

GROWTH AFTER BETRAYAL: INTERPLAY BETWEEN EVENT CENTRALITY,  
TRAUMA SYMPTOMS, AND POSITIVE PERSPECTIVES.

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## ABSTRACT

GROWTH AFTER BETRAYAL: INTERPLAY BETWEEN EVENT CENTRALITY,  
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While many individuals have experienced a traumatic event in their lifetime, reactions to trauma can vary greatly (Schuettler & Boals, 2011). While some are minimally affected by the traumatic event, others experience a myriad of negative outcomes, such as PTSD and difficulties trusting others (Schuettler & Boals, 2011). Nevertheless, some individuals who experienced trauma report positive changes in their lives following the event, such as improved sense of self and enhanced relationships (Linley & Joseph, 2004). The present study tested the prediction that cognitive processes such as event centrality, trauma symptoms, or positive perspectives on trauma would play a role in growth after an interpersonal trauma. Specifically, it was predicted that event centrality (moderated by trauma symptoms and positive perspectives about trauma) would mediate the relationship between betrayal trauma and posttraumatic growth. Participants ( $N = 349$ ) completed measures of betrayal trauma, posttraumatic growth, event centrality, trauma symptoms, and positive perspectives on addressing trauma. The hypothesized causal relationship between betrayal trauma and posttraumatic growth was not supported. However, analyses revealed significant lower order relationships among study variables. Recommendations for future research and clinical implications are discussed.

## INTRODUCTION

The experience of trauma is not uncommon in the United States. A national estimate of lifetime exposure to traumatic events is as high as 89.7%, with exposure to multiple traumatic event types as the norm (Kilpatrick et al., 2013). From those individuals, 8.3% meet criteria for posttraumatic stress disorder (PTSD), as defined by the DSM-5 (Kilpatrick et al., 2013). This illustrates the varied reactions individuals may have to trauma. While some may experience significant negative trauma responses, some may experience personal growth following the trauma, while a large percentage of individuals are minimally affected by traumatic events (as cited in Schuettler & Boals, 2011). Past research has explored the mechanisms that may put some on a path toward psychopathology or distress and others on a path toward recovery and even growth after trauma (as cited in Schuettler & Boals, 2011).

An extensive body of research indicates that the experience of a traumatic event can be linked to a wealth of negative physical and psychological outcomes (Tedeschi & Calhoun, 1996), such as PTSD, acute stress disorder (Roberts et al., 2009), depression, suicide (Paolucci et al., 2001), intimate relationship problems (e.g., interpersonal discord; physical aggression) (Taft et al., 2011), anger, and hostility (Orth & Wieland, 2006). A growing body of research suggests that the experience of trauma can also be linked to positive outcomes (i.e., posttraumatic growth; Tedeschi et al., 2018). These varied posttraumatic responses may be associated with factors related to the type of trauma experienced as well as to how individuals cognitively process the traumatic experience.

Some past studies have identified factors that correlate with growth in the aftermath of trauma, such as approach-oriented coping strategies and social support (Cadell et al., 2003;

Frazier et al., 2004). Evidence also suggests that the perceived centrality of a traumatic event in one's life may influence growth after trauma (Berntsen & Rubin, 2006; Lancaster et al., 2013). The examination of factors that may contribute to positive posttraumatic outcomes is important to inform clinical strategies that aim at improving the health and well-being of those impacted by a traumatic event.

The literature is scarce on the examination of how the centrality of a traumatic event and posttraumatic growth relate to trauma involving the betrayal of a close relationship (i.e., betrayal trauma). Reiland and Clark (2017) found a mediating role of event centrality between interpersonal trauma and mental health outcomes (i.e., depression symptoms and PTSD symptoms) in a sample of college students. Wamser-Nanney and colleagues (2018) found that sexual trauma strengthened the relationship between event centrality and PTSD symptoms when compared to the death of a loved one. These results indicate that trauma involving betrayal may have a stronger relationship to trauma-related distress than other forms of interpersonal trauma. This conclusion is in accordance with Freyd's (1996) account that betrayal trauma is more detrimental to health and well-being than non-betrayal trauma.

