



Contents lists available at ScienceDirect

Child Abuse & Neglect

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ARTICLE INFO

Article history:

Received 13 May 2006

Received in revised form

23 November 2008

Accepted 26 November 2008

Available online 26 March 2009

Keywords:

Betrayal

Child abuse

Disclosure

ABSTRACT

Objective: The current study tested several hypotheses about disclosure of childhood sexual, physical, and emotional abuse derived from Betrayal Trauma Theory [Freyd, J. J. (1996). Betrayal trauma: The logic of forgetting childhood abuse. Cambridge, MA: Harvard University Press]. We predicted that the duration of time from abuse to its disclosure would vary as a function of victim–perpetrator closeness.

Methods: Data collected from 202 undergraduate participants using a survey methodology were submitted to logistic regression analyses. The relative variance explained by other variables was also examined.

Results: Compared to survivors of emotional abuse (EA) who were in not very close (NVC) victim–perpetrator relationships, EA survivors in very close (VC) victim–perpetrator relationships were significantly more likely to wait 1 or more years to disclose, or never to disclose, than to wait a period of time less than 1 year (OR = 2.65). Further, survivors of physical abuse (PA) in VC victim–perpetrator relationships were significantly more likely to wait 1 or more years to disclose their abuse, if it was disclosed at all, than PA survivors of NVC victim–perpetrator relationships (OR = 3.99). Results for sexual abuse were not significant.

Conclusions: For EA and PA, VC victim–perpetrator relationships predicted longer durations of time from abuse to its disclosure than NVC victim–perpetrator relationships.

Practice implications: Although delayed disclosure may support necessary (albeit abusive) attachments with caregivers, it may also prolong the abuse and prevent receipt of support. Increased awareness that VC victim–perpetrator relationships may predict longer durations of time from abuse to its disclosure, and that these delays may serve a functional purpose, can help guide supportive and empathic responses to traumatic disclosures.

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Introduction

Although disclosure of child abuse is critical to accessing emotional, legal, or financial aid, both delayed (Alaggia, 2004; Paine & Hansen, 2002; Smith et al., 2000; Somer & Szwarzberg, 2001) and nondisclosures (London, Bruck, Ceci, & Shuman, 2005) of sexual abuse (SA) are common. While a large body of research has examined the disclosure of SA, disclosure of emotional abuse (EA) and physical abuse (PA) has not been a primary focus. The tendency for multiple forms of abuse to co-occur (Somer & Szwarzberg, 2001) underscores the importance of examining all three forms of abuse. In addition, much of the research on delayed disclosure is not theoretically grounded. Therefore, the present study uses Freyd's Betrayal Trauma Theory (BTT; Freyd, 1996) to examine the impact of the closeness of the victim–perpetrator relationship on delayed disclosure of PA, EA, and SA.

[☆] This study was funded partially by the Trauma and Oppression Fund at the University of Oregon Foundation, and the University of Oregon Center on Diversity and Community.

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The effects of disclosure and importance of social context

In addition to facilitating receipt of aid, other benefits of both verbal and written disclosure of negative emotional experiences have been well documented (Brown & Heimberg, 2001; Hemenover, 2003; Lepore, Ragan, & Jones, 2000). For instance, disclosure can act as a cathartic discharge of emotion or a clarification and conveyance of relevant coping needs (Rime, 1995); insight and a sense of control may also increase with disclosure (Rime, 1995). Nondisclosure, on the other hand, may not only allow abuse to continue and prevent receipt of treatment, but may also exacerbate stress (Chin & Kroesen, 1999) and increase vulnerability for negative mental health outcomes (McNulty & Wardle, 1994).

While disclosure can be an important and adaptive coping response (Rime, 1995), as well as an important aspect of some empirically supported interventions for post-traumatic stress disorder (Resick et al., 2002; Riggs, Cahill, & Foa, 2006), there are specific instances in which disclosure is not beneficial (for reviews, see Chin & Kroesen, 1999; Cutrona, 1986; Lepore et al., 2000; Major, Cozzarelli, Sciacchitano, Cooper, & Testa, 1990; McNulty & Wardle, 1994; Pantchenko, Lawson, & Joyce, 2003; Ullman, 1996). In particular, if disclosure of a negative experience leads to *negative* feedback, nondisclosure actually predicts better outcomes (Lepore et al., 2000; Major et al., 1990).

