The Role of the Victim-Perpetrator Relationship in the Development of PTSD and Depression Following Sexual Assault

by

Jessica Leigh Domino

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Approved by

Frank Weathers, Chair, Professor of Psychology
Rich Mattson, Assistant Professor of Psychology
Chris Correia, Associate Professor of Psychology

Abstract

Victims of sexual assault have a high risk for posttraumatic stress disorder (PTSD). However, exposure to sexual assault alone is not sufficient for the development of PTSD. This study examined the impact of victim-perpetrator relationship context (i.e. trust, importance, and closeness), perceived life threat, perceived betrayal, posttraumatic cognitions, and trauma-related social support on PTSD and depression outcomes. One-hundred-twenty-seven female undergraduate students, who self-identified as "having an uncomfortable, negative, or unwanted sexual experience," completed a self-report battery through an anonymous internet questionnaire session. The victim-perpetrator relationship and aspects of this relationship were not associated with PTSD and depression symptoms. Perceived life threat, perceived betrayal, and posttraumatic cognitions were all related to PTSD symptoms severity. However, results indicated that only perceived life threat, and posttraumatic cognitions about the self were predictive of overall PTSD and depressive symptoms. Implications for understanding the role posttraumatic cognitions play in PTSD and depression outcomes are discussed.

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Introduction

Sexual assault is not only a prevalent type of trauma, but also an overwhelming stressor for those who experience it. Indeed, approximately one in four women will be sexually assaulted within their lifetime (Elliott, Mok, & Briere, 2004; Masho & Ahmed, 2007). Because of the elevated prevalence of sexual assault, the high conditional risk for posttraumatic stress disorder (PTSD) that sexual assault also carries is especially concerning. Assaultive violence, including rape and other forms of sexual assault, holds the highest conditional risk for PTSD of all trauma types (Breslau et al., 1998). Specifically, the probability of developing PTSD subsequent to rape was 49% and 23.7% following other types of sexual assault. The finding that experiencing sexual assault substantially increases the odds of the development of PTSD is widely supported in the literature (Acierno et al., 2002; Masho & Ahmed, 2007; Ullman & Siegel, 1994). Furthermore, rape and other forms of sexual assault together account for a greater portion of PTSD cases than any other type of specific trauma (Breslau, et al., 1998). The increased prevalence and high-risk of PTSD associated with sexual assault underscores the importance of effective and informative research in this area.

Although sexual assault has a high conditional risk for PTSD outcomes, exposure alone to sexual assault is not sufficient for the development of PTSD. In fact, many people experience traumas of the magnitude necessary for a PTSD diagnosis, but only a portion of trauma-exposed individuals subsequently develop PTSD. Extensive epidemiological research has illustrated that although exposure to a traumatic event is prevalent within the general population, exposure is not an adequate factor for the development of PTSD (Acierno, et al., 2002; Breslau, 2002; Brewin,

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Andrews, & Valentine, 2000; Kaysen, Rosen, Bowman, & Resick, 2010; Kessler, Sonnega,

Bromet, & Hughes, 1995; Ozer, Best, Lipsey, & Weiss, 2003; Ozer & Weiss, 2004).

Approximately 40 to 60% of the general population experiences at least one traumatic event in

their lifetime; however, only between 5% and 12% of the general population go on to develop

PTSD (Breslau, 2001; Johnson, Maxwell, & Galea, 2009; Ozer & Weiss, 2004). As with other

trauma types, a single exposure to sexual assault was also found to be insufficient in explaining

future PTSD risk (Kaysen, et al., 2010).

Given that exposure alone is inadequate for explaining the development of PTSD in some

sexual assault survivors, a psychosocial model may best explain PTSD outcomes as a

consequence of experiencing interpersonally violent traumas, including sexual assault. Individual

differences in psychological outcomes, including PTSD, following a traumatic event are a

function of the diverse factors that make up each individual's experience (Green, Wilson &

Lindy, 1985). These factors include characteristics of the individual, characteristics of the event,

and characteristics of the recovery environment.

Some models have theorized that changes in cognitions are an important part of an

individual's response to trauma (Ehlers & Clark, 2000; Foa & Riggs, 1994; Foa & Rothbaum,

1998; Janoff-Bulman, 1979; McCann & Pearlman, 1990; Resick & Schnicke, 1992). In

particular, Ehlers and Clark (2001) proposed that individuals develop PTSD when they

cognitively process the precipitating traumatic event or its consequences in a manner that creates

a feeling of current threat. One key aspect of their model suggests that individuals who have

negative appraisals of the traumatic event and its consequences are more likely to have a sense of

serious threat and experience PTSD symptoms. Similarly, Foa and colleagues proposed that two

main cognitive disruptions related to the competence of one's self and the safety of the world

facilitate the development of PTSD after a trauma (Foa & Riggs, 1994; Foa & Rothbaum, 1998). Consistent with these models, the role of cognitive appraisals and perceptions has been widely supported in the literature as an important predictive factor for the development of PTSD symptomatology (Agar, Kennedy, & King, 2006; Bennett, Beck, & Clapp, 2009; Bryant & Guthrie, 2005; Dunmore, Clark, & Ehlers, 2001; Ehring, Ehlers, & Glucksman, 2008; Frazier, 1990, 2000, 2003; Glenn & Byers, 2009; Hall, French, & Marteau, 2003; Koss & Figueredo, 2004; Koss, Figueredo, & Prince, 2002; O'Donnell, Elliott, Wolfgang, & Creamer, 2007).