The goal of the current study is to better understand how the following factors may relate to the likelihood of experiencing posttraumatic growth: 1) the presence or absence of betrayal by a close other (i.e., betrayal trauma); 2) the self-perceived importance of the traumatic event to one's life and identity (i.e., event centrality); 3) the level of trauma-related symptoms experienced; and 4) the extent to which individuals hold positive perspectives about their trauma (e.g., belief that calling painful experiences to mind is part of healing).

## **Betrayal Trauma**

Betrayal trauma (Freyd, 1996) refers to a traumatic event in which the perpetrator is a close other with whom the victim holds a relationship of dependence or trust (e.g., child abuse, intimate partner violence). This type of trauma is opposed to traumatic events perpetrated by a stranger, and to non-interpersonal trauma, such as natural disasters. When a trusted or dependent upon relationship is betrayed, trust is violated, and given the dependent or necessary nature of the relationship, victims are often unable to sever ties with the perpetrator, thus, the violation is maintained (Freyd et al., 2005). Betrayal trauma does not always threaten death or physical injury (e.g., verbal abuse), but is often damaging to one's well-being, interpersonal relationships, self-concept, and beliefs about others and the world (Freyd et al., 2005).

Previous studies have found that betrayal trauma is linked to higher rates of a variety of negative outcomes when compared to traumatic events perpetrated by a stranger, such as posttraumatic stress disorder (PTSD), dissociation, anxiety, depression, and borderline personality disorder (DePrince & Freyd, 2002; Freyd & Birrell, 2013; Goldsmith, 2004).

The role of gender in the phenomenon of betrayal trauma should be considered. According to DePrince and Freyd (2002), childhood sexual abuse and adult betrayal trauma are gender-asymmetric: women are more likely to be abused than men, and men are more likely to be the abusers than women. Approximately one in four adult women have survived childhood sexual abuse, and those rates increase for adult victimization (DePrince & Freyd, 2002).

The experience of betrayal trauma can have a significant impact on health. Strong associations between the experience of betrayal trauma and negative status of physical and psychological health have been found in a sample of ill adults, as well as in a sample of healthy students (Freyd et al., 2005). Goldsmith and colleagues (2012) found that traumas that are high

in betrayal are more closely associated with psychological and physical symptoms than traumas that are low in betrayal. Furthermore, Goldsmith et al. (2012) demonstrated that trauma-related symptoms, such as anxiety, depressive mood, and dissociation mediated the relationship between high-betrayal trauma and physical health problems in young adults.

A coping mechanism associated with betrayal trauma is the blocking of one's awareness of the traumatic event (including memory repression, dissociation, and unawareness) (Gobin & Freyd, 2014; Freyd & DePrince, 2001). Misremembering or forgetting betrayal trauma – termed 'betrayal blindness' (Freyd, 1996) – can be an adaptive process, serving a survival function in a necessary human relationship (Freyd & DePrince, 2001). For example, having full awareness of a trauma experienced during childhood may increase the child's risk by motivating withdrawal or confrontation with the perpetrator (DePrince et al., 2012). In fact, while many types of trauma have been linked to forgetting, childhood sexual abuse has shown greater disruption to one's memory of a traumatic event (DePrince et al., 2012). The close victim-perpetrator relationships in betrayal trauma are strongly linked to forgetting and misremembering, with many studies showing higher amnesia rates for parental or incestuous abuse than non-parental or non-incestuous abuse (Freyd & DePrince, 2001).