Disclosure of sexual abuse

Prior research suggests that fewer than 1 in 4 survivors disclose immediately following abuse (Paine & Hansen, 2002). In a national random sample, nearly half of 236 female survivors of childhood rape who remembered their initial disclosures waited longer than 8 years to disclose; in contrast, only 18% of women who disclosed did so within 24 hours of abuse (Smith et al., 2000). Strikingly, 28% of participants indicated that disclosure during the research interview marked their first disclosure of the abuse. Similarly, Alaggia (2004) found that 58% of the child sexual abuse survivors interviewed delayed disclosure until adulthood. A study by Somer and Szwarcberg (2001) also found long disclosure latencies, with survivors averaging nearly 15 years from the onset of the abuse to the disclosure of the trauma. Rates of nondisclosure are also quite high, as indicated by a recent review that found rates of nondisclosure ranging from 46% to 69% (London et al., 2005).

Given the high rates of delayed disclosure and nondisclosure following sexual abuse, a growing body of research has examined predictors of disclosure among survivors of sexual abuse. The examination of many abuse characteristics (e.g., gender, age at onset, severity, frequency, and relationship to perpetrator), however, has yielded inconsistent patterns of findings. For example, while some studies suggest that males take longer to disclose than females (Alaggia, 2004; Kendall-Tackett, Williams, & Finkelhor, 1993), others indicate that gender is unrelated to delayed disclosure (Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003). Most studies find that older age at the onset of abuse is predictive of delayed disclosure or decreased frequency of disclosure (Goodman-Brown et al., 2003; London et al., 2005; Paine & Hansen, 2002; Smith et al., 2000); however, a handful of studies report the opposite (Alaggia, 2004; Kogan, 2004; Ruggiero et al., 2004). While some studies show that more severe abuse is associated with the decreased likelihood of disclosure (Arata, 1998; Kogan, 2004; Ruggiero et al., 2004), others posit that rates of disclosure are high on both ends of the severity continuum (i.e., for the most and least severe events) (Kogan, 2004). Still others claim that severity is not related to disclosure (London et al., 2005; Roesler, 1994; Smith et al., 2000). Evidence supporting an association between the victim–perpetrator relationship and delayed disclosure is also mixed. Although a recent review article cites several studies that both do and do not support this claim (London et al., 2005), the majority of research seems to demonstrate that a close victim–perpetrator relationship predicts a decreased likelihood of disclosure (Alaggia, 2004; Hanson, Resnick, Saunders, Kilpatrick, & Best, 1999; Kogan, 2004; Paine & Hansen, 2002; Ruggiero et al., 2004; Smith et al., 2000; Wyatt & Newcomb, 1990).

Betrayal Trauma Theory (BTT) as a model of disclosure

According to BTT, the relationship to the perpetrator influences the way in which a traumatic event is processed and subsequently remembered. Specifically, BTT predicts that awareness of, or memory for, traumatic events will be impaired depending on the extent to which an event constitutes a betrayal. Traumas high in betrayal, or those perpetrated by someone trusted and/or on whom the individual is dependent, are associated with less persistent memories for abuse (Freyd, 1996; Freyd, DePrince, & Zurbriggen, 2001; Schultz, Passmore, & Yoder, 2003). BTT argues that children who can decrease awareness of the abuse perpetrated by a caregiver will be better able to maintain their attachment to the caregiver. Children who are acutely aware of the abuse by the caregiver may be at risk of engaging in behaviors (such as withdrawing from or confronting the abusive caregiver) that further threaten the attachment relationship. In response to withdrawal or confrontation, the abusive caregiver may further decrease any positive caregiving behaviors and/or increase the abusive behaviors. Decreased awareness of the abuse, therefore, may serve as a protective coping mechanism that helps the child to maintain an attachment with the abusive caregiver and maximize the care that can be attained in the abusive relationship. Nondisclosure may serve a similar function to decreased awareness of the abuse. That is, disclosure of abuse by a trusted caregiver poses a threat to survival in the same way that remembering does: the child risks a decrease in positive caregiving behaviors and an increase in abusive behaviors. Therefore, keeping the abuse a secret may serve to sustain the necessary (albeit abusive) attachment.

