

Do Participants Detect Sexual Abuse Depicted in a Drawing? Investigating the Impact of Betrayal Trauma Exposure on State Dissociation and Betrayal Awareness

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ABSTRACT

An inability to identify betrayal may increase risk for victimization. Harm perpetrated by close others early in life may impair the ability to identify betrayal and develop trust. Dissociation may facilitate impaired betrayal awareness. The present study examined the impact of high betrayal trauma on state dissociation and betrayal awareness in a college sample ($N = 216$). Self-report measures were used to assess trauma history and state dissociation. Awareness for betrayal was measured using a drawing depicting an ambiguous interpersonal interaction between an adult and a child. We hypothesized that high betrayal trauma would be associated with both more state dissociation and lower awareness for betrayal. Participants with histories of high betrayal trauma reported high levels of state dissociation. Contrary to our second hypothesis, high betrayal trauma did not directly predict impaired betrayal awareness. State dissociation contributed significantly to betrayal awareness. Implications of findings for theory and practice are discussed.

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Betrayal trauma theory (Freyd, 1996) places emphasis on interpersonal traumas and posits that traumatic events involving betrayal by a trusted other (betrayal traumas) will be remembered and processed differently than traumatic events not involving betrayal (Sivers, Schooler, & Freyd, 2002), possibly leading to more severe long-term consequences. The purpose of the present study is to examine the impact of betrayal trauma on the ability to detect betrayal. Our previous research found an association between the experience of traumas high in betrayal and awareness for betrayals in intimate relationships (Gobin & Freyd, 2009). Specifically, high betrayal trauma survivors reported lower levels of awareness of betrayal by an intimate partner when compared to participants without a history of high betrayal trauma. The current study builds on this work by exploring the role of state dissociation in betrayal awareness.

When traumas are perpetrated by a trusted person or institution, the victim may remain unaware of the betrayal in order to ensure survival (Freyd, 1996). Freyd (1996) suggested dissociation facilitates betrayal blindness. When the victim is dependent on a perpetrator of abuse, awareness threatens survival. Therefore, trauma-related information must be blocked from conscious awareness through dissociation, which allows the victim to *not know* about abuse.

Dissociation is linked to childhood trauma (Chu & Dill, 1990; DePrince, 2005; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997; Plattner et al., 2003; Zlotnick et al., 1996) and reduced threat detection after trauma exposure (DePrince, 2005; Marx, Calhoun, Wilson, & Meyerson, 2001; Wilson, Calhoun, & Bernat, 1999; Yeater, Treat, Viken, & McFall, 2010). The prevalence of dissociation is higher among individuals who report multiple traumatic events (Cloitre, Scarvalone, & Difede, 1997; Wilson et al., 1999) and dissociation has been posited to account for the relationship between trauma exposure and threat detection. DePrince (2005) compared participants with no revictimization to revictimized participants (experienced high betrayal trauma both before and after the age of 18) and found that revictimized participants had difficulty detecting violations of rules involving social exchange and safety. Chu (1992) suggested that dissociation impairs detection of threat via disconnection with emotional states that indicate the presence of danger. In sum, research evidence suggests that childhood trauma and dissociation are linked with poor risk detection.

Researchers have made a distinction between state and trait dissociation. State dissociation is temporary and occurs during or immediately following exposure to trauma or trauma-related stimuli. Trait dissociation refers to long-lasting dissociation that occurs in one's daily life (e.g., losing awareness while reading or driving). There is evidence to substantiate the relationship between trait dissociation and threat detection (e.g., DePrince, 2005). However, there is little evidence regarding the impact of state dissociation on threat detection *after* exposure to trauma or trauma-related stimuli. Some researchers have, however, explored the relationship between peritraumatic dissociation and risk detection *during* traumatic events and have found that peritraumatic dissociation and peritraumatic emotions such as feeling afraid and numb are associated with increased appraisal of threat during traumatic events (Griffin, Resick, & Mechanic, 1997; Kaysen, Morris, Rizvi, & Resick, 2005) and are predictive of subsequent distress (e.g., Bernat, Ronfeldt, Calhoun, & Arias, 1998; Gershuny, Cloitre, & Otto, 2003). A few investigations have examined the impact of peritraumatic dissociation on physiological responding while recalling a traumatic event, with mixed results (Griffin et al., 1997; Hetzel-Riggin, 2010), but we were unable to locate any investigations that directly examined the impact of high betrayal trauma on conscious awareness for threat (the ability to identify threat in one's environment). This

