., 2003). However, about 1 in 3 women experience intimate partner violence for the first time after age 24 (Breiding et al., 2014), and maltreatment is more prevalent in early childhood than later during development (USDHHS, 2017).

The current study fills these gaps by employing a longitudinal prospective design to explore whether the occurrence of physical or sexual abuse in childhood (assessed prospectively between birth and 17.5 years, predicts physical intimate partner violence in adult women between the ages of 20 and 32, and whether this longitudinal effect is mediated by dissociation at age 19. Relying on the above literature, we hypothesized that (H1) the occurrence of physical or sexual abuse during childhood should predict intimate partner violence in adulthood; and (H2) the effect of sexual and physical child abuse on intimate partner violence should be mediated by dissociation.

2. Method

2.1. Participants

Our sample included all female participants from the Minnesota Longitudinal Study of Risk and Adaptation (MLSRA) for whom data on early sexual or physical abuse and adult intimate partner violence were available ($N = 80$). These individuals were born to first-time mothers recruited at free public health clinics in Minneapolis, Minnesota, between 1975 and 1977. At recruitment, their mothers were living below the poverty line, so participants were at an elevated risk of suffering child abuse. However, their socioeconomic status diversified over the years.

Education levels in our sample varied across time. At the time of the last relationship assessment at age 32, 5.0% of participants had not graduated from high school, 12.5% had a General Education Diploma (GED), 13.8% had a high-school diploma, 46.3% had some post high-school education, 11.3% had a 4-year degree, and 7.5% had a post baccalaureate degree. Participants' occupations also varied. Scores on the revised Duncan Socioeconomic Index (Duncan, 1961; Stevens & Featherman, 1981) assessing occupational prestige ranged from 10.00 to 80.53 ($M = 40.17$, $SD = 15.78$). In terms of race, 66.3% of participants were White, 12.5% were Black, 2.5% were Native American, 13.8% were of mixed race, and 5% were missing racial information. We controlled for educational level, occupational prestige, and race (White, non-White) in our analyses.

2.2. Procedure and measures

2.2.1. Childhood sexual or physical abuse

The MLSRA uses the rubric *childhood experiences of adverse caregiving* as an umbrella term to refer to a variety of atypical parent-child experiences that were prospectively measured in the MLSRA cohort and are believed to be harmful to children's development. The present study focused exclusively on information collected about MLSRA participants' adverse caregiving experiences of physical abuse and sexual abuse. This information was re-coded to apply contemporaneous definitions of abuse, to identify the specific perpetrator and ages of the abuse experiences, and to assess the reliability of those coding decisions. Coding criteria were based on definitions developed by the Centers for Disease Control and Prevention (CDC) in order to "promote consistent terminology and data collection related to child maltreatment" (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008, p. 4). Physical abuse was defined as a

caregiver’s “intentional use of physical force against a child that results, or has the potential to result in, physical injury” (Leeb et al., 2008, p. 14). Sexual abuse was defined as sexual contact (e.g., molestation, rape) or noncontact exploitation (e.g., intentional exposure of child to pornography) by a custodial caregiver or by a perpetrator five or more years older than the target child. Although the CDC criteria only addresses sexual abuse perpetrated by a caregiver, the inclusion of non-caregiving perpetrators and the use of a five-year cutoff is consistent with other research in this area (e.g., Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011, Stoltenborgh et al., 2011).

These CDC definitions were supplemented by a set of more specific coding guidelines that distinguished clear indicators of physical or sexual abuse from ambiguous indicators that were not sufficient for classification in isolation of other evidence. These additional guidelines were developed in consultation with MLSRA senior researchers, Minnesota state law, and available research literature (e.g., Barnett, Manly, & Cicchetti, 1993) and are available from the first author upon request. However, the classifications of childhood experiences of abuse do not necessarily reflect criteria for maltreatment used by child protective services, which vary from state to state. As such, our scoring of abuse does not necessarily mean that these children or their families were involved with child protective services.