The BTT framework offers new perspectives on the function of nondisclosure. Oftentimes, the motivation for nondisclosure is conceptualized as arising from a fear of the survivor being removed from the household or having parents incarcerated. While nondisclosure may be motivated by such fears, from the BTT framework, disclosure is conceptualized as posing a threat

to the attachment relationship even if the disclosure stays within the family. For instance, disclosure may not only prevent emotional and physical dependence on the attachment relationship, but may also deeply disrupt the relationship such that an actual loss of the relationship results. Thus, the child may experience an implicit pressure to preserve this relationship via nondisclosure, even if the abuse occurs at a time at which the child is too young to recognize the abuse as such or be aware of how the world operates (e.g., people often get punished for doing bad things to others, children are often removed from their homes if they are mistreated). In other words, conceptualizing nondisclosure from the BTT framework does not require conscious awareness or knowledge on the part of the child. Instead, BTT frames disclosure as a risk that poses a threat to the emotional needs of the child.

Current study

Although the link between memory impairment and traumas high in betrayal has been demonstrated empirically, the BTT framework has not been used empirically to assess the association between traumas high in betrayal and the disclosure of abuse. Thus, the primary aim of this study was to clarify the association between the closeness of the victim–perpetrator relationship and the duration of time from abuse to disclosure. The current study focuses on the duration of time from abuse to disclosure rather than frequency of disclosure since this measure of duration is thought to capture “degree of reluctance” to disclose that can be lost when relying on other measures of disclosure (Paine & Hansen, 2002, p. 291).

We hypothesized that the closeness of the victim–perpetrator relationship would account for the most amount of variance in the duration of time from abuse to its disclosure, such that very close (VC) victim–perpetrator relationships would predict longer durations of time from abuse to its disclosure than not very close (NVC) victim–perpetrator relationships. Other factors that were thought to influence the duration of time from abuse to its disclosure were also examined. Following from BTT, younger children who are perhaps more dependent upon their caregivers for survival than older children, may develop coping strategies for forgetting the abuse in order to maintain the attachment relationship. When abuse is not remembered, it cannot be disclosed. While not a prediction related to BTT, younger children may also lack the verbal skills necessary for the disclosure of abuse. Other factors not relevant to BTT that were thought to influence disclosure included gender of the survivor and severity of the abuse (collected for PA only). In the particular case of PA, more severe abuse is harder to hide, which may promote earlier disclosure (e.g., people ask questions, observable marks may make abuse easier to prove). In contrast, severe forms of EA and SA are more hidden; thus, severity of abuse may have less of an impact on the disclosure of EA and SA.

Method

Data collection

The data collection and secondary data analysis were both approved by the University of Oregon Institutional Review Board. Undergraduate Psychology students at the University of Oregon were selected from a large human subjects pool. All participants gave informed consent and received credit toward course requirements as compensation. An initial report from this sample was published by Freyd et al. (2001). A total of 202 students participated, 60% of whom were female ($N = 119$). The ages of participants ranged from 18 to 31, with an average age of 20 ($SD = 4.06$).

Betrayal Trauma Inventory (BTI)

The BTI was administered to participants in groups of 20–40. The BTI, adapted from an existing, well-validated measure (Abuse and Perpetration Inventory [API]; Lisak et al., 2000), is a self-report measure that assesses trauma history prior to the age of 16, as well as perpetrator and event characteristics. Behaviorally defined items were drawn from the API (13 PA abuse and 20 SA items), and 3 sexual abuse items specific to women were added because the API was originally used with men. Twelve behaviorally defined EA items were also added (e.g., “Before you were age 16, someone told you that if you did not do what they wanted, someone you love [for example, a sibling or pet] would be hurt or killed”). The BTI has been used in several other studies (e.g., Becker-Blease, Freyd, & Friend, 2005; Freyd et al., 2001; Freyd, Klest, & Allard, 2005) and adheres to previous recommendations of screening for multiple types of trauma and multiple events within those types (Green et al., 2000). Further support for the use of the BTI comes from prior research indicating a high level of agreement (62–77%) between the BTI and another trauma inventory, the Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006) (DePrince, 2001), despite wording differences across the measures.