One area of research has focused on particular types of cognitions in the development of PTSD symptoms. To this end, the Posttraumatic Cognitions Inventory (PTCI) was developed as a measure of PTSD-related cognitions related to the self, world, and self-blame (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). This measure corresponds with the idea put forth by Foa and colleagues that specific cognitive disruptions contribute to the development of PTSD in trauma victims (Foa & Riggs, 1994; Foa & Rothbaum, 1998). Many studies have used the PTCI to investigate the role of these cognitions in the development of PTSD, and their findings support the idea that negative attributions related to the self, world, and self-blame serve to increase PTSD symptom severity and maintain PTSD symptoms over time (Beck et al., 2004; Bryant & Guthrie, 2005; Elwood & Williams, 2007; Karl, Rabe, Zöllner, Maercker, & Stopa, 2009; Moser, Hajcak, Simons, & Foa, 2007; O'Donnell, et al., 2007).

Appraisals related to self-blame seem to be a unique type of cognition and predictor of negative outcomes (Frazier, 1990). Existing research indicates that self-blame cognitions are particularly predictive of PTSD outcomes for individuals who experienced an interpersonal trauma (Arata & Burkhart, 1995; Frazier & Schauben, 1994). Janoff-Bulman (1979) proposed that two forms of self-blame are related to interpersonal trauma outcomes: characterological self-

blame and behavioral self-blame. Characterological self-blame reflects the individuals' beliefs that their character or personality caused the event while behavioral self-blame consist of the individuals' perceptions that their behavior caused the event (Janoff-Bulman, 1979). Contrary to Janoff-Bulman's (1979) original conceptualization, both types of self-blame have been found to be strongly related to increased PTSD symptom severity following rape and sexual assault (Frazier, 1990, 2003; Frazier & Schauben, 1994; Koss, et al., 2002; Ullman, 1997; Ullman, Townsend, Filipas, & Starzynski, 2007).

Betrayal is another distinctive type of cognition that has been demonstrated to be predictive of PTSD outcomes. Freyd and colleagues have conducted extensive work on the construct of betrayal as a predictor of posttraumatic outcomes (Birrell & Freyd, 2006; Freyd, 1996; Freyd, DePrince, & Gleaves, 2007; Freyd, DePrince, & Zurbriggen, 2001; Freyd, Klest, & Allard, 2005). Their work indicates that a sexual trauma, in particular childhood sexual abuse, is more psychologically distressing when the perpetrator is someone with whom the victim is very close such as a caregiver. Departing from Freyd's original betrayal theory, the present study regards betrayal as an attribution or perception than an individual makes in response to a trauma rather than an inherent element of a traumatic event.

Although cognitions seems to be an important part of the cumulative risk model for PTSD outcomes, much of the literature examining outcomes for interpersonal violence have focused on other risk factors. Commonly assessed risk factors include medical injury, assault severity, previous traumatic event exposure, peritraumatic responses, social support, and the victim-perpetrator relationship (Acierno, et al., 2002; Campbell, Dworkin, & Cabral, 2009; Feehan, Nada-Raja, Martin, & Langley, 2001; Kunst, Winkel, & Bogaerts, 2010; Temple,

Weston, Rodriguez, & Marshall, 2007; Ullman & Filipas, 2001; Ullman, Townsend, Filipas, & Starzynski, 2007).

Extant research suggests that certain factors are more predictive of PTSD as a consequence of trauma than others. Demographic factors such as younger age, lower income level, and lower education level, are associated with higher rates of PTSD symptoms in women who were sexually assaulted (Acierno, et al., 2002; Kunst, et al., 2010; Ullman & Filipas, 2001). Specific assault characteristics have also been positively related to increased psychological distress, including having someone witness the assault, location of the assault (i.e. in the victim's home), relationship to the perpetrator (i.e. relative or partner), greater perceived life threat, and greater physical injury (Feehan, et al., 2001; Kunst, et al., 2010; Temple, et al., 2007; Ullman & Filipas, 2001). In addition, factors occurring subsequent to the assault such as negative social reactions to the victim's experience and the use of avoidance coping by the victim have been shown to be related to increased PTSD symptom severity (Ullman, Townsend, et al., 2007). Although many risk factors for increased PTSD symptom severity following sexual assault have been assessed in the research literature, the relationship between the victim and perpetrator stands out as a unique and important predictor of PTSD symptoms. Most studies examining the victim-perpetrator relationship as a predictive factor for negative psychosocial outcomes following interpersonal violence, including sexual assault, have found this particular aspect of the individual's traumatic event to be indicative of increased PTSD symptoms (Cascardi, Riggs, Hearst-Ikeda, & Foa, 1996; Culbertson & Dehle, 2001; Feehan, et al., 2001; Gutner, Rizvi, Monson, & Resick, 2006; Kunst, et al., 2010; Roth, Wayland, & Woolsey, 1990; Ullman, Filipas, Townsend, & Starzynski, 2006; Ullman & Siegel, 1993).

A segment of the research literature has focused on the victim-perpetrator relationship in the context of childhood sexual abuse. Victims of childhood sexual abuse whose perpetrator was a father figure or other trusted person were more likely to subsequently report symptoms of distress and trauma-related symptoms (Feinauer, 1989; Ketring & Feinauer, 1999). Similarly, people who were sexually abused by a family member during childhood were more likely have higher levels of PTSD symptoms (Lev-Wiesel, Amir, & Besser, 2005). The victim-perpetrator relationship has also been shown to be an important predictor of PTSD in adolescent victims of interpersonal violence. For instance, adolescents who were sexually assaulted by an acquaintance, recognized nonacquaintance, or family member were at an increased risk for PTSD compared to those adolescents assaulted by strangers (Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006). The victim-perpetrator relationship has repeatedly been demonstrated to be important in predicting PTSD and other negative psychosocial outcomes in victims of childhood sexual abuse. In particular, victim-perpetrator relationships characterized by more trust or intimacy were found to be more predictive of negative outcomes following childhood sexual abuse. These aspects of trust and intimacy in the victim-perpetrator relationship have not been as effectively examined in the adult sexual assault literature.

Although a large portion of the research examining the victim-perpetrator relationship has found this factor to be predictive of PTSD outcomes, a few studies have contradictory results. Koss, Dinero, Seibel, and Cox (1988) analyzed the differing experiences of 489 sexual assault victims according to victim-perpetrator relationship category (Koss, Dinero, Seibel, & Cox, 1988). Participants indicated which demographic category their perpetrator corresponded to, and then were placed into a broader category based on their response. Perpetrator categories included stranger, nonromantic acquaintance, casual date, steady date, and family member.