Betrayal trauma may interfere with one's development of social capacities, including making decisions about whom to trust (Gobin & Freyd, 2014). While betrayal blindness can be adaptive in abusive contexts, it may increase the likelihood of revictimization in later relationships due to the disrupted ability to make decisions about trust (Gobin & Freyd, 2014). Additionally, victims may also develop a general bias regarding the amount of trust they place on others: they might perceive themselves as overly trusting or unwilling to trust others (Gobin & Freyd, 2014).

Past research has explored the ways in which betrayal trauma relates to negative outcomes, such as poor mental and physical health and impaired social functioning. Less attention has been given to the relations between betrayal trauma and positive outcomes, such as posttraumatic growth. Exploring mechanisms that may place victims of betrayal trauma on a path toward or away from growth and recovery is important to inform the clinical pursuit of those outcomes with victims.

### **Event Centrality**

Memories that are highly vivid and accessible play a key role in giving meaning and structure to our life narratives and in anchoring and stabilizing our conceptions of self (Berntsen & Rubin, 2006). Event centrality refers to the extent to which a life event is construed as an organizing principle for one's life and sense of self (McAdams et al., 2006). When these events have a negative valence, such as traumatic experiences, the consequences of event centrality may be harmful to psychological well-being (as cited in Berntsen & Rubin, 2006).

Traumatic events that are perceived as central to one's life may alter interpretations of past and current experiences (Boals & Schuettler, 2011), influencing behaviors and goals (Sutin & Robins, 2008). Event centrality makes the negative memory highly available and apt for repeated cognitive rehearsal, strengthening the emotional impact of the stressful or traumatic event. The availability heuristic can help in the understanding of this process, as we tend to judge the frequency and probability of certain events based on the ease with which we cognitively retrieve them (Berntsen & Rubin, 2006). Likely outcomes of the centrality of a traumatic event are rumination, worrying, and compulsive attempts at avoiding similar events (Berntsen & Rubin, 2006).

Another way in which a traumatic memory can shape one's life narrative and identity is by serving as a turning point in the individual's life (Berntsen & Rubin, 2006). In this context, traumatic memories can be perceived as causal agents in one's life story, as they profoundly affect a person's perception of self and the world, stay highly accessible for years, and spontaneously come to mind in response to certain internal or external cues (as cited in Berntsen & Rubin, 2006).

Research has shown event centrality to be highly correlated with symptoms of posttraumatic stress disorder (PTSD), depression and anxiety (e.g., Berntsen & Rubin, 2007; Berntsen & Thomsen, 2005). Moreover, event centrality is positively associated with emotional intensity, visceral reactions, and negatively associated with overall physical health (Boals, 2010).

Importantly, however, higher levels of event centrality have also been found to correlate with posttraumatic growth, the process by which people experience positive changes after trauma (Tedeschi & Calhoun, 1995; Tedeschi et al., 1998). The cognitive appraisal of a traumatic memory may be a key pathway to posttraumatic growth. Calhoun and Tedeschi (1998) indicate that growth following trauma is more likely when the victim purposely ruminates over the event to process what happened and to attribute meaning to the experience. In a review of 39 empirical studies conducted by Linley and Joseph (2004), ongoing cognitive appraisal was essential to the development of positive outcomes from the traumatic experience. Among a sample of survivors of childhood sexual abuse, successful resolution of their trauma involved cognitively confronting their experience and reflecting upon it (as cited in Tarakeshwar et al., 2006). In addition to shaping cognitions about the trauma, event centrality might lead the individual to translate such cognitions into action to correct or cope with a traumatic experience, increasing the likelihood of growth (Lancaster et al., 2013).

It is noteworthy to highlight how the rehearsal of a trauma memory can be experienced in different ways. The literature has labeled the cognitive engagement with a trauma memory as *deliberate rumination*, characterized by attempts to understand and make sense of the traumatic experience, including engagement in problem-solving, reminiscence, and anticipation (Calhoun et al., 2000). This process has been shown to predict growth following traumatic and adverse experiences (Zhou & Wu, 2015). On the other hand, exclusively negative, self-punitive rumination, has been found to predict adverse psychological functioning (Nolen-Hoeksema et al., 2008; Nolen-Hoeksema et al., 1997).