To avoid inclusion of consensual sexual activity between peers, items were considered abusive only if there was indication of force or the age difference between the respondent and the person with whom they engaged in the activity was greater than 5 years (see Freyd et al., 2001). A PA item that asked about experiences that involved “being slapped hard with an open hand on your bottom” was deleted, as this experience could occur within the context of physical discipline that is not consistently viewed as abusive in the United States.

Perpetrator coding. We used an open-ended question to determine the person’s relationship to the perpetrator: “What was the person’s relation to you (e.g., father, friend, sister, uncle, teacher, etc.)?” We coded participants’ responses as follows:

father/stepfather, mother/stepmother, both parents, brother, sister, other relative (aunt, uncle, cousin, grandmother, grandfather), friend, teacher/babysitter/coach, boyfriend/ex-boyfriend, girlfriend/ex-girlfriend, stranger, acquaintance, or other (e.g., unknown, boyfriend's brother, father's friend).

Within each type of abuse (EA, PA, and SA), we categorized participants into two groups: those who reported that the victim–perpetrator relationship was VC versus NVC. The VC group was defined as follows in the three abuse types: (1) EA: abuse by parents or stepparents; (2) PA: abuse by parents, stepparents, or siblings; (3) SA: abuse parents, stepparents, siblings, or boyfriends/girlfriends. All other victim–perpetrator relationships were categorized as NVC. This EA classification was used since the power differential inherent in emotionally abusive child–parent relationships allows intimidating and threatening situations to be easily established. Although power differentials may exist in other relationships (e.g., student–teacher), these perpetrators may not be able to utilize authority and intimidation outside of the academic realm. This PA classification was used given that perpetrators who are immediate family members typically have the most access to and contact with survivors, particularly when they reside in the same household. This same rationale was used for the SA classification; in addition, boyfriends/girlfriends and ex-boyfriends/ex-girlfriends were considered VC perpetrators given the increased sense of betrayal often involved in this form of sexual abuse.

If participants identified VC and NVC victim–perpetrator relationships within an abuse type, only scores for VC experiences were used in analyses, as any abuse perpetrated by VC individuals has the potential to introduce the sense of betrayal that may make disclosure difficult. If participants reported an “other” perpetrator for whom the closeness of the relationship could not be determined, this response was excluded from analysis ($N = 5$ for EA, 5 for PA, and 9 for SA).

Length of delay from abuse to its disclosure. Length of delay prior to disclosure was measured by the question, “How long after the experience was it before you first told?” (Participants were not asked to whom they first disclosed.) Participants could respond with hours, days, weeks, months, years, or never. Since the precise lengths of delays were unknown (e.g., “months” could be 2 months or 10 months), the length of delay prior to disclosure was transformed into an ordinal variable: 1 (short-delay disclosers who disclosed within hours of abuse); 2 (moderate-delay disclosers who disclosed within days, weeks, or months of abuse), and 3 (long-delay disclosers who waited one or more years to disclose or never disclosed). With this classification, if a delay of “months” were mistakenly reported, rather than “weeks,” the data would not be affected, as this person would still be classified as a “moderate-delay discloser.” Treating disclosure as an ordinal variable may lessen recall biases due to memory imprecision (Smith et al., 2000).

The three-level categorization did not yield adequate cell sizes for PA or SA. Therefore, we collapsed this coding to two levels: 0 (“less than 1 year,” describing disclosers who reported disclosure in less than 1 year) or 1 (“years/never,” describing disclosers who reported 1 or more instances of delaying disclosure for 1 or more years or who never disclosed outside of the study).

The length of delay from abuse to its disclosure was calculated separately for VC and NVC victim–perpetrator relationships. If individuals reported multiple instances of abusive experiences within an abuse type, we used the longest delay reported. Due to the ordinal nature of the disclosure variable, cumulative logit analysis (described in detail in the “Data Analysis” section) was deemed most appropriate.

Age at the onset of abuse. Age at the onset of abuse was measured by asking: “Your age when it started.” Because the BTI assesses multiple items within each type of abuse, and allows up to two events to be reported for each abuse item, we calculated average age of onset within victim–perpetrator relationship (VC or NVC) and abuse type.