However, these categories may not have captured the true meaning of the relationship between the victim and perpetrator prior to the assault. Further, the variability possibly present in these categories may not be accurately represented. For example, if the perpetrator was a neighbor, they would be placed in the nonromantic acquaintance category; however, this categorization does not reflect whether the victim considered this neighbor to be someone with whom they were close like family or someone who they only saw walking to the mailbox. In addition, husband perpetrators were put in the same category as family members, which assumes that the victims attribute the same meaning to a relationship with their husbands as they do a relationship with another member of their family. Clearly, this method of sorting perpetrator types into a few distinct categories may overlook the nuances that make each relationship between victim and perpetrator specifically different.

Similarly, Ullman and Filipas (2001) examined the predicting factors of PTSD symptom severity and social reactions in sexual assault victims including demographic variables, assault characteristics and postassault responses that the victims received. As in previous studies, participants were asked to specify which of six categories best described their perpetrator. Then, for the purpose of analyses, categories were collapsed into the dichotomy of stranger or known offender. This use of a dichotomous variable in examining the contribution of the victim-perpetrator relationship to PTSD symptom severity and social reactions obscures variability that is most likely present within the known offender category.

A similar procedure was employed in a study using data from women who were identified from the National Comorbidity Survey and reported that they were sexually assaulted in childhood or adulthood (Ullman & Brecklin, 2002). This study coded the victim-perpetrator relationship as either known offender or stranger. Again, this dichotomous categorization does

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not allow for the analysis of the actual relationship context that was present between the victim and perpetrator prior to the assault and assumes that the experiences of the victims in each of the two categories do not vary greatly among themselves.

In a subsequent study, Ullman, Filipas, Townsend, and Starzynski (2007) had sexual assault victims indicate which category their perpetrator best fit into. There were six categories including stranger, nonromantic acquaintance, casual or first date, romantic acquaintance, husband, and relative that were entered into regression analyses. When entered with several other pre-assault characteristics in the second step of a hierarchical regression, the victim-perpetrator relationship categories were not related to PTSD symptom severity. This finding may have been a function of the categories not reflecting the true nature of relationship present between the victim and perpetrator prior to the assault. In addition, this outcome could have resulted from the fact that perceived life threat, a variable that has been shown to be an overwhelmingly strong predictor of PTSD symptom severity in previous literature, was entered into the regression at the same step. It is clear that some of the methods used in these studies may have contributed to the findings that the victim-perpetrator relationship was not predictive of PTSD outcomes, because the relationships were put into logical but imperfect demographic categories that overlook the substantial differences that may lie within each of the categories.

Even though a large portion of the research literature supports the victim-perpetrator relationship as an important predicting factor of PTSD outcomes following sexual assault, there are marked inconsistencies in the literature concerning which victim-perpetrator relationships are most predictive of PTSD symptoms. When trying to examine the literature and determine a consensus of which relationships are most predictive, one encounters a difficult and confusing landscape. The studies examining the victim-perpetrator relationship in the sexual assault

research literature use a disparate set of populations and events and include a wide range of risk factors in their analyses. These populations range in age, ethnicity, socioeconomic status, education level, and service-seeking – to name a few characteristics – which limits generalization of findings. In addition, the categories used to describe the victim-perpetrator relationship vary from study to study which again limits generalizability and the ability to reach a consensus on which relationship is most predictive. For example, the same perpetrator could be categorized as a neighbor, a friend, an acquaintance, or a nonromantic acquaintance depending on which study was examining and categorizing the victim-perpetrator relationship. On top of the confusion that this variety of categories presents, the lack of agreement on a core set of risk factors assessed contributes to inconsistent findings, because the same factors are not being accounted for across studies.

The difficulties seen in the categorization of the victim-perpetrator relationship are similar to what Dohrenwend (2006) has referred to as the problem of intracategory variability in checklists assessing stressful events as risk factors for psychopathology. Most such checklists concentrate on broad event categories, both common occurrences and extreme situations; however, these categories do not give an accurate account of the individual's actual experience. Many people may endorse the same broad life event category, but each of their specific experiences varies in a unique manner. Despite this limitation, the objective category approach to inventorying stressful life events is widely used in research for obvious reasons. The checklist or categorical method offers an efficient and economical procedure for conducting research that the more thorough semi-structured interview or narrative approach cannot provide. Unfortunately, these checklists or category procedures lack specificity and do not precisely capture the magnitude and source or cause of the life event. This point is well illustrated with "being laid off

from a job" as an example (Dohrenwend, 2006). This event may have been completely unexpected, part of an anticipated mass layoff at the corporation, or the person may have acted in a way that warranted the loss of his or her job. These factors could make a major difference in the amount of impact that the event has on the person. The problem seen within the literature examining the victim-perpetrator relationship can be viewed using this same argument. The categories currently used to describe perpetrators cannot fully depict the meaning of the relationship between the victim and perpetrator nor the impact of that relationship in the sexual assault victim's life.

Some studies of the victim-perpetrator have utilized alternatives to the more widely used categorical approach to reduce of the inherent limitations of the popular methodology. For example, Ullman (2007) had participants who had experienced childhood sexual abuse answer an open-ended question about their perpetrator's identity. Participants' answers were coded into nine categories, and then further reduced into three broad categories (i.e. stranger, neighbor/ acquaintance, or relative) for analytic purposes. The researchers used the participants' own words to inform their categorizations. In addition, the participants reported on a Likert scale the amount of emotional closeness they felt with the perpetrator before and after the abuse. This approach illustrates a combination of the narrative-rating and category methods. Although the problem of intracategory variability is still present with this study's use of three broad demographic perpetrator categories, the inclusion of a measure of emotional closeness may provide a better understanding of the actual meaning in the relationship between the participants and their perpetrators.