### **Posttraumatic Growth**

Research suggests that some people who are exposed to traumatic events may experience positive changes following trauma (Tedeschi et al., 2018). The literature indicates that 30-70% of survivors of trauma report experiencing positive changes after the traumatic event (Joseph et al., 2012). Three broad domains of change have been identified in posttraumatic growth (PTG) research: *enhancement of relationships* – people value close others more, become more compassionate, and seek more intimacy; *improved perception of the self* – such as a greater sense of resiliency, wisdom, and strength; and *changes in life philosophy* – such as heightened appreciation for life (Joseph et al, 2012). Important factors contributing to growth after trauma are social support, religion/spirituality, dispositional optimism, and finding meaning in the stressful event (as cited in Tarakeshwar et al., 2006).

Previous studies have indicated that posttraumatic growth is associated with posttraumatic stress experiences (Helgeson et al., 2006). A relationship between posttraumatic distress and growth might seem counterintuitive, but Helgeson and colleagues (2006) suggest that it reflects cognitive processing of the trauma, as intrusive thoughts may signal that people

are working through the implications of the trauma for their lives, which could facilitate growth. Joseph et al. (2012) suggest that trauma-related stress might be the engine of posttraumatic growth, but only up to a point. When the intensity of posttraumatic stress is too high, posttraumatic growth declines. Joseph and colleagues (2012) propose that the relationship between posttraumatic stress and posttraumatic growth is curvilinear, with low levels of posttraumatic stress leading to minimal posttraumatic growth, moderate levels of posttraumatic stress leading to greater growth, and high levels of posttraumatic stress leading to low levels of posttraumatic growth, since the ability to cope might be undermined.

Importantly, research has found that posttraumatic growth and posttraumatic depreciation can be experienced simultaneously, with some individuals reporting experiencing both processes in the same domain (Baker et al., 2008). This suggests that posttraumatic depreciation occurs independently from posttraumatic growth within a content area, such as self-reliance and appreciation for life (Baker et al., 2008).

### **Perspectives on Addressing Trauma**

Drawing from research on posttraumatic growth, Tarakeshwar and colleagues (2006) discussed the importance of positive feelings toward addressing traumatic experiences for trauma treatment. Tarakeshwar et al. (2006) describe how the exploration of the victim's past, as well as challenging current maladaptive behaviors is essential during treatment to aid understanding of the impact of trauma in the victim's life. These aspects of treatment can be challenging for the victim who holds negative perspectives about addressing their trauma, such as the belief that talking about the past will not help them.

Given the importance of positive perspectives about addressing trauma, such as the belief that talking about one's problems will make them feel better, Tarakeshwar and colleagues (2006)

analyzed the factors predictive of positive perspectives. It was found that individuals who reported greater perceived impact of sexual trauma reported more positive feelings about addressing their trauma issues, compared to those who reported a lower perceived impact of sexual trauma (Tarakeshwar et al., 2006). Notably, it was also found that individuals who are more resilient are more likely to hold positive perspectives toward addressing trauma, while lower resiliency was associated with negative perspectives. Tarakeshwar and colleagues (2006) point to the importance of considering the variety of influences that may play a role in an individual's attitudes toward their trauma. Specifically, Tarakeshwar et al. (2006) highlight the importance of fostering resilience on victims of trauma during treatment, for it is a predictive factor of positive feelings about discussing past trauma.

### **Trauma-Related Symptoms**

The aftermath of trauma might elicit several distressing symptoms on the victim. Current diagnostic criteria (American Psychological Association, 2013) characterize posttraumatic stress disorder (PTSD) by four symptom clusters: intrusion, avoidance, negative cognitions about self, others and the world, and heightened arