



## High Betrayal Child Sexual Abuse and Hallucinations: A Test of an Indirect Effect of Dissociation

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### ABSTRACT

Though hallucinations traditionally have been conceptualized as a central feature of psychosis, some hallucinations may be dissociative, with dissociation potentially contributing to hallucinations. Childhood trauma has been linked with dissociation and hallucinations. Betrayal trauma theory distinguishes abusive experiences based on closeness to the perpetrator. In the current study, we examined the indirect effect of dissociation on the relationship between high betrayal child sexual abuse (perpetrated by a close other) and hallucinations. Participants ( $N = 192$ ) from a northwestern university in the United States completed self-report measures online assessing history of high betrayal child sexual abuse and current dissociation and hallucinations. Bootstrapping analyses indicated a significant indirect effect of high betrayal child sexual abuse on hallucinations through dissociation, 95% Confidence Interval (.16, .66). Through betrayal trauma theory, this study provides a non-pathologizing framework for understanding how dissociation and hallucinations may develop as natural reactions to the harm inherent in child sexual abuse perpetrated by a close other. These findings have clinical implications for relational models of healing for trauma survivors who are distressed by dissociation and hallucinations.

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Though hallucinations traditionally have been conceptualized as a central feature of psychosis, some hallucinations may be fundamentally dissociative in nature (e.g., Moskowitz, 2011), with some work suggesting that dissociation may contribute to hallucinations (e.g., Anketell, Dorahy, & Curran, 2011). Childhood trauma has been linked with both dissociation (Ford & Gómez, 2015) and psychosis, including hallucinations (e.g., Evans, Reid, Preston, Palmier-Claus, & Sellwood, 2015; Read, Van Os, Morrison, & Ross, 2005); therefore, a theoretical approach that can provide a framework for the onset of dissociation and hallucinations—and the relationship between the two—is needed. Betrayal trauma theory (BTT; e.g., Freyd, 1997) distinguishes abusive experiences based on levels of trust and/or dependency on the perpetrator. BTT explains the development of dissociation as a means of retaining the needed, even if still abusive, relationship with the perpetrator. With the cost of dissociation potentially outweighing its

benefits across the lifespan, dissociation may contribute to trauma-related, and potentially dissociative, hallucinations. Thus, in the current study, we examined if the relationship between high betrayal child sexual abuse (perpetrated by a trusted or depended upon other) and hallucinations could be explained through dissociation.

## **Dissociation and hallucinations**

Dissociation can be defined as the “lack of integration of thoughts, feelings, and experiences into the stream of consciousness” (DePrince & Freyd, 1999; p. 449), whereas hallucinations are extrasensory experiences that can manifest tactilely (e.g., bodily sensations), visually (e.g., seeing things), or auditorily (e.g., hearing voices). Though the dominant paradigm dictates that hallucinations are a key feature of psychosis, some research suggests a link between dissociation and various types of hallucinations (Giesbrecht, Merckelbach, Kater, & Sluis, 2007; Goren, Phillips, Chapman, & Salo, 2012; Irwin, 2001; Moskowitz, Barker-Collo, & Ellson, 2005; Moskowitz & Corstens, 2007; Perona-Garcelán et al., 2008; Pope & Kwapil, 2000; Ross & Keyes, 2004; Startup, 1999; Varese, Udachina, Myin-Germeys, Oorschot, & Bentall, 2011). It further has been posited that some hallucinations may be dissociative in nature (Longden, Madill, & Waterman, 2012; Mauritz, Goossens, Draijer, & Van Achterberg, 2013; Moskowitz, 2011), with dissociation potentially contributing to the etiology of hallucinations (Anketell et al., 2011, 2010; Dorahy et al., 2009; Parra & Paul, 2010; Van Der Hart, Nijenhuis, & Steele, 2006). Though hallucinations are most often assessed in significantly clinically impaired populations, both dissociation (e.g., Karpel & Jarrem, 2015) and hallucinations (e.g., Gómez, Kaehler, & Freyd, 2014) may be present in nonclinical populations as well. Therefore, while the medical model makes a clear distinction between psychotic and dissociative symptomatology (Moskowitz, 2011), the literature suggests that dissociation and hallucinations may at times have similar etiologies in trauma (e.g., Read & Bentall, 2012).