Judgments regarding abuse experiences were made for participants whose records had been previously flagged as potentially ever abused. For these cases, all available data collected from birth to 17.5 years (up to 25 assessments) were reviewed for information regarding caregiving quality, physical discipline, supervision, home environment, physical and sexual assault, child protective service involvement, and foster care history. Information was obtained from parent-child observations, caregiver interviews, reviews of available child protection and medical records, adolescent reports, and teacher interviews. Disclosures of childhood physical or sexual abuse during the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985), a retrospective interview regarding early caregiving experiences administered at 17.5 years of age, were not included in the present set of codes except in situations in which an experience of abuse was initially identified based on records through age 17.5 years, but there was insufficient detail to code the specific developmental period or perpetrator (e.g., an adolescent disclosed a history of sexual assault without specifying whether the perpetrator was a peer). In these cases, available AAIs were consulted only for clarifying information about the previously identified incident.

Coding focused on the presence or absence of physical abuse and/or sexual abuse in each of four developmental periods (Infancy: birth to 24 months; Early Childhood: 25 months to five years; Middle Childhood: 6–12 years; and Adolescence: 13–17.5 years). For incidents of physical and sexual abuse, coders additionally specified the perpetrator. Perpetrators included maternal caregivers (biological mothers, stepmothers, grandmothers), paternal or father figures (biological fathers, stepfathers, adoptive fathers, and mothers’ live-in boyfriends), and non-parental figures (relatives, neighbors, babysitters, and family friends). Two coders reviewed each case and demonstrated good to excellent reliability for all parameters: Kappas were between .80 and .98 for presence or absence of physical or sexual abuse, .80 and .84 for presence or absence of each type during each development period; and 0.80 and 0.98 for incidents of physical or sexual abuse by each category of perpetrator. All discrepancies were resolved by consensus.

Within the original full sample of MLSRA participants ($N = 267$, including males and females), 67 individuals were classified as having ever experienced physical abuse and/or sexual abuse; 96 were coded as not having experienced abuse; and the status of 104 was deemed unclear due to missing data. By developmental period, 16 individuals were classified as being abused in infancy (of the 206 with sufficient data to allow for confident classifications of abuse during this developmental period), 35 in early childhood (of the 182 with sufficient data during this developmental period), 46 in middle childhood (of the 190 with sufficient data during this developmental period), and 20 in adolescence (of the 179 with sufficient data during this developmental period).

In the current sample we used only female participants for whom data on sexual or physical abuse were available ($N = 80$). Of this group of women, 37 (46.3%) were classified as having ever experienced physical abuse and/or sexual abuse. Among abused women, 22 (59.5%) had experienced sexual abuse, and 22 (59.5%) had experienced physical abuse (not mutually exclusive). Within the abused group, 5 (13.5%) experienced abuse in infancy, 16 (43.2%) during early childhood, 26 (62.2%) during middle childhood, and 12 (32.4%) during adolescence (not mutually exclusive). In terms of chronicity, 23 (62.2%) of this group experienced abuse during one developmental period, 5 (13.5%) during two periods, 5 (13.5%) during three periods, and none during all four developmental periods; 4 (10.8%) had insufficient data to determine the number of developmental periods during which abuse occurred. With respect to perpetrator, 28 (75.7%) of participants who experienced abuse were abused by a parental perpetrator.¹

We used the dichotomous abuse versus not abused variable in our main analysis to maximize statistical power, with abuse including either sexual or physical abuse ever during childhood. We looked at specific effects of sexual and physical abuse and timing of abuse in post-hoc analyses.

2.2.2. Childhood socioeconomic status

We controlled for childhood socioeconomic status (SES) in all our analyses. Participants’ SES was assessed repeatedly during childhood from before birth to age 16. Each assessment was based on mothers’ educational attainment and the revised Duncan Socioeconomic Index (SEI; Duncan, 1961; Stevens & Featherman, 1981), which were combined and transformed to T-scores ($M = 50$, $SD = 10$), separately for each assessment. Some assessments also included household income (for more information, see Sroufe, Egeland, Carlson, & Collins, 2005). We created a childhood SES composite by averaging the T-scores of the seven available assessments from before birth to age 16 (Cronbach’s $\alpha = 0.92$; $M = 49.69$, $SD = 7.60$).

¹ We repeated the analysis with this parental abuse variable and obtained similar results, although the indirect effect was only marginally significant.

Table 1
Zero-order correlations between study variables.