A few studies within the acquaintance rape literature have addressed the limitations of using victim-perpetrator relationship categories and offered alternatives ways of assessing sexual

assault victims' experiences in relation to their perpetrators. For example, Ward, Chapman, Cohn, White, & Williams (1991) suggested considering the context (e.g., party, date) in which the victim met the perpetrator, rather than the type of relationship present between the victim and perpetrator. They argued that each context has its own set of characteristics and expectations which in turn explains more about victims' experiences. Although the idea of context addresses the idea that important information about victims' sexual assault experiences goes beyond knowing in which relationship category the perpetrator fits, the context construct is likely to fall into the same intracategory variability trap. Along the same lines, Wilson and Leith (2001) contended that the relationship between the victim and perpetrator is an important characteristic in a victim's sexual assault experience, but suggested that the focus should be on variables assessing the context or nature of the relationship between the two people rather than the relationship category. To evaluate the context of the relationship, data were collected from police reports about how well the victim felt like she knew the perpetrator, whether they had a prior sexual relationship, whether they had cohabitated, and how long she had known the perpetrator. These data provide a greater understanding of the context of the relationship that existed between the victim and the perpetrator. However, data collected directly from the victims rather than extracted from a police report could ensure that the information was accurate and less affected by the highly stressful situation of reporting a crime.

Given the limitations of the current literature, it seems that the victim-perpetrator relationship may be better characterized by the relationship context rather than demographic categories. The present study was designed to broaden the current definitions used to examine the victim-perpetrator relationship from limited categories to brief narrative descriptions of the relationship context prior to the sexual assault provided by the participants. These narrative

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descriptions focused on aspects of the relationship context, including an explanation of who the perpetrator was, how long the victim had known the perpetrator, the level of trust, closeness, and important present in the relationship, and the victims' expectations of the relationship. In addition, the present study allowed for consideration of a broader range of sexual assault events than most of the studies that populate the literature. By expanding the range of sexual assault events, participants who may not explicitly identify their experience as sexual assault could also contribute. Although the present study utilized a more general description for the sexual assault event than previous studies, only those events that met criteria as an A1 event or subthreshold A1 event were included in the sample. Furthermore, the present study only included those respondents who indicated that the perpetrator was known and a non-family member. These inclusion criteria ensured that the relationship context variables did not confound with relationship categories. This confounding relationship between context and category is clearly demonstrated in the childhood sexual abuse literature where perpetrators who were considered to have a more trusting and intimate relationship with the child were most likely to fathers or father figures (Feinauer, 1989; Ketring & Feinauer, 1999; Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006; Lev-Wiesel, Amir, & Besser, 2005). It cannot be discerned whether it is the relationship category (i.e. father) or the context of the relationship (i.e. trust and intimacy) that is impacting the child's outcome. Explicitly, the present study focused on the unique variance contributed by the relationship context within acquaintance rape victims and diminished the overlap of information between relationship demographic category and relationship context. In the context of current theory and empirical literature, the following hypotheses were posited regarding the relationship between victim-perpetrator relationship context, trauma-related and posttrauma variables, and PTSD symptom severity and depression:

Hypothesis 1. It is predicted that there will be variability in the relationship context variables (i.e. trust, importance, closeness) within the more narrowly defined domain of victim-perpetrator relationships.

Hypothesis 2. It is hypothesized in the current study that the relationship context variables will be related to PTSD and depression, as well as other predictors of PTSD and depressive symptoms.

Hypothesis 3. Predictors such as posttraumatic cognitions, betrayal, perceived life threat, and trauma-related social support will be related to PTSD and depression outcomes.

Hypothesis 4. It is hypothesized that all predictor variables (i.e. relationship context, betrayal, perceived life threat, posttraumatic cognitions, and trauma-related social support) will contribute unique variance to PTSD and depression outcomes.

Method

Participants

Participants were female undergraduates recruited for an anonymous internet questionnaire session by announcements for students age 19 and older in undergraduate psychology courses. Students who participated in the questionnaire session self-identified as "having an uncomfortable, negative, or unwanted sexual experience (for example, pressured to engage in sexual activity, coercive sexual activity, or sexual assault)." Questionnaire sessions were conducted through an anonymous online format that participants could access on any internet-connected computer. The Auburn University Institutional Review Board approved this study.

Participants were 466 female undergraduate students who completed the questionnaire session as a part of optional extra credit activity for psychology courses at Auburn University. Of these, 339 participants were excluded based upon the following criteria: participant's index event did not meet criterion A1 for a traumatic event or subthreshold A1 traumatic event (n = 167); participant indicated that the event occurred before age 14 or did not indicate age at time of event (n = 232), participant indicated the perpetrator was a stranger or family member (n = 65), participant left the narrative event description blank or left more than 10% of a measure blank (n = 83). Some participants met more than one exclusion criterion. Therefore, the final sample for the current study was 127 participants.

Of the final sample, participants were predominately European Origin/White (n = 107; 85%) or African American/Black (n = 12; 9.5%). Average age was 20.3 years (*SD* = 3.1). Most

participants were full-time students (n = 121; 96%) and were either not presently working (n = 83; 66%) or working part-time (n = 41; 33%). The majority of participants were single (n = 114; 91%) or living with their partner (n = 11; 8.7%). Twelve percent of participants were in their freshman year, 22% in their sophomore year, 34% in their junior year, and 32% in their senior year.

Procedure

Participants accessed the questionnaire through the Sona-Systems website. All questionnaire sessions were conducted on a computer with internet access in a location of the participants' choosing. When the participants followed the link provided on Sona-Systems, they arrived at a webpage displaying the information letter on the screen. Participants read the information letter and indicated their consent to continue with the study by electronically checking a box signifying they had read and understood the information letter and wished to continue their participation. Participants were reminded that they may elect to discontinue the study at any point without risk of retribution or loss of extra credit.