Severity of abuse. For PA items only, participants were asked to report whether they experienced any of the following: no measurable injury; mild bruises or scratches; many bruises or cuts; broken teeth, broken bones, or injury needing medical care; told you were going to be killed. These were coded on a scale of 1–4, with 4 being the most severe. Only the most severe form of abuse endorsed was incorporated into the final severity calculations (unless death threats were reported). When death threats were endorsed three points were added to the score for the most severe event endorsed. For instance, if both “mild bruises and scratches” and “told you were going to be killed” were endorsed, severity for that particular event would be scored as a 5 (2, for “mild bruises and scratches,” plus 3 for “death threat”). If only a death threat was endorsed, this would be coded as a three. If both “many bruises and cuts” (coded as a 3) and “broken teeth, broken bones, or injury needing medical care” (coded as a 4) were endorsed, severity would be scored as a 4 (since 4 is more severe than 3). Since the BTI allows up to two events to be reported for each abuse item, averages were calculated in order to obtain a score that took into account all endorsements. For each participant, the average severity of abuse was calculated across all physical abuse items; averages were calculated separately for VC and NVC victim–perpetrator relationships.

Data analysis

Cumulative logit analysis is a form of logistic regression used when categorical dependent variables are ordinally meaningful and comprised of three or more categories. In the present study the significance of each cumulative logit model was tested using Chi-Square Wald Statistics; Chi-Square Wald Statistics were also computed to test the significance of each predictor variable in each model. This analysis and its interpretation are similar to binary logistic regression, differing mainly in the dependent variable's number of categories (3 or more), the ordinal nature of those categories, and the greater number of

model intercepts (one less than the number of categories). Since the dependent variables are ordered, certain restrictions are imposed on the data when a cumulative logit analysis is used. The proportional odds assumption, for instance, tests whether ordinal restrictions are valid for the particular dataset. Violations of this assumption suggest that a cumulative logit analysis is not an appropriate analysis.

Cumulative logit analysis was appropriate for the EA data (as indicated by adequate cell sizes and no violation of the proportional odds assumption), but was not a viable analysis for either the PA or SA data. Thus, binary logistic regression was used for PA and SA instead. Because of the different analyses conducted, we were able to compare statistically *three* levels of duration of time from emotional abuse to its disclosure, but only *two* levels of duration of time from physical and sexual abuse to their disclosure. To assess whether variables other than closeness of the victim–perpetrator relationship (VC versus NVC) could account for the significant association between perpetrator closeness and the length of delay from abuse to its disclosure, covariates (age at onset, gender, and severity of abuse) were entered into the models.

Results

Descriptives

Of the 202 participants, 73 (36.1%) reported 1 or more instances of EA, 97 (48.0%) reported 1 or more instances of PA, and 47 (23.3%) reported 1 or more instances of SA; 69 (34.2%) of the participants in the total sample reported no form of abuse. Of those participants reporting one or more instances of abuse, 65.3% of EA survivors, 77.3% of PA survivors, and 9.7% of SA survivors reported that their perpetrator was a VC individual.

In terms of delayed disclosure, the majority reported long delays; specifically, 68.5% of the people who experienced EA, 53.6% of the people who experienced PA, and 55.3% of the people who experienced SA reported at least 1 instance of delaying disclosure for 1 or more years or never disclosing. The percentage of those survivors reporting 1 or more instances of “never” disclosing an abusive experience outside of the present study was 57.5% for EA, 39.2% for PA, and 12.7% for SA.

Cumulative logit analysis

We tested models predicting disclosure of EA, PA, and SA separately. For EA, victim–perpetrator closeness (VC versus NVC) predicted the ordinal three-level disclosure variable [$\chi^2(1) = 4.19, p = .04$]. See Table 1 for cumulative logit analysis statistics. Thus, EA survivors in VC victim–perpetrator relationships were more likely to wait longer to disclose than EA survivors in NVC victim–perpetrator relationships. The cumulative odds of EA survivors in VC victim–perpetrator relationships delaying disclosure for 1 or more years or never disclosing, as compared to delaying disclosure for an amount of time ranging from hours to less than 1 year (i.e., either moderate- or short-delay disclosers), were 2.65 times more likely than the cumulative odds of EA survivors in NVC victim–perpetrator relationships (odds ratio = 2.65, $CI_{.95} = 1.04, 6.75$). The association between victim–perpetrator closeness and the duration of time from emotional abuse to its disclosure is illustrated in Figure 1. The full model was not significant when average age at the onset of abuse and gender of the survivor were included as covariates, though victim–perpetrator relationship remained significant, suggesting that average age and gender added noise to the full model.