relationship is important to understand. If, as theorized by betrayal trauma theory, dissociation plays a key role in the ability to detect threat, dissociation during or after exposure to traumatic cues may place one at risk for victimization.

The present study explored the impact of state dissociation on the ability to detect betrayal. Based on betrayal trauma theory and previous research that found that high betrayal trauma survivors display less awareness for later betrayals (Gobin & Freyd, 2009), it was hypothesized that (a) compared to participants without a history of high betrayal trauma, participants with a history of high betrayal trauma would be less likely to infer child abuse in a drawing intended to depict child sexual abuse (see “Method” section for details), and that (b) state dissociation would contribute to poor betrayal recognition among survivors of high betrayal trauma.

Method

Sample and setting

Participants were 216 undergraduates attending a large public university in the northwestern United States. The sample was primarily female ($n = 144$; 66%) and White ($n = 170$; 79%). Mean age was 20.06 ($SD = 2.9$). A majority of the sample (54%) reported the experience of one or more betrayal trauma. A total of 76 participants (35% of the sample) endorsed high betrayal trauma (HBT), while 43 participants reported (20% of the sample) medium betrayal trauma (MBT) and 66 participants (31% of the sample) reported low betrayal trauma (LBT). Participants were recruited online through the university’s human subjects pool. Participants elected to volunteer based on their schedule and received academic credit for research participation. There were no exclusion criteria, and individuals did not self-select into the study based on content knowledge. Approval from the institutional review board was obtained prior to participant recruitment and data collection.

Measures

Data were collected using Qualtrics Web-based survey software. Participants completed informed consent and all measures online. Participants completed measures in the following order: demographics, trauma exposure, interpretation of the ambiguous interpersonal relationship drawing, and then the peritraumatic dissociation experiences questionnaire. The current investigation was a part of a larger study (Gobin & Freyd, 2014). Participants completed all measures in approximately one hour.

Betrayal trauma history

The Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006) is a 12-item self-report measure that assesses the experience of life-threatening trauma at three time-points. For each item, participants were asked whether they experienced the event before age 12, between ages 12–17, or after age 18. Items include exposure to non-interpersonal trauma, direct exposure to interpersonal violence, and witnessing interpersonal violence. Items are categorized into three levels of betrayal. Traumas perpetrated by someone with whom the respondent was very close were categorized as HBT (e.g., “You were deliberately attacked that severely by someone with whom you were very close.”), traumas perpetrated by someone with whom the respondent was not very close were categorized as MBT (e.g., “You were deliberately attacked that severely by someone with whom you were not close.”), and non-interpersonal traumas were categorized as LBT (e.g., “Been in a major earthquake, fire, flood, hurricane, or tornado that resulted in significant loss of personal property, serious injury to yourself or a significant other, the death of a significant other, or the fear of your own death.”) (Goldberg & Freyd, 2006). It should be noted that categorization of traumas into high, medium, and low betrayal categories does not indicate that participants perceived their traumatic experience as a betrayal trauma. BBTS shows good convergent validity (Goldberg & Freyd, 2006). The reported 3-year test-retest reliability of the BBTS is 83% for events that occurred during childhood and 75% for events that occurred during adulthood (Goldberg & Freyd, 2006). In the current sample, 54% of participants reported experiencing some type of lifetime trauma. These rates of trauma are similar to those reported by other researchers (e.g., 48%) using the BBTS with college samples (Kaehler & Freyd, 2009).