	1	2	3	4	5	6
1. Childhood abuse						
2. IPV	0.30**					
3. Dissociation	0.24*	0.38***				
4. Childhood SES	−0.16	−0.23*	−0.14			
5. Occupational prestige	−0.14	−0.27*	−0.23*	0.51***		
6. Educational attainment	−0.21	−0.32**	−0.28*	0.52***	0.68***	
7. Race	0.06	0.11	0.20	−0.07	−0.10	−0.09

Note: IPV = intimate partner violence. Race: 1 = White 2 = non-white.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

2.2.3. Dissociation

We assessed participants' dissociative experiences at age 19 using the Dissociative Experiences Scale (DES; Carlson & Putnam, 1993). The DES is a self-report scale of the frequency of dissociative experiences in a person's daily life. Participants quantify their experiences by placing a mark on a response scale (0%–100%) for each of the 28 items. The items on the scale cover experiences of memory disturbances, identity, awareness, and cognition. Examples of items are having no memory of significant past events or feeling that a familiar place is unfamiliar. The scale is scored by measuring the mark made on each item to the nearest 5 millimeters. Scores on each item can range from 0 to 100 in any multiple of 5 (0, 5, 10, 15, and so on). Interrater reliability was 0.99 across 20 scorers (Frischholz et al., 1990). The total score was calculated as the average score of all items. The DES has good test-retest ($r = 0.79$ or higher) and internal consistency reliability ($r = 0.83$ or higher). Studies also demonstrate good construct and criterion validity (Carlson & Putnam, 1993). In our sample, Cronbach's alpha was 0.88. The total score ranged from 0 to 66.1 ($M = 11.49$, $SD = 14.31$). Because scores were positively skewed, we performed a square root transformation on the final variable.

2.2.4. Intimate partner violence

Being the victim of intimate partner physical violence was assessed by participants' responses to eight items from the Conflict Tactics Scale (Straus, 1979) at ages 23, 26, and 32. These items described the following violent behaviors perpetrated by a current or past partner: (1) throwing something, (2) pushing, grabbing, or shoving, (3) slapping, (4) kicking, biting, or hitting with a fist, (5) hitting or trying to hit with an object, (6) beating up, (7) threatening with a gun or a knife, and (8) using a gun or a knife. For each item, participants answered whether their current partner behaved this way toward them since the last assessment and, separately, whether a past partner behaved this way toward them since the last assessment. The age 23 assessment referred to the past three years. Thus, the three assessments together covered a period between the ages of 20 and 32. The number of positive responses was summed for each assessment, and then averaged across assessments to create a composite intimate partner violence score at ages 20–32. More than half of the participants ($n = 45$, 56.2%) reported at least some exposure to intimate partner violence, with scores ranging from 0 to 4.67 ($M = 0.80$, $SD = 1.13$). Because scores were positively skewed, we performed a square root transformation on the final variable.

3. Results

Zero-order correlations between the study variables appear in Table 1. As expected, childhood physical or sexual abuse (0 = non-abused; 1 = abused), dissociation, and intimate partner violence were positively correlated. Intimate partner violence was also negatively correlated with childhood SES, occupational prestige, and educational attainment. Dissociation was negatively correlated with occupational prestige and educational attainment.

The primary analyses were conducted in two stages. First, we examined whether childhood sexual or physical abuse predicted intimate partner violence in adulthood, controlling for all covariates (H1). Second, we tested the proposed mediation model, namely, whether the effect of childhood sexual or physical abuse on intimate partner violence in adulthood is mediated through dissociation at age 19 (H2). To account for small amounts of missing data (four participants missing dissociation scores, four missing race information, three missing educational level information, and three missing occupational prestige information) we conducted these analyses using structural equation modeling (SEM) in AMOS version 21. This approach enabled us to estimate effects in an unbiased manner using full information maximum likelihood (FIML) estimation.

3.1. The effect of childhood abuse on intimate partner violence

Consistent with our first hypothesis (H1), childhood physical or sexual abuse at ages 0–17.5 predicted more intimate partner violence at ages 20–32, controlling for childhood SES, occupational prestige, educational attainment, and race (see Table 2). Childhood physical or sexual abuse uniquely explained 11.2% of the variance in intimate partner violence. No significant unique associations were found between any of the covariates and intimate partner violence.

Table 2

IPV Regressed on Childhood Physical or Sexual Abuse and Covariates: Unstandardized (B) and standardized (β) Full Information Maximum Likelihood (FIML) Estimates.