Next, they completed the questionnaires, which were presented via Qualtrics, an online survey software. The majority of participants finished the questionnaires in approximately 30 minutes. Participants completed questionnaires assessing sexual experiences, trauma exposure, trauma-related symptoms, and trauma-related beliefs. Included within this questionnaire sequence, the participants described the context of their relationship to the perpetrator in a narrative form. Upon completion of the series of questionnaires, participants were provided with a copy of the consent form, a debriefing form, and a referral list that could be printed for their future reference. Participants were also instructed to contact the graduate researcher should they experience any psychological discomfort during or after the completion of the measures. This

situation did not occur. Participants were compensated with documentation of their participation on Sona-Systems that can be used for extra credit in many undergraduate psychology courses. Documentation of participation for extra credit compensation purposes was in no way connected to the participants' responses. Participants received 1 hour of extra credit for participating in the questionnaire session.

Measures

Participants completed the measures described below in an online format. Participants first completed a demographics form, followed by questions related to the event, and a randomized block of questionnaires regarding psychosocial outcomes including PTSD symptoms, cognitions related to the trauma, depressive symptoms, and event-related social support.

Event Description. The description of the "uncomfortable, unwanted, or negative sexual experience" was obtained by prompting the participants to briefly describe the event. Demographic information about the perpetrator, including age at the time of the event, sex, and relationship category (i.e., stranger, acquaintance, friend, casual dating partner, steady dating partner/spouse, ex-partner/ex-spouse, family member, other) were also assessed.

Relationship Context. The context of the relationship between the respondent and the perpetrator prior to the event was assessed through a series of open-ended questions answered by the respondent. The respondent was prompted to include details about how she knew or met the perpetrator, how long she had known the perpetrator, the levels of trust, importance, and closeness she felt toward the perpetrator prior to the event, and expectations of the relationship prior to the event. In particular, the context variables of trust, importance, and closeness were included based on findings in the childhood sexual abuse literature indicating these aspects of a

relationship are related to negative outcomes (Feinauer, 1989; Ketring & Feinauer, 1999; Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006; Lev-Wiesel, Amir, & Besser, 2005).

Life Threat and Betrayal Inventory (Kelley, 2009). The Life Threat and Betrayal Inventory is a self-report measure that assesses the respondents' experiences regarding their worst ever traumatic event. The inventory assessed the medical attention received or needed following the traumatic event to objectively measure the respondents' physical injury from the incident. Then, the respondents were asked to describe why this medical attention was needed. In addition, they rated their perceived life threat during the traumatic event on a scale from 0 to 100 (0 = My life was not in danger at all; 100 = I was certain I was going to die), as well as described what occurred during the event that made them feel that their life was in danger. Finally, the respondents indicated the level of betrayal that they experienced during the traumatic event on a scale from 0 to 100 (0 = Did not feel betrayed at all; 100 = Felt completely betrayed), and describe three of the people or things by which they felt betrayed. Lastly, how much the respondents have been able to forgive the people or things specified is assessed on a scale from 1 to 5 (1 = I will never forgive them to 5 = I have forgiven them). In the present study, this measure was used in relation to the respondents' indicated negative sexual experience.

PTSD Checklist (*PCL;* Weathers, 1993). The PTSD Checklist is a 17-item self-report measure that assesses each of the 17 *DSM-IV-TR* symptoms of PTSD. On the specific version (PCL-S) used in the present study, respondents referred to the negative sexual experience they identified as they completed the items. Respondents indicated how much they were bothered by each PTSD symptom in the past month, using a five-point scale (1 = not at all to 5 = extremely). The PCL has been used extensively in a wide variety of trauma populations and has been shown

to possess excellent psychometric properties (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Ruggiero, Del Ben, Scotti, & Rabalais, 2003).

   Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999). Trauma-related cognitions were assessed by the Posttraumatic Cognitions Inventory, a 36-item self-report measure. The inventory was found to have a three-factor structure: Negative Cognitions About Self, Negative Cognitions About the World, and Self-Blame. Participants indicated the degree to which they agree or disagree with each statement on a 7-point Likert scale (1 = Totally disagree to 5 = Totally agree). The psychometric properties of the PTCI are shown to be good across traumatized populations, specifically the negative cognitions about the self and about the world factors (Beck et al., 2004; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999).

   Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). Depressive symptoms were measured using the Beck Depression Inventory-II. Respondents endorsed the statement that most closely matched how they had been feeling in the past two weeks for 21-items related to symptoms. The statements range in severity on a scale from 0 to 3. The BDI is widely used in community and clinical samples and has been shown to have exceptional psychometric properties (Dozois, Dobson, & Ahnberg, 1998; Osman, Barrios, Gutierrez, Williams, & Bailey, 2008).

   Crisis Support Scale (CSS; Elklit, Pedersen, & Jind, 2001). The social support received following the traumatic event will be measured using the Crisis Support Scale. This measure was developed to assess the fundamental pieces of social support subsequent to a trauma including having people, "who are willing to listen, who provide support in emotional and practical ways when necessary, and do not make the person feel worse in some way" (Elklit, Pedersen, & Jind, 2001). The CSS is comprised of seven items at that are asked about two separate time periods

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(i.e. immediately following the traumatic event and at the present time). The respondents rated

each statement on a 7-point Likert scale (1 = Never to 7 = Always). The psychometric properties

of the CSS are shown to be good across traumatized populations (Elklit, et al., 2001).

Data Coding

The narrative data collected in the open-response questions pertaining to the context of

the relationship between the respondents and their perpetrators prior to the traumatic event was

analyzed and coded by a team of three graduate students with the guidance of a doctoral level

supervisor. The content of the respondents' narrative answers was analyzed according to a priori

defined codes for the amount of trust, importance, and closeness present in the relationship prior

to the assault. Reviewers defined trust as the extent to which the respondent trusted the person in

terms of her safety, personal information, and emotions. Importance was defined as the degree of

status or influence that the respondent indicated that the person had in her life. Closeness was

defined as the amount of emotional intimacy present in the relationship as informed by the

duration of the relationship, and the amount of time and in what context they spent time together.