Betrayal awareness

Betrayal awareness in the current study was measured using a line drawing intended to depict sexual abuse of a 6- to 10-year-old child by an adult (Lindblom & Carlsson, 2001). The line drawing, hereafter referred to as the Ambiguous Interpersonal Relationship (AIR) drawing, was drawn by an amateur artist and was used by Lindblom and Carlsson (2001) to investigate whether a picture drawn to depict child sexual abuse would be interpreted as intended. This drawing was selected for the current study because it was designed to measure awareness for child sexual abuse (a type of betrayal trauma), and the objective of the current study was to measure awareness for betrayal. As shown in [Figure 1](#), both characters in the picture were drawn to appear gender and affect neutral. Three-fourths of participants in the first of three experiments saw child sexual abuse in the picture (Lindblom & Carlsson, 2001). Participants in the present study



Figure 1. AIR drawing.

were given unlimited time to view the drawing and were asked to provide a less than 15-word description of the content and meaning of the AIR drawing.

Peritraumatic dissociation

The Peritraumatic Dissociative Experiences Questionnaire (PDEQ; Marmar, Metzler, & Otte, 2004) is a 10-item self-report measure of dissociation that is concurrent with traumatic events. This measure was used to assess state dissociation in the current study. Using a 5-point Likert scale ranging from 1 “not at all true” to 5 “extremely true,” participants indicated the extent to which they experienced each dissociative symptom during and immediately after viewing the pictures. Sample items include, “I had moments of losing track of what was going on—I ‘blanked out’ or ‘spaced out’ or in some way felt that I was not part of what was going on” and “My sense of time changed—things seemed to be happening in slow motion.” Scores on the PDEQ can range from 10–50. The current study found a range of 10–34 with a mean of 13.82 and a standard deviation of 5.48. Similar rates have been observed in other nonclinical college samples (e.g., Giesbrecht, Smeets, & Merckelbach, 2008; Hetzel-Riggin, 2010). Marmar and colleagues (1994) validated a rater administered version of the PDEQ with a sample of Vietnam Veterans and observed item-to-scale correlations ranging from .41 to .56 with Cronbach’s $\alpha = .80$. In the current study, internal consistency was high (Cronbach’s $\alpha = .88$), consistent with other college student samples (Bernat et al., 1998).

From “On the interpretation of pictures with and without a content of child sexual abuse” by L. Lindblom and I. Carlsson (2001), *Child Abuse and Neglect*, 25, 683–702. Copyright Elsevier Science Ltd. Drawing used with permission from L. Lindblom.

Data analysis

Responses concerning the content and meaning of AIR were organized into six categories: child sexual abuse, adult sexual relationship, problematic child–adult relationship without sexual allusion, safe child–adult relationship without sexual allusion, don't know (Lindblom & Carlsson, 2001), and literal description. The “literal description” category was added to the instrument in the present study. The adult sexual relationship category was modified to include sexual relationships between adults *and* individuals at any developmental stage. The addition and modification were made for the current study to accurately categorize participants' responses. Table 1 shows the coding manual used to categorize responses. The principal investigator and a trained undergraduate research assistant independently rated responses to the AIR drawing. Interrater reliability was 85%.

A 2 x 3 chi-square test of independence tested the relationship between the AIR drawing responses and HBT history. No participants provided

Table 1. Coding Manual for Categorizing AIR Drawing Responses.