	B	SE	t	p	β
Childhood abuse	0.466	0.139	3.348	< 0.001	0.345
Childhood SES	-0.001	0.009	-0.070	0.944	-0.009
Occupational prestige	-0.004	0.006	-0.696	0.487	-0.101
Educational attainment	-0.082	0.076	-1.087	0.277	-0.161
Race	0.003	0.144	0.023	0.982	0.002

Note: Race: 1 = White 2 = non-White.

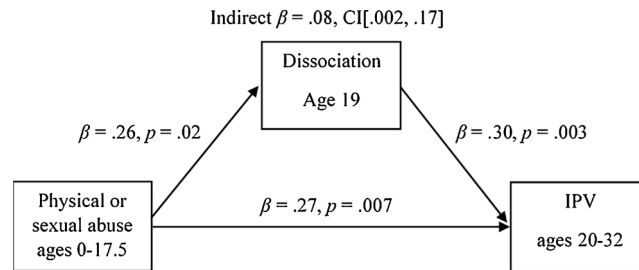


Fig. 1. Mediation model of dissociation on the effect of child abuse on intimate partner violence. IPV = Intimate partner violence. Nonsignificant covariate effects not depicted: race and childhood SES effects on dissociation and IPV; occupational prestige and education attainment effects on IPV.

Post-hoc analyses looking at sexual and physical abuse separately indicated that the effect of childhood abuse on intimate partner violence is not driven by any particular type of abuse. Intimate partner violence was significantly predicted by both sexual abuse ($\beta = 0.32, p = .005$) and physical abuse ($\beta = 0.32, p = .007$).

3.2. Mediation via dissociation

The results of the mediation analysis are presented in Fig. 1. Consistent with our second hypothesis (H2), childhood physical or sexual abuse at ages 0–17.5 predicted greater dissociation at age 19, which in turn predicted more intimate partner violence at ages 20–32, controlling for childhood SES, occupational prestige, educational attainment, and race² The indirect effect explained 21.9% of the total effect of childhood physical or sexual abuse on intimate partner violence in adulthood. The 95% confidence interval for the indirect effect did not include 0, indicating significance at the $p < .05$ level, supporting mediation.³ The direct effect of childhood physical or sexual abuse on intimate partner violence, however, remained significant, indicating only partial mediation. None of the covariates had a significant impact on either dissociation or intimate partner violence. The model was an excellent fit to the data ($\chi^2_{(2)} = 1.27, p = .53$; RMSEA = 0.00, CFI = 1.00).

Post-hoc analyses looking at sexual and physical abuse separately indicated that the mediation through dissociation is not driven by any particular type of abuse. Dissociation was significantly predicted by both physical abuse ($\beta = 0.35, p = .005$), and sexual abuse ($\beta = 0.27, p = .024$). Dissociation, in turn, significantly predicted intimate partner violence above and beyond physical abuse ($\beta = 0.29, p = .006$) and sexual abuse ($\beta = 0.30, p = .004$). Both indirect effects were statistically significant.

3.3. Post-hoc analysis: effects of timing of abuse on intimate partner violence and dissociation

In addition to our main analyses, we explored whether the timing of abuse (infancy, early childhood, middle childhood, adolescence) is related to intimate partner violence and dissociation among those women who experienced childhood abuse ($n = 37$). Two variables were created, one indexing the earliest time at which abuse had taken place and one indexing the latest time at which abuse had taken place. Neither variable predicted dissociation ($r_s = 0.15$ & -0.06 for earliest and latest abuse time, respectively) or intimate partner violence ($r_s = 0.07$ & 0.10 for earliest and latest abuse time, respectively).

3.4. Discussion

For many years, the scientific literature has recognized the lasting adverse consequences of childhood abuse on intimate

² Because of the temporal sequence, we did not include paths from occupational prestige and educational attainment in adulthood to dissociation at age 19 in the model. This had no effect on the results and did not reduce model fit significantly.