Reviewers achieved inter-rater reliability by coding the narratives of the initial 25 respondents to

calibrate ratings and discuss any discrepancies. After the coding scheme was calibrated, all

reviewers coded the entire dataset. Intraclass correlations (ICC) were calculated to evaluate inter-

rater reliability. High inter-rater reliability was demonstrated with ICC (2, 3) ranging from .79 to

.86 (Shrout & Fleiss, 1979). Next, all reviewers coded all respondents' narrative data for

Criterion A1 event status (i.e. definitely Criterion A1, subthreshold Criterion A1, Not Criterion

A1, Not Enough Information). After all initial event status codes were made, the reviewers met

to reach consensus on coding for Not Enough Information. The reviewers decided that if at least

one reviewer coded a participant's response as having enough information to code event status,

then the other reviewers had to revise their code from Not Enough Information to one of the other three Criterion A1 event status codes. High inter-rater reliability for these revised Criterion A1 event status codes was demonstrated with kappa coefficients ranging from .71 to .76. Inclusion criterion for analysis was the event must meet A1 criterion (i.e. definitely or subthreshold A1 criterion. With this inclusion criterion in mind, inter-rater reliability was computed for the dichotomous Criterion A1 / not a Criterion A1 event codes, and high inter-rater reliability was demonstrated with kappa coefficients ranging from .75 to .85. Finally, only those coding discrepancies that would affect inclusion in analysis were discussed and revised. That is, reviewers conferred and reached consensus when there was disagreement on whether an event met criterion A1 (i.e. definitely or subthreshold) or not.

Data Analysis

To analyze the data, descriptive statistics for all measures were calculated. Next, possible mean-level differences in relationship context variables, and PCL and BDI-II scores among six perpetrator types (i.e., acquaintance, friend, casual dating partner, steady dating partner/spouse, ex-partner/ex-spouse, other) were examined using ANOVA analyses. Then, zero-order correlations of PCL and BDI-II scores and predictor variables including relationship context variables, perceived life threat, perceived betrayal, posttraumatic cognitions, and trauma-related social support were evaluated. This preliminary correlational analysis identified which extraneous variables to eliminate from subsequent regression models and distinguished the most parsimonious set of predictors. Finally, standard multiple regression analyses were used to examine the relationship between the identified predictor variables and PTSD and depression symptom severity.

Results

Descriptive Statistics

Possible and observed ranges, means, standard deviations, and coefficient alphas for each of the measures are presented in Table 1. Using a scoring rule in which PCL items rated a three or higher are considered endorsed symptoms, 28.3% of the sample was estimated to meet DSM-IV-TR diagnostic criteria for PTSD (n = 36 of 127 participants; Blanchard et al., 1996). These results are comparable to results reported in other published studies using samples of trauma-exposed college students (e.g., Ruggiero et al., 2003; Flack, Milanak, & Kimble, 2005; Frazier et al., 2009). Thirty-four participants (26.8%) of the sample identified their perpetrator as an acquaintance, 30 (23.6%) as a friend, 23 (18.1%) as a casual dating partner, 26 (20.5%) as a steady dating partner or spouse, 9 (7.1%) as an ex-partner or ex-spouse, and 5 (3.9%) as "other."

ANOVA Analyses

ANOVA analyses revealed a significant group differences for perpetrator type on relationship trust, $F(5, 121) = 10.34$, p < .001; relationship importance, $F(5, 121) = 25.95$, p < .001; and relationship closeness, $F(5,121) = 36.52$, p < .001. Post hoc analyses indicated that women assaulted by acquaintances reported significantly lower levels of trust present in the relationship between themselves and the perpetrator prior to the sexual assault than all other perpetrator groups except for the "other" category. Post hoc analyses revealed no additional significant differences for perpetrator type on relationship trust. Perpetrator groups differed significantly on relationship importance, such that women assaulted by an acquaintance reported significantly lower levels of importance in the prior relationship with the perpetrator than all

other perpetrator groups with the exception of the "other" category. Furthermore, women assaulted by an ex-partner or ex-spouse reported significantly greater levels of importance than women assaulted by a friend. Women assaulted by a steady dating partner or spouse reported greater levels of importance than women whose perpetrator was a friend, casual dating partner, or a perpetrator identified as "other." Post hoc analyses also revealed that perpetrator groups differed significantly on relationship closeness such that women sexually assaulted by an ex-partner or ex-spouse reported greater levels of closeness prior to the assault than all other perpetrator groups except the steady dating partner or spouse group. Women assaulted by a steady dating partner reported significantly greater levels of closeness than all other perpetrator groups with the exception of the ex-partner or ex-spouse group. Post hoc analyses further revealed that women assaulted by an acquaintance reported significantly lower levels of closeness than all other perpetrator groups expect for the "other" category.

ANOVA analyses and post hoc analyses were also used to examine group differences for perpetrator type on PCL and BDI-II scores. No significant differences were found for the ANOVA assessing the influence of perpetrator type on total PCL score, $F(5, 121) = 2.03$, p = .08. Significant group differences were revealed for perpetrator type on BDI total score, $F(5, 121) = 3.64$, p = .004. Post hoc analyses indicate that women sexually assaulted by a perpetrator identified in the "other" category exhibited higher overall BDI scores than all other perpetrator groups.

Correlation Analyses

Table 2 presents the zero-order correlations between the PCL, the BDI-II, relationship context variables, perceived life threat, betrayal, the PTCI and PTCI subscales, and the CSS subscales. Consistent with hypotheses, significant correlations in the small to moderate range

were found between PCL total scores and perceived life threat as well as perceived betrayal. A significant moderate correlation was also found between perceived life threat and BDI-II scores. Also consistent with hypotheses, significant moderately sized correlations were found between PTCI total and subscale scores and PCL total scores. In addition, significant moderate correlations were found between all PTCI subscale scores and BDI-II scores.