Response Category	Coding Criteria	Responses (%)
Child sexual abuse	Respondent must (a) acknowledge that the two individuals in the drawing are at different physical developmental levels, (b) note that the child is being touched sexually, (c) describe the adult in the drawing as a pedophile, or (d) report an unpleasant emotional reaction to the picture (e.g., “This picture makes me sick!” “Creep!”)	37 (n = 80)
Consensual sexual relationship (formally adult sexual relationship)	Respondent must (a) acknowledge that the two individuals in the drawing at the same physical developmental level and (b) note that the two individuals in the drawing are engaged in a consensual sexual act or (c) report the two individuals are interacting in a nonsexual act.	1 (n = 3)
Problematic child–adult relationship without sexual allusion	Respondent must (a) acknowledge the two individuals in the drawing are at different physical developmental levels, (b) recognize the child's discomfort, and/or (c) report some level of improper, dishonorable, or unwanted behavior directed toward the child in the drawing (e.g., “The man is taking advantage of a child.”)*	32 (n = 70)
Safe child–adult relationship without sexual allusion	Respondent must (a) acknowledge the two individuals in the drawing are at different physical developmental levels and (b) indicate the absence of physical or emotional distress.	29 (n = 62)
Don't know	Respondent must (a) report uncertainty about the content and meaning of the drawing and (b) fail to provide any descriptive information about the individuals in the drawing and their interaction.	0 (n = 0)
Literal description	Respondent must provide a description void of any explanation of the meaning and content of the drawing.	0 (n = 0)

*Responses suggesting inappropriate behavior between an older and younger child were included in this category.

interpretations that fit into the “don’t know” and “literal interpretation” categories for the AIR drawing. Given the low cell count for the “consensual sexual relationship” category, those responses ($N = 3$) were excluded from the analysis. Exclusion from the analysis was necessary because cell counts below the minimum expected cell count renders chi-square tests of independence unreliable.

An independent samples t-test was conducted to explore differences in state dissociation between participants with and without histories of HBT. Due to strong positive skew, Peritraumatic Dissociative Experiences Questionnaire (PDEQ) scores were log transformed. A logistic regression analysis tested whether state dissociation, HBT history (frequency), and the interaction between HBT history and peritraumatic dissociation significantly predicted the likelihood of seeing a problematic interaction in the AIR drawing. For the purpose of the logistic regression, which requires that the dependent variable be dichotomous, the four content categories for the AIR drawing were collapsed into two categories: problematic relationship ($n = 150$) (child sexual abuse and problematic child adult relationship) and safe relationship ($n = 65$) (consensual sexual relationship and safe child adult relationship without sexual allusion).

Results

A 2×3 chi-square test of independence showed that HBT history and AIR drawing responses were independent of one another, $\chi^2(2) = 2.56$, $p = 0.28$, $\Phi = 0.11$. A similar percentage of the HBT (42.7%) and no high betrayal trauma (NHBT; 35.0%) groups saw child sexual abuse in the AIR drawing. Analogous percentages for the two groups (HBT and NHBT) were observed also in the “problematic child adult relationship without sexual allusion” (34.7% and 32.1% respectively) and “safe child adult relationship without sexual allusion” (22.7% and 32.8% respectively) categories (see Table 1).

An independent samples t-test revealed a higher rate of state dissociation among HBT survivors ($M = 1.11$, $SD = 0.15$) compared to those without a history of HBT ($M = 1.06$, $SD = 0.09$), $t(110.49) = -2.52$, $p = 0.01$, Cohen’s $d = 0.40$ (equal variances not assumed). A logistic regression analysis found a test of the full model against a constant-only model was statistically significant, $\chi^2(3) = 9.14$, $p = 0.03$. Nagelkerke’s R^2 of .059 suggests that approximately 6% of the variability in the AIR drawing interpretation is explained by the model as a whole. The Hosmer-Lemeshow Goodness of Fit Test ($\chi^2 = 4.12$, $p = .660$) gives an indication of how well the model fits the data. The insignificant p value supports the reliability of the model. Overall prediction success was 70.2% (96.7% for problematic relationship and 9.2% for safe relationship). The prediction success indicates that the model was able to correctly predict what type of relationship the participants would see

Table 2. Logistic Regression Model Predicting Probability of Seeing a Problematic Interaction in the AIR Drawing.