## **Betrayal trauma**

BTT (Freyd, 1994, 1996, 1997) is rooted in theories of attachment, with social connections through interpersonal relationships being paramount to individuals’ physical and emotional needs. According to BTT (e.g., Freyd, 1997), abuse that occurs in the context of close relationships—known as high betrayal trauma—is particularly toxic to individuals, as these incidents are violations of the trust and dependency inherent in these relationships. While closeness in social relationships is present throughout the lifespan (Gómez, Smith, & Freyd, 2014), in relation to betrayal, childhood is a particularly vulnerable period due to children’s psychological, emotional, and physical dependency.

High betrayal trauma has been linked with dissociation (DePrince et al., 2012; Freyd & DePrince, 2001; Goldsmith, Freyd, & DePrince, 2012; Gómez et al., 2014), which may be related to *betrayal blindness*. Betrayal blindness is unawareness of the abuse that may develop as a mechanism of protecting the needed relationship with the perpetrator (DePrince & Freyd, 2001; Middleton, Cromer, & Freyd, 2005). Whereas empowered individuals are likely to either confront the wrongdoer or withdraw from the relationship when betrayed, victims who trust and/or depend on the perpetrator for physical and/or emotional needs may become psychologically “blind” to the abuse to preserve the needed relationship with the perpetrator (e.g., Freyd, 1996). Therefore, trauma-related dissociation is a developmentally adaptive coping strategy that aids in preserving the needed relationship. High betrayal child sexual abuse by definition occurs at young ages in which dependency on the trusted or depended-on perpetrator(s) is likely high. Thus, given the link between dissociation and hallucinations, it is not surprising that high betrayal child sexual abuse has been linked with hallucinations as well (Gómez et al., 2014).

## **Purpose of the study**

Some work suggests links between dissociation and hallucinations (e.g., Moskowitz, 2011). Furthermore, research has indicated the harm of high betrayal trauma, including child sexual abuse (e.g., DePrince et al., 2012; Gómez et al., 2014), along with demonstrating links between trauma and dissociation (e.g., DePrince et al., 2012) and hallucinations (e.g., Gómez et al., 2014; Read et al., 2005).

Therefore, the purpose of the current study was to use betrayal trauma theory (e.g., Freyd, 1996) as the basis for testing a new model of trauma, dissociation, and hallucinations in a relatively high functioning, young adult sample. Specifically, we hypothesized that: (a) we would replicate findings that show that trauma, specifically high betrayal child sexual abuse, is linked with current dissociation and hallucinations (e.g., Gómez, Kaehler, Freyd, 2014), and (b) there would be an indirect effect of high betrayal child sexual abuse on hallucinations through dissociation.

## **Method**

### ***Participants and procedure***

Participants were students from the Human Subjects Pool (HSP;  $N = 1266$ ) at a large, public university in the northwest United States. In the HSP, students either choose to participate in research approved by the university institutional review board, complete an alternate assignment, or a combination of the two to receive class credit. In the HSP, the average age was 19.81 years ( $SD = 2.61$  years). The majority of the pool was female (65%) and Caucasian

(71%), followed by Asian (13%), Other (10%), African American (3%), Native Hawaiian or other Pacific Islander (2%), and American Indian/Alaska Native (1%), with less than one percent declining to answer. From this pool, 202 students chose to participate in the 60-minute online study at a location of their own choosing with no knowledge of the content at the time of signing up for the study. This allows for greater generalizability of the findings, as participants did not self-select into the study based on interest in the subject matter. Participants could decline to answer any question and withdraw from the study at any time without penalty. Ten participants' responses were excluded from analyses due to missing data, resulting in a final sample size of  $N = 192$ .