Logistic regression analyses

For PA, victim–perpetrator closeness (VC versus NVC) predicted the ordinal, two-level disclosure factor [$\chi^2(1) = 6.75, p = .01$]. See Table 2 for logistic regression analysis statistics. The odds of PA survivors in VC victim–perpetrator relationships waiting 1 or more years to disclose their abuse, if it was disclosed at all, were 4 times the odds of survivors in NVC

Table 1
Cumulative logit analysis for emotional abuse.

Variable	Class value	df	Estimate	SE	Wald	Odds ratio	95% lower	Wald CI upper
Intercept	3 (long) ^a	1	.75	.30	6.09**			
Intercept	2 (moderate) ^b	1	1.53	.34	19.86**			
Closeness	1 (VC) ^c	1	.98	.48	4.19*	2.65 ^f	1.04	6.75
	0 (NVC) ^d		.00 ^e					

Note: df = degrees of freedom; SE = standard error; CI = confidence interval.

^a Long-delay disclosure.

^b Moderate-delay disclosure.

^c Very close victim–perpetrator relationship.

^d Not very close victim–perpetrator relationship.

^e Reference category coding.

^f Odds ratio = e^{estimate} .

* $p < .05$.

** $p < .01$.

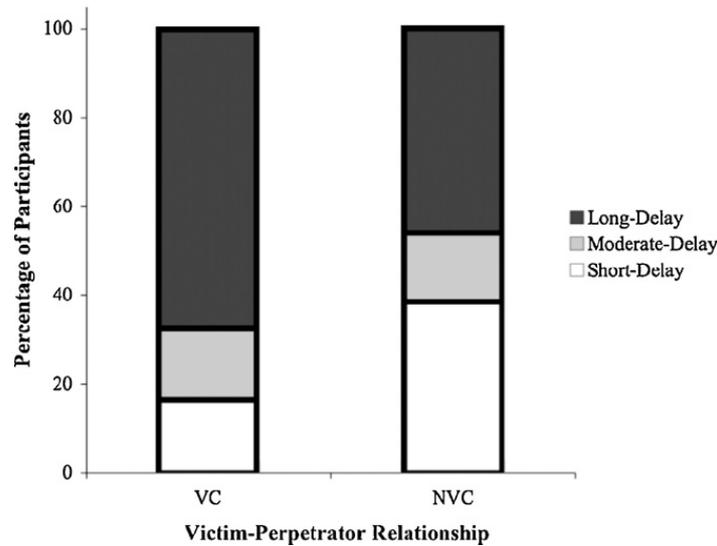


Figure 1. Victim–perpetrator relationship and the duration of time from emotional abuse to its disclosure.

Table 2

Logistic regression analysis for physical abuse.

Variable	Class value	df	Estimate	SE	Wald	Odds ratio	95% lower	Wald CI upper
Intercept		1	.41	.24	2.96	.09		
Closeness	1 (VC) ^a	1	1.39	.53	6.75**	4.00 ^d	1.41	11.38
	0 (NVC) ^b		.00 ^c					

Note: df = degrees of freedom; SE = standard error; CI = confidence interval.

^a Very close victim–perpetrator relationship.

^b Not very close victim–perpetrator relationship.

^c Reference category coding.

^d Odds ratio = e^{estimate} .

** $p < .01$

victim–perpetrator relationships (odds ratio = 4.00, CI₉₅ = 1.41, 11.38). Additionally, PA survivors in NVC victim–perpetrator relationships were more likely to disclose within hours, days, weeks, or months, than to wait 1 or more years to disclose or to never disclose, compared to PA survivors in VC victim–perpetrator relationships. The association between the victim–perpetrator relationship and the duration of time from physical abuse to its disclosure is illustrated in Figure 2. When covariates were added (e.g., average age at the onset of the abuse, severity of the abuse and participant gender), the full model was not significant, though victim–perpetrator relationship remained significant, suggesting that average age, severity of the abuse, and gender added noise to the full model.

For SA, neither the victim–perpetrator closeness nor the covariates predicted disclosure.