Contrary to hypotheses, relationship context variables were not correlated with PCL scores or BDI scores. Also contrary to hypotheses, trauma-related social support was not correlated with PCL scores. However, current trauma-related social support has significant small to moderate correlations with BDI-II scores.

Correlational analyses also revealed significant moderate correlations between all relationship context variables and perceived betrayal. A significant moderately sized correlation was also found between perceived life threat and perceived betrayal. Finally, all PTCI subscales had significant moderately-sized correlations with CSS current and past subscales scores.

Regression Analyses Predicting PCL and BDI-II Scores

To test the relative contributions of predictor variables to PCL and BDI-II scores, standard multiple regression analyses were conducted. In all analyses, total scores of the PCL and BDI-II scores served as the dependent variables. Regression analyses did not include those predictor variables with non-significant zero-order correlations with PCL and BDI-II scores as they would not contribute to the dependent variables. No problems of collinearity were identified. That is, the variance inflation factor did not exceed 10 and the condition index did not exceed 30 in any case (Tabachnick & Fidell, 2006).

Results of the regression analyses conducted with the PCL and the BDI-II total scores as dependent variables are presented in Table 3. In the first regression analysis, predicting PCL total

scores, the following predictors were in the equation: perceived life threat, perceived betrayal, and PTCI self, world, and self-blame subscale scores, $F(5, 121) = 16.15$, $p < .001$. The adjusted R^2 value indicates that approximately 39% of the variability in total PCL scores is predicted by perceived life threat, perceived betrayal, and scores on the self, world, and self-blame subscales of the PTCI. In particular, both perceived life threat and PTCI self subscales score were predictive of PCL total scores. Perceived betrayal, and PTCI world and self-blame subscale scores were no longer significant predictors of PCL total scores.

In the second regression analysis, predicting BDI-II scores, the following predictors were included in the equation: perceived life threat, PTCI self, world, and self-blame subscale scores, and CSS current subscale score, $F(5, 121) = 24.34$, $p < .001$ (see Table 3). This analysis indicates that approximately 51% of the variability in BDI-II scores is predicted by perceived life threat, PTCI self, world and self-blame subscale scores, and CSS current subscale score. In particular, perceived life threat and PTCI self subscale score were predictive of BDI-II total scores. PTCI world and self-blame subscale scores, and CSS current subscale score were no longer significant predictors of BDI-II scores.

Discussion

The current study examined the relationship context present between the victim and perpetrator prior to sexual assault as a predictor of PTSD symptom severity rather than the using the standard categorical approach. Previous research has utilized demographic categories to assess the victim-perpetrator relationship as a predictor of outcomes in sexual assault victims, and this approach has yielded mixed findings in the literature. The present study aimed to examine the victim-perpetrator relationship in terms of the trust, importance, and closeness present in the relationship as described in short narratives by the respondents. This novel approach corresponds with the suggestion made by Feinstein, Humphreys, Bovin, Marx, and Resick (2011) that future research may want to focus on continuous variables such as intimacy and trust since these factors may vary greatly within a specific relationship category (e.g., acquaintance). The current study also limited the sample to only those respondents who identified their perpetrator as someone who was known to them and a non-family member to reduce the confounding information between relationship context and demographic category.

Indeed, the present study revealed that information about the victim-perpetrator relationship would certainly be lost in the known-stranger dichotomy utilized in many studies. Results indicated differences between perpetrator categories in the amount of trust, importance, and closeness present in the relationship between the respondents and the perpetrators prior to the assault. In particular, there were more differences between perpetrator categories for the amount of importance and closeness in the relationship than the amount of trust. With respect to trust, the "other" category differed from all other categories, but no other additional differences

were found. These results suggest that how important and close respondents felt to known, non-familial perpetrators differed significantly depending on the specific type of relationship; however, the amount of trust did not differ except for those perpetrators identified as "other." A closer look at the narratives written by the respondents revealed that the "other" perpetrators were people who did not quite fit into one of the designated categories (e.g., a new acquaintance, manager, teacher) and with whom the respondents had a moderate to high level of trust in due to perpetrators' positions of power or the perpetrator's relationship with another trusted person in the respondent's life. Overall, these findings indicate that noteworthy differences exist in the context of the relationships, particularly in terms of importance and closeness, between known, non-family member perpetrators and victims of sexual assault that cannot be examined through the use of categories alone.

Contrary to prediction, relationship context variables were not related to PTSD outcomes. Overall, relationship context variables did not provide better predictive power of PTSD symptoms than the standard victim-perpetrator relationship categories. Consistent with hypotheses and previous research, the present study replicated findings indicating that victim-perpetrator relationship is not significantly related to PTSD outcomes and, furthermore, no one victim-perpetrator relationship category is more predictive than another (Koss, Dinero, Seibel, & Cox, 1988; Ullman & Brecklin, 2002; Ullman & Filipas, 2001; Ullman, Filipas, Townsend, & Starzynski, 2007). That is, results revealed no differences in PTSD symptoms between the victim-perpetrator relationship categories, and only the respondents who identified their perpetrator as "other" differed from other respondents in terms of depressive symptoms. The findings of the present study suggest that knowing the relationship between the victim and perpetrator does not allow for prediction of PTSD symptoms unlike other variables identified in

meta-analyses (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Ozer & Weiss, 2004).

Consistent with extant research and present hypotheses, the current study demonstrated perceived life threat to be a strong predictor of PTSD symptoms following a traumatic event (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Ullman & Filipas, 2001; Ullman, Filipas, Townsend, & Starzynski, 2006; Ullman, Filipas, Townsend, & Starzynski, 2007). Correlational analyses revealed that perceived life threat was associated with overall PTSD symptom severity. Furthermore, regression analyses illustrated that perceived life threat accounted for a significant portion of the variance in PTSD symptom severity. Perceived betrayal was related to overall PTSD symptoms; however, counter to predictions, it did not account for a significant portion of the variance in overall PTSD symptoms when perceived life threat and cognitions about the self were also considered.