³ Because of missing data, a bootstrapped confidence interval for the indirect effect could not be computed in AMOS. Instead, we computed the confidence interval using Bayesian estimation. Bayesian confidence intervals can be interpreted similarly to bootstrapped confidence intervals (for a similar application of Bayesian confidence intervals, see Szepeswol, Simpson, Griskevicius, and Raby (2015)).

relationships (e.g., Afifi et al., 2017; Cherlin et al., 2004; DiLillo et al., 2001; Kim et al., 2009). Several theories from diverse schools of thought have been developed to explain how exposure to child abuse forecasts intimate partner violence later in life (e.g., Cole & Putnam, 1992; Finkelhor & Browne, 1985). Polusny and Follette (1995) suggested that child abuse may lead to dissociation, further placing victims at risk of repeated victimization in their adult intimate relationships. The key role of dissociation in explaining the cycle of victimization across the life course is also acknowledged by central theories within the field of revictimization (e.g., Alexander, 1992; Chu, 1992; van der Kolk, 1989). As such, a number of cross-sectional studies have explored the effects of dissociation on the reoccurrence of victimization (Arata, 2002; Bockers et al., 2014; Cloitre et al., 1997). A few prospective studies have also provided some evidence regarding the effect of dissociation on revictimization (Iverson et al., 2013; Noll et al., 2003), but they have not directly examined the *path* by which *early* abusive experiences lead to dissociation, which in turn leads to additional revictimization in adulthood. The current study fills this gap, and in doing so sheds clarifying light on the process by which revictimization occurs. Specifically, we found that women who experience sexual and/or physical abuse during the first 17.5 years of their lives experience more intimate partner violence later in adulthood via greater dissociation assessed in late adolescence.

Our research confirms that dissociation stemming from childhood abuse predicts more intimate partner violence over time, but questions remain regarding the process by which dissociation operates to enhance the risk for intimate partner violence revictimization. Polusny and Follette (1995) postulate that dissociation impairs one's capacity to identify risks in close relationships. Other theorists further explained that dissociative defenses disrupt adaptive information processing (Chu, 1992; van der Kolk, 1989), which can be crucial when coping with risks. Specifically, recognizing emotions such as fear and anxiety, which are normally cues of danger, aids in the identification of unsafe situations and the employment of defensive behaviors. However, dissociation involves keeping unpleasant emotions outside of conscious awareness, thereby restricting adaptive responses such as fleeing from threatening situations (Chu, 1992). A few studies have documented links between risk detection and revictimization, whereby revictimized women identify threat cues significantly more slowly than women who were victimized only in childhood or adolescence (Bockers et al., 2014; Messman-Moore & Brown, 2006). Another study found that sexually revictimized undergraduate women report greater dissociation and show lower risk recognition ability than victims of a single sexual assault (Marx, Calhoun, Wilson, & Meyerson, 2001). Also, individuals with high dissociation scores rate the perpetrator in a rape scenario as less dangerous than individuals with low dissociation scores (Sandberg, Lynn, & Matorin, 2001; Sandberg et al., 2001).

Despite emerging studies supporting the idea that risk detection mediates the connection between dissociation and revictimization (Marx et al., 2001; Sandberg et al., 2001), there is a dearth of prospective longitudinal studies testing sequentially whether dissociation stemming from child abuse impairs risk detection, which then leads to revictimization. In addition, there is no evidence that risk detection is associated with intimate partner violence revictimization. Prior studies have focused exclusively on sexual revictimization, which may differ from intimate partner violence revictimization. For example, knowing an intimate partner for some time provides women with more opportunities to recognize aggressive attitudes and leave. In contrast, sexual revictimization is not usually performed by an intimate partner (Desai et al., 2002), so it could be more vulnerable to perception bias. It is therefore essential to explore longitudinally whether risk detection is involved in the link between dissociation and intimate partner violence revictimization.

While the current study highlights the role of dissociation in explaining the replication of abusive experiences across life, it should be noted that dissociation only partially mediated the effect of child abuse on intimate partner violence, meaning that additional explanatory mechanisms are likely to exist. Different theories point to a range of underlying factors that might engender revictimization, including attachment orientations (Alexander, 1992; Blizard & Bluhm, 1994), dysfunctional cognitions such as low self-efficacy and negative attributions (Finkelhor & Browne, 1985), or emotional distress (e.g., PTSD) (van der Kolk, 1989). For example, a recent study found that distress mediates the longitudinal effect of child abuse on dating violence in young adulthood (Cascardi, 2016). More prospective studies are needed to assess alternative mechanisms involved in the process of intimate partner violence revictimization.