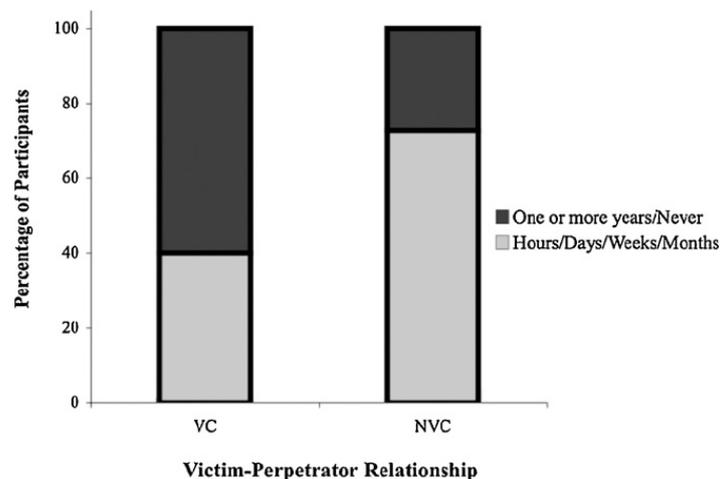


Figure 2. Victim–perpetrator relationship and the duration of time from physical abuse to its disclosure.

Discussion

While many investigators have identified factors that influence the disclosure of SA, few have examined factors influencing the disclosure of PA and EA. Thus, the current study attempted to clarify the association between abuse characteristics and the duration of time from EA, PA, and SA to their disclosure. As predicted, closeness of the victim–perpetrator relationship was associated with longer durations of time from both EA and PA to their disclosure, above and beyond other variables including age at the onset of abuse, gender of the survivor and severity of the abuse (collected for physical abuse only). None of these other abuse characteristics contributed significantly to the prediction of delayed disclosure in any of the models tested.

For EA, participants who reported VC victim–perpetrator relationships (relative to those who reported NVC victim–perpetrator relationships) were significantly more likely to wait 1 or more years to disclose, or never to disclose, than to wait a period of time less than 1 year. NVC victim–perpetrator relationships were more associated with survivor disclosure within hours of abuse. In addition, survivors of PA in VC victim–perpetrator relationships were significantly more likely to wait one or more years to disclose their abuse, or never to disclose, than survivors of PA in NVC victim–perpetrator relationships.

Surprisingly, we did not find associations between perpetrator closeness and disclosure for SA; however, concerns about statistical validity and reporting biases should be considered when interpreting this null finding. In terms of our statistical approach, the unequal cell sizes for VC and NVC groups created problems. A small number of cases at one or more levels of the dependent variable (in this study, in the VC group) relative to the number of independent variables can lead to biased parameter estimates, which in turn, can negatively impact the validity of the statistical test (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996). Because of such concerns, researchers have recommended that the smaller level of the dependent variable be comprised of at least 10 cases per model parameter (Peduzzi et al., 1996); the cell sizes for the SA data did not meet this criterion, calling into question the validity of the SA analyses. The higher report of NVC victim–perpetrator relationships relative to VC victim–perpetrator relationships may have also resulted in decreased variability in the duration of time from SA to its disclosure.

Unequal cell sizes in the SA analyses were driven by the fact that almost three times as many participants reported NVC victim–perpetrator relationships compared to VC victim–perpetrator relationships. This is a surprising proportion given that estimates from epidemiological studies indicate that most CSA is perpetrated by someone on whom the victim is dependent, such as parents, stepparents, siblings, and partners (Freyd, Putnam, et al., 2005). The Betrayal Trauma Inventory allows participants to choose which traumas they want to report of those they have experienced. Being given this choice may have led SA survivors to systematically over-report NVC victim–perpetrator relationships and under-report VC victim–perpetrator relationships.

Comparisons with other studies that used different trauma measures in both community (Goldberg & Freyd, 2006) and university samples (Rind, Tromovitch, & Bauserman, 1998) support our concern that participants in this study under-reported SA in VC victim–perpetrator relationships. Compared to a review of 19 studies examining SA in college students, our percentage of survivors of SA who were in VC victim–perpetrator relationships was much lower (approximately 9% versus 16%), even though the overall percentages of survivors experiencing SA were similar, as was the percentage of females. Though we used a different trauma measure, our operationalization of VC perpetrators for SA was as- or more- inclusive than the definitions used in other studies. For example, we categorized SA as perpetrated by someone VC if the perpetrators were parents, stepparents, siblings, boyfriends/girlfriends or ex-boyfriends/ex-girlfriends. Other studies have constrained categorization of VC perpetrators to parents, stepparents, grandparents and *older* siblings (e.g., Rind et al., 1998), leaving out SA in dating relationships and some sibling SA. With a more inclusive definition, we should have found at least comparable rates to the definition used in other studies, suggesting that we do indeed have a problem with under-reporting of SA perpetrated by someone VC in this sample.