Although the findings of the current study demonstrated that perceived betrayal was not predictive of total PTSD symptoms, other types of cognitions were predictive factors. In particular, posttraumatic cognitions about the self, world, and self-blame were all related to increased PTSD symptom severity. However, regression analyses revealed that only cognitions about the self were predictive of overall PTSD symptoms and depressive symptoms. This finding seems appropriate given that cognitions about the self involve negative self appraisal, social withdrawal, and hopelessness which are some of the core symptoms observed in individuals with depression and dysphoria within PTSD.

There are several limitations to the current study. First, the retrospective design does not allow for making causal inferences. Furthermore, the respondents' narrative descriptions of their relationship with the perpetrator prior to the sexual assault as well as the event itself may have

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been vulnerable to memory biases. That is, respondents may have recalled the details of the relationship with their perpetrator related to trust, importance, and closeness in terms of the outcomes they have experienced since the assault rather than the actual context of the relationship prior to the assault. Unfortunately, prospective methodology would prove difficult, if not impossible, given that one could not be asked about the relationship context for every person that he or she is acquainted with. However, interviewing victims of sexual assault within a short timeframe after the occurrence of the trauma would be a reasonable alternative and may limit biases of memory or interpretation. The current study's sample included only female college students who volunteered their participation, so it is not certain that these findings would generalize to a more representative sample of sexual assault victims. Finally, the use of self-report measures to assess PTSD and depressive symptoms is another limitation of the present study, because assessment through self-report may not provide an accurate depiction of symptomatology. Clinical interviews are better, but more time-consuming, alternatives to self-report measures for assessment.

The present study offers a novel approach to examining the influence of the victim-perpetrator relationship on poor psychosocial outcomes. Although relationship context variables including trust, importance, and closeness did not add to the prediction of PTSD and depressive symptoms, these findings suggest that the traditional categorical approach cannot and does not accurately represent the meaning present in the relationship between the victim and perpetrator. Future research examining the victim-perpetrator as a factor in the experience of sexual assault victims should consider using measures that assess the context of the relationship rather than the category into which the relationship fits. Furthermore, the use of measures that require individuals to rate various aspects of the relationship context on a Likert-scale would retain the

continuous nature of these variables while eliminating the laborious coding task necessary with narrative responses and increasing measurement reliability. Future research should also consider the important role cognitions and appraisals, particularly related to life threat, the self and the world, play in PTSD and depression outcomes. These factors demonstrated predictive power in the current study, and future research should further examine how assault characteristics, such as victim-perpetrator relationship context, influence these cognitions and appraisals.

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Appendix

Table 1

Descriptive Statistics of Posttraumatic Stress Disorder Checklist, Beck Depression Inventory-II, Posttraumatic Cognitions Inventory, and Crisis Support Scale

Scale	Items (*n*)	Possible Range	Observed Range	*M*	*SD*	*α*
PCL	17	17-85	17-74	37.6	13.4	.909
BDI-II	21	0-63	0-39	14.2	10.2	.890
PTCI						
Total	33	33-231	35-196	99.2	34.6	.950
Self	21	1-7	.95-5.67	2.4	1.1	.942
World	7	1-7	1.29-7	4.6	1.4	.898
Self-blame	5	1-7	1-7	3.4	1.4	.775
CSS						
Past	7	7-49	7-46	22.7	10.3	.850
Current	7	7-49	7-49	31.1	10.9	.874

Note. *N* = 127. PCL = PTSD Checklist; BDI-II = Beck Depression Inventory, Second Edition; PTCI = Posttraumatic Cognitions Inventory; CSS = Crisis Support Scale.

Table 2

Zero-Order Correlations of PCL, BDI-II Relationship Context Variables, Perceived Life Threat, Betrayal, PTCI and CSS

	Measure	1	2	3	4	5	6	7	8	9	10	11	12
1	PCL	-											
2	BDI-II	.69**	-										
	Relationship Context												
3	Trust	.08	-.03	-									
4	Importance	-.02	-.09	.68**	-								
5	Closeness	-.02	-.11	.68**	.94**	-							
6	Perceived Life Threat	.29**	.19*	.07	-.01	.00	-						
7	Perceived Betrayal	.19*	.15	.28**	.29**	.26**	.25*	-					
	PTCI												
8	Self	.57**	.69**	-.02	-.09	-.10	.08	-.02	-				
9	World	.47**	.51**	-.05	-.19*	-.20*	.09	-.05	.06	-			
10	Self-blame	.34**	.39**	-.02	-.09	-.10	-.06	-.02	.00	.62**	-		
	CSS												
11	Past	-.11	-.13	-.06	-.08	-.09	.12	-.06	-.10	-.23**	-.18*	-	
12	Current	-.14	-.22*	.06	.12	.11	.04	-.06	-.01	-.25*	-.22*	-.21*	-

Note. N = 127. PCL = PTSD Checklist; BDI-II = Beck Depression Inventory, Second Edition; PTCI = Posttraumatic Cognitions Inventory; CSS = Crisis Support Scale. * $p < .05$. ** $p < .01$. (All tests were two-tailed).

Table 3

Standard Multiple Regressions with Perceived Life Threat, Perceived Betrayal, and Posttraumatic Cognitions Predicting PTSD and Depression Symptoms

Predictors	B	SE B
Predicting PCL Total Scores		
Perceived Life Threat	.11**	.04
Perceived Betrayal	.04	.03
PTCI Self	5.38***	1.24
PTCI World	1.46	.86
PTCI Self-blame	.17	.86
Note. Adjusted R^2 = .39.		
Predicting BDI-II Scores		
Perceived Life Threat	.05*	.02
PTCI Self	5.53***	.89
PTCI World	1.03	.61
PTCI Self-blame	-.28	.61
CSS Current	-.05	.06
Note. Adjusted R^2 = .51.		

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