### **Measures**

These data are part of a larger data collection that assesses a range of traumas and potential outcomes, therefore only some of the measures are reported here.

#### **High betrayal child sexual abuse**

The Sexual Experiences Survey (Koss & Oros, 1982), which assesses sexual victimization and aggression, was modified into a 7-item questionnaire by the authors of the current study to assess high betrayal child sexual abuse retrospectively with a Likert Scale of 1 = *never* to 5 = *almost always*. A sample item is: "Before the age of 13, you have had sexual intercourse with a trusted or depended-on other because they used some degree of physical force (twisting your arm, holding you down, etc.)." The Brief Betrayal Trauma Survey-Modified (Goldberg & Freyd, 2006) is 1-item that assesses high betrayal child sexual abuse retrospectively. Likert Scale: 1 = *never* to 5 = *almost always*. The item is: "Before the age of 13, you were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close." For the analyses, we used a dichotomous variable (1 = any abuse reported, 0 = none reported). Given that these measures assess different types of sexually abusive experiences in childhood (e.g., molestation, rape), a score of internal consistency would not be appropriate. However, previous research has demonstrated that each measure has good test retest reliability (Goldberg & Freyd, 2006; Koss & Gidycz, 1985).

#### **Dissociation**

The Curious Experiences Survey (Goldberg, 1999), a 31-item questionnaire, assesses dissociative experiences with a Likert Scale of 1 = *never* to 5 = *almost always*. A sample item is: "Found that I could not remember whether I had done something or had just thought about doing that thing." We used a

continuous variable of the mean score for analyses. In our sample, internal consistency was excellent,  $\alpha = .94$ .

### **Hallucinations**

The Composite International Diagnostic Interview: “Beliefs and Experiences Module” (World Health Organization, 1990), a 3-item module, assesses tactile, visual, and auditory hallucinations with a Likert Scale of 1 = *never* to 5 = *almost always*. A sample item is: “Have you ever seen things, objects or persons which other people can’t see?” The items designed to assess hallucinations (Ohayon, 2000) included 6 items that were created for the cited study to assess hallucinations with a Likert Scale of 1 = *never* to 5 = *almost always*. A sample item is: “Have you ever had the experience of hearing things other people could not hear, such as noises or a voice?” We used a continuous variable of the mean score for analyses. In our sample, there was very good internal consistency across hallucination items,  $\alpha = .88$ .

### **Results**

In the current study, we hypothesized that high betrayal child sexual abuse would predict dissociation and hallucinations. We further examined if the association between high betrayal child sexual abuse and hallucinations would be explained indirectly through dissociation.

All measures used Likert scales 1–5. Though the average scores of high betrayal child sexual abuse ( $M = 1.07$ ,  $SD = .33$ ,  $Range = 1.00$ – $3.71$ ), hallucinations ( $M = 1.19$ ,  $SD = .38$ ,  $Range = 1.00$ – $3.78$ ), and dissociation ( $M = 1.36$ ,  $SD = .38$ ,  $Range = 1.00$ – $3.10$ ) were relatively low, sizable proportions of the sample endorsed these experiences and psychological phenomena (high betrayal child sexual abuse: 10%, hallucinations: 41%, and dissociation: 89%). We employed bootstrapping analyses (Preacher & Hayes, 2008) to test for an indirect effect of high betrayal child sexual abuse on hallucinations through dissociation. With 1,000 bootstrap resamples and a 95% confidence interval, we found that there was a significant indirect effect of high betrayal child sexual abuse on hallucinations through dissociation (Figure 1).