	Variables in Equation	B	Wald	Exp (B)
Step 1	Peritraumatic Dissociation Score	-0.08	4.03*	0.92
	HBT	0.27	0.41	1.31
	HBT by Peritraumatic Dissociation Score	-0.00	0.03	0.99

Note. B = unstandardized logit coefficients, Wald = Wald chi-square test, Exp (B) = odds ratios (i.e., odds of seeing a problematic relationship in the AIR I drawing).

* $p < 0.05$.

(problematic versus non-problematic) in the drawing based on betrayal trauma group membership and state dissociation scores in ~70% of cases. The Wald test demonstrated that scores on the state dissociation scale made a significant contribution to prediction ($p = 0.045$). Table 2 shows that the frequency of HBT ($p = 0.52$) and the interaction term ($p = 0.87$) were not significant predictors. The Exp (B) value indicates that when a participant's state dissociation score is raised by one unit, the odds of that participant seeing a problematic relationship decreases by approximately 1 unit (Exp (B) = 0.92; 95% CI = 0.85–0.99).

Discussion

The current study examined the impact of betrayal trauma on state dissociation and awareness for betrayal while viewing a drawing intended to depict child sexual abuse. This is one of the first studies to use a drawing (not created in a therapeutic context) to examine the impact of betrayal trauma on betrayal awareness. We had hypothesized that HBT exposure would be associated with both more state dissociation and lower awareness for betrayal when viewing a sexually ambiguous drawing. These hypotheses flow from betrayal trauma theory in which habitual suppression of betrayal awareness is understood to develop out of a need to not know about abuse in order to maintain life-sustaining dependent relationships. Our first hypothesis was supported: participants with histories of HBT demonstrated high levels of state dissociation when viewing the ambiguous drawing. Contrary to our second hypothesis, HBT did not directly predict impaired betrayal awareness while interpreting the drawing. However, we did find that state dissociation contributed significantly to betrayal awareness.

In this research, betrayal awareness was conceptualized as the ability to identify child sexual abuse in a picture intended to depict sexual abuse of a child. The majority of participants (70.7%) displayed high levels of awareness for betrayal, but awareness manifested in reports of both child sexual abuse (37.7% of the entire sample) and problematic child–adult relationship without sexual allusion (33% of the entire sample). While 37.7% of the sample saw child sexual abuse, 33% acknowledged the child's discomfort and

reported awareness of violation but failed to identify the sexual nature of that abuse.

HBT survivors and participants who did not report the experience of HBT were nearly equivalent in their level of awareness for child sexual abuse in the AIR drawing. The two groups were also equivalent in their awareness of a problematic child–adult relationship in the AIR drawing. We consider three possible explanations for this null finding. First, the type of sexual abuse depicted in the drawing (fondling of a child) may not have been sufficient to detect impairments in threat detection among HBT survivors. Previous studies that examined threat detection among college-aged survivors of child sexual abuse used date rape vignettes with characters around the same age (e.g., Soler-Biallo, Marx, & Sloan, 2005). Participants may display deficits in threat detection when threat stimuli, relevant to them and their personal experiences of abuse (similar age and/or gender as victim depicted in drawing), are presented. Second, HBT may interact with other variables such as severity of abuse and revictimization status to interfere with threat detection. Wilson and colleagues (1999) found women with histories of more than one sexual victimization experience showed deficits in threat detection, while women who reported only one victimization experience did not show deficits. When post hoc analyses were conducted to explore the relationship between revictimization status (revictimized versus not revictimized) and the AIR drawing responses using a 2 x 3 chi square test of independence, the two variables were found to be independent ($\chi^2(2) = 0.05, p = 0.98$). Third, a history of HBT may not interfere with the ability to detect potential threat. Posttraumatic stress disorder (PTSD) symptoms may aid in risk perception (Marx & Soler-Baillo, 2005; Wilson et al., 1999). In particular, reexperiencing and hyperarousal symptoms may increase selective attention and facilitate threat identification among trauma survivors (Marx & Soler-Baillo, 2005; Wilson et al., 1999). PTSD was not measured in the current study, but it may have been present in participants who reported HBT histories. This may have aided their ability to recognize child sexual abuse in the AIR drawing. Pineles, Shipherd, Mostoufi, Abramovitz, and Yovel (2009), however, suggested that PTSD symptoms do not facilitate betrayal awareness but rather interfere with the ability to disengage from trauma related threat cues and prolong distress. Future research is needed to explore the impact of PTSD symptomology on betrayal awareness. Investigators need to examine similarities and differences between written, audiotape, and pictorial descriptions of child sexual abuse and the power of these methods to detect deficits in betrayal awareness.