The fact that revictimization is predicted by dissociation implies that it is an unconscious process (Putnam, 1997), but this does not imply that women with a history of child abuse are destined to experience intimate partner violence. By the time women transition into adulthood, the cumulative psychological and interpersonal dysfunction stemming from abusive experiences may decrease their ability to establish healthy intimate relationships. For example, in addition to dissociation that may place women at greater risk for intimate partner violence, insecure attachment orientations—a common developmental impairment among abused children—may disrupt their ability to feel secure and loved by an intimate partner. When abused girls reach adulthood, however, new opportunities may become available, such as leaving home and forming non-abusive relationships with stable partners (Cole & Putnam, 1992). Several studies provide evidence of the resilience of women who manage to avoid revictimization and establish satisfying marriages (Hyman & Williams, 2001; Noll, 2005). For example, women with higher levels of psychological mindedness, better emotion regulation, and greater emotional awareness are more likely to avoid intimate partner violence revictimization (Zamir & Lavee, 2014a, 2014b, 2015). In addition, perceived community cohesion appears to buffer the relation between childhood abuse and adult physical intimate partner violence (Obasaju, Palin, Jacobs, Anderson, & Kaslow, 2008). The research on resilience with respect to intimate partner violence revictimization, however, is entirely cross-sectional. Prospective studies are needed to explore contextual, interpersonal, and intrapersonal protective factors against revictimization, such as social support, intelligence, sibling support, and so forth.

3.5. Limitations and future directions

The current research needs to be interpreted in the context of several limitations. First, MLSRA participants were born to mothers

who were below the poverty line. Caution is warranted when generalizing our results to higher SES populations. Second, although our longitudinal design supports the temporal sequence of child abuse to dissociation to intimate partner violence, we cannot rule out the possibility that some participants were revictimized prior to our dissociation assessment at age 19. Previous studies indicate that dating violence can start as early as mid to late adolescence (Cascardi & Avery-Leaf, 2015). Thus, exposure to earlier violent relationships could have contributed to higher levels of dissociation, further increasing the risk for subsequent revictimization (Iverson et al., 2013). Third, we did not have dissociation measure after age 19, thus we can only extrapolate dissociation levels at ages 20–32. Forth, we relied on self-reports of intimate partner violence to assess revictimization, which might be subjected to social desirability. Finally, our analysis was limited to physical or sexual abuse in childhood and to physical IPV in adulthood. However, other forms of child maltreatment (e.g., emotional violence, neglect) may also be involved in revictimization (Seedat, Stein, & Forde, 2005; Zamir & Lavee, 2014a, 2014b, 2015). Likewise, other forms of IPV victimization exist (e.g., sexual). Future research should explore longitudinally whether dissociation accounts for the effects of different types of maltreatment on a variety of intimate partner violence behaviors.

3.6. Clinical implications

The current study illustrates a trajectory of becoming a victim of intimate partner violence following exposure to child sexual and/or physical abuse. These findings speak to the need to employ diverse modalities designed to prevent revictimization. The long timespan between childhood and late adolescent or early adulthood, during which individuals typically form close, intimate relationships, provides clinicians with a long period of time to detect maltreatment and intervene in order to prevent intimate partner violence. The extant clinical literature offers some evidence-based trauma treatments for children and youth at risk (for a review see Cohen & Mannarino, 2010). For example, Trauma-Focused Cognitive Behavioral Therapy can be effective in treating abuse-related traumatic symptoms, including dissociation in children and youth (Cohen, Mannarino, & Knudsen, 2005). This program incorporates a psycho-educational component that trains children to cope with future violence. Future studies should assess whether such interventions facilitate healthy intimate relationships in adulthood. In addition, many times children do not disclose their trauma in childhood or it is not identified by external persons, therefore treatment is not available in childhood. Therefore, it is also important to explore novel evidence-based effective prevention programs against revictimization for young women.

3.7. Conclusion

In conclusion, experiencing abuse during childhood is a major risk factor for dysfunctional and violent interpersonal relationships in adulthood. The notion that dissociation is a key factor in the transmission of abusive experiences from childhood into adult intimate relationships is central to many psychological theories. Utilizing data from the MLSRA, a prospective longitudinal study following women from birth to age 32, we offer novel evidence for the role that dissociation appears to assume in sustaining the cycle of victimization over time. Understanding how dissociation accounts for revictimization raises important new questions about protective factors against revictimization and informs prevention interventions designed to facilitate healthy intimate relationships following exposure to childhood abuse.

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