### **Discussion**

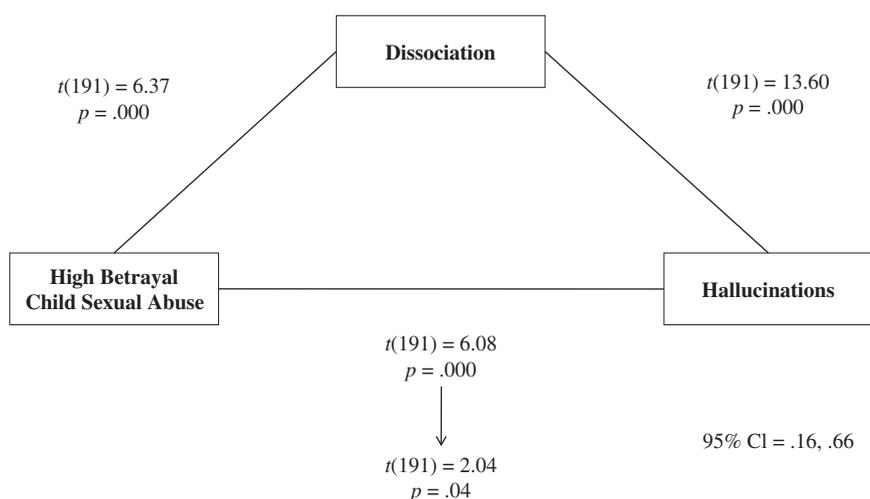
Two frameworks laid the foundation for the current study. The first was the burgeoning literature that links dissociation and hallucinations (e.g., Parra & Paul, 2010), with dissociation proposed as a potential contributor to the etiology of hallucinations (e.g., Dorahy et al., 2009). The second was BTT (Freyd, 1997), which identifies the high betrayal in trauma perpetrated by a close other as a toxic facet of abuse that contributes to negative outcomes, including dissociation and hallucinations (Gómez et al., 2014). We examined high betrayal child sexual abuse

specifically because of the violation of sexual abuse on children who, by definition, are in positions of increased need and dependency. Thus, in the current study, we hypothesized that we would replicate findings that high betrayal child sexual abuse would predict dissociation and hallucinations. We further hypothesized that the relationship between high betrayal child sexual abuse and hallucinations would be explained through the indirect effect of dissociation.

The data supported both hypotheses, while in addition indicating that dissociation and hallucinations are relatively common in a high-functioning, nonclinical sample. The current study adds to the literature by replicating prior research that links high betrayal trauma with dissociation (e.g., DePrince et al., 2012) and hallucinations (e.g., Gómez et al., 2014), thus providing further evidence that betrayal in abuse is an important predictor of outcomes (e.g., DePrince et al., 2012; Gómez et al., 2014). In addition, our finding that high betrayal child sexual abuse predicts hallucinations bolsters the literature showing that environmental factors, such as trauma, may contribute to the etiology of hallucinations (e.g., Read & Bentall, 2012). Finally, the current study provides support for the link between dissociation and hallucinations (e.g., Dorahy et al., 2009), with the data theoretically indicating that trauma-related hallucinations may be explained through dissociation.

### Implications

In the dominant paradigm, dissociation and hallucinations are found on opposite sides of the nature versus nurture spectrum, with dissociation being conceptualized as largely a result of the environment and hallucinations being understood as psychotic, indicative of a brain disorder



**Figure 1.** An Indirect Effect of High Betrayal Child Sexual Abuse and Hallucinations Through Dissociation.

(Moskowitz, 2011). Evidence for the potential overlap between dissociation and hallucinations and the influence of trauma, such as high betrayal child sexual abuse, on both dissociation and hallucinations has implications for nosology, proposed etiology, and empirical inquiry. Moreover, betrayal trauma theory (e.g., Freyd, 1994) provides a nonpathologizing framework for understanding how dissociation and hallucinations may develop as natural reactions to the harm and betrayal inherent in child sexual abuse perpetrated by a close other.