State dissociation contributed significantly to the prediction of betrayal awareness. Although preliminary, this suggests that state dissociation may be a mechanism by which impaired betrayal awareness occurs. Consistent with predictions derived from betrayal trauma theory (Freyd, 1996), our results

suggest that dissociation negatively impacts betrayal awareness. However, replication of this finding is warranted. Although previous researchers have found a connection between deficits in social cognition and trait dissociation (DePrince, 2005), future research needs to explore the contributions of both trait and state dissociation to betrayal awareness.

Limitations

This was a cross-sectional and retrospective study. As such, information regarding causality or the direction of relationships cannot be assumed. The sample consisted of predominately White college-aged females. Thus, the generalizability of the results is limited. A history of child sexual abuse may have resulted in false-negative reports due to stigma and also memory limitations. This study used one ambiguously drawn picture depicting child sexual abuse as a betrayal stimulus to examine betrayal awareness. It is possible that use of a betrayal stimulus with more face validity would have allowed us to more accurately capture the impact of betrayal trauma on awareness for betrayal. Other drawing techniques have been used in research with survivors of child sexual abuse and may be appropriate for future investigations (e.g., Lev-Wiesel, 1998, 1999). Moreover, the use of two or more professionally drawn abusive scenarios and an equivalent number of non-abusive scenarios may allow for distinctions between the impact of state and trait dissociation on betrayal awareness. Caution is warranted in interpreting our findings related to the role of state dissociation in impaired betrayal awareness given the small percentage of variance accounted for by our model. Furthermore, the PDEQ, a measure of peritraumatic dissociation, was used as a proxy for state dissociation. Future research may benefit from a measure of state dissociation. Finally, the sample size used in this study was relatively small. Future investigations will benefit from large samples that are fully powered to show reliable effects of HBT history on betrayal awareness.

Clinical and theory implications

The findings from this study indicate that clinicians need to address dissociative responses following exposure to a traumatic event. Our results suggest that reduced betrayal awareness may be one disadvantage to dissociative styles of coping. HBT survivors may benefit from learning more adaptive active coping skills that will allow them to effectively manage emotional distress without compromising their awareness for threat in the environment. Our results also have implications for theory. Finding that a history of HBT did not impair betrayal awareness, consistent with previous research, suggests that a history of HBT may result in enhanced betrayal awareness via heightened arousal symptoms of PTSD (Marx & Soler-Baillo, 2005). It is also possible that a HBT history

negatively impacts betrayal awareness under specific circumstances. For example, it may be the case that HBT survivors display impaired betrayal awareness when their own safety is threatened but can adequately detect betrayal when another person, particularly a member of a vulnerable group such as a young child (as portrayed in the drawing used in this study), is being harmed or at risk for victimization.

Conclusion

This study provides new preliminary information about the impact of a history of HBT on the ability to detect betrayal later in life. Results suggest that HBT does not directly predict ability to detect betrayal. However, HBT was associated with state dissociation on exposure to a betrayal stimulus, and state dissociation was associated with identifying sexual abuse conveyed in a drawing. Therefore, it is recommended that trauma psychologists consider the role of state dissociation in trauma survivors' functioning and teach trauma survivors adaptive emotion regulation strategies.

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Notes on contributors

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