If VC victim–perpetrator relationships were underreported for SA, why were VC victim–perpetrator relationships not underreported for other forms of abuse? This selective reporting issue may be more relevant for SA as compared to PA and EA since the stigma associated with incest or SA characterized by VC victim–perpetrator relationships may be particularly high. Increased stigma may not only inhibit disclosure due to fear of negative responses, but also make the element of betrayal that much more salient. In turn, this might decrease the likelihood that SA survivors of VC victim–perpetrator relationships would disclose SA in a research context, or, as mentioned earlier, lead participants to choose to report SA experiences lower in betrayal instead of those higher in betrayal. Stigma associated with PA and EA, on the other hand, may be higher in NVC victim–perpetrator relationships as compared to VC victim–perpetrator relationships; for instance, it may be more embarrassing to admit being hit or criticized by an acquaintance, as this may be akin to being targeted by a school bully, than to admit to being hit or verbally attacked by a parent, as this may be viewed as a normative form of punishment. It is important that these hypotheses be evaluated by future research.

A second possibility for the lack of significant SA findings is related to impairment of memory. For instance, memory impairment for SA survivors in VC victim–perpetrator relationships may be greater than that for NVC victim–perpetrator relationships, which may have decreased the likelihood that SA survivors of VC victim–perpetrator relationships would disclose this form of SA. Evidence in support of this hypothesis comes from previous analyses with data from this sample indicating that closer relationships to the perpetrator were significantly associated with less vivid recall of PA and SA (Freyd et al., 2001). Given the possibilities that the disclosure of SA characterized by VC victim–perpetrator relationships could

have been confounded by a methodological flaw, decreased willingness to disclose, and/or impaired memory for abuse, it is important to interpret the SA findings with caution.

Study limitations

The current study relied on retrospective self-reports to examine the association between type of abuse, victim–perpetrator relationship and delayed disclosure in a college student sample. As with any retrospective reporting approaches, concerns regarding both false negative and false positive reports must be entertained. Thus, under-reporting of SA characterized by VC victim–perpetrator relationships in particular may have been a limitation of this study, not only for the aforementioned reasons, but also due to high rates of false negatives in self-reported trauma histories (e.g., Bolen & Scannapieco, 1999).

While generalization from college samples must be done carefully, college samples have consistently revealed high levels of exposure to trauma (Green et al., 2000), making them an important sample to study. Participants did not have knowledge of the study's contents prior to participation, allowing for reasonable generalization to a larger population of students. Nonetheless, generalizing these results beyond undergraduate psychology students who have an academic incentive to participate should be done carefully. For example, severity did not contribute uniquely to the prediction of PA disclosure; however, the overall severity level reported by our sample is likely low relative to community or clinic-referred samples. Thus, in different samples, severity might play a more important role in delayed disclosure.

Conclusions

Consistent with predictions based on Betrayal Trauma Theory, results of the present study demonstrated a significant association between closeness of the perpetrator and delayed disclosure of EA and PA that could not be explained by other characteristics of abusive experiences. Survivors of abuse characterized by VC victim–perpetrator relationships were significantly more likely to delay disclosure for one or more years, or never to disclose, than survivors of abuse characterized by NVC victim–perpetrator relationships. Since trauma survivors frequently report VC victim–perpetrator relationships (Berliner & Conte, 1995; Elliott, Browne, & Kilcoyne, 1995; Faller, 1989; Sorenson & Snow, 1991), this is an important finding. Disclosure is required for many types of support provision; thus, identifying factors that facilitate and hinder disclosure of abuse characterized by VC victim–perpetrator relationships, may inform the development of effective ways of encouraging disclosure.

Acknowledgement

We would like to thank Robin High for his statistical expertise.

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