Given that the current study suggests that the link between high betrayal child sexual abuse and hallucinations can be explained through dissociation in a non-clinical sample, a trauma-informed framework for understanding hallucinations could alter therapeutic options for outpatient care. Hallucinations that are conceptualized as psychotic are typically treated with drug therapy (e.g., Pate, Attard, Jacobsen, & Shergill, 2010; Pinto et al., 2010) and deep transcranial magnetic stimulation (TMS) and repetitive TMS (Montagne-Larmurier, Etard, Razafimandimby, Morelio, & Dolifus, 2009; Rosenberg, Roth, Kotler, Zangen, & Dannon, 2011; Vercammen et al., 2009). However, if hallucinations were understood as being linked with trauma or were potentially dissociative in nature (Moskowitz, 2011), treatment may more closely mirror that typically offered for trauma and dissociation. With modifications based on the results of the current study, such psychotherapeutic treatment could include themes identified by Hirakata (2009): (a) *tools and techniques*, which utilizes multisensory interventions combined with knowledge of dissociation, dissociative hallucinations, and trauma's link with dissociation and hallucinations, (b) a *nonpathologizing approach*, which normalizes dissociation and hallucinations by placing it within the context of betrayal trauma victimization, and (c) the *therapeutic relationship*, which provides a break in the maladaptive pattern of distrust within interpersonal relationships that stemmed from high betrayal trauma.

Relational cultural therapy (Miller, 1976; Walker, 2011), which utilizes the therapeutic relationship as a mechanism for connection, growth, and healing, may be particularly beneficial for victims of high betrayal trauma (Gómez, Lewis, Noll, Smidt, & Birrell, 2016). An important component of the harm of high betrayal trauma is the relational breach of trust and dependence. Therefore, there likely is much to be gained through developing strong therapeutic relationships that are grounded in mutual empathy and empowerment, with a mind on repairing disconnections between therapist and client (Birrell & Freyd, 2006; Gómez et al., 2016).

### **Limitations and future directions**

Future research should improve on the current study's limitations. Although multiple previous studies have adapted measures for trauma (e.g., Gómez, 2016; Gómez, Becker-Blease, & Freyd, 2015; Gómez et al., 2014; Gómez, Rosenthal,

Smith, & Freyd, 2015), our results should be interpreted with understanding that the psychometric properties (e.g., reliability, validity, cross-validity) of these adapted measures have not been established. Future work should determine these measures' validity in assessing different aspects of abusive experiences (e.g., relationship with the perpetrator). In addition, future studies should examine whether the indirect effect of dissociation on the relationship between high betrayal child sexual abuse and hallucinations occurs in ethnically and functionally diverse populations, particularly given that levels of dissociation may vary in impact (Karpel & Jerram, 2015) and across ethnic groups (Douglass, 2009). While there are theoretical reasons for proposing that dissociation contributes to hallucinations and not the reverse, future studies should longitudinally explore the onset and temporal precedence of dissociation and hallucinations for victims of high betrayal child sexual abuse. Future studies should also examine the effects of other experiences on dissociation and hallucinations, including revictimization, disclosure, institutional betrayal (Smith & Freyd, 2014) and support, and cultural betrayal (Gómez, 2015a, 2015b, 2016).

## Conclusion

In the current study, we explored trauma-related dissociative and hallucinogenic phenomena in a relatively high functioning sample of college students. In doing so, we found evidence to support similar patterns of trauma sequelae that have been documented in more clinically severe populations (e.g., Read, van Os, Morrisson, & Ross, 2005). Furthermore, young adulthood is a critical time for mental health (Hunt & Eisenberg, 2010), with first onset of many mental health problems occurring by age 24 (Kessler et al., 2005). With betrayal trauma theory as its guide (e.g., Freyd, 1994), survivors and their allies (e.g., therapists, advocates, policymakers, instructors, and others) can conceptualize the etiology of dissociation and hallucinations as a natural—albeit potentially costly—response to high betrayal child sexual abuse. In this way, both dissociation and hallucinations are neither diseases nor signs of weakness but rather protective reactions that, when the costs exceed the benefits, can be incorporated into nonpathologizing trauma healing.

## Notes on contributor

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## Disclosure of interest

Authors declare that they have no conflicts of interest to report.

## Ethical standards and informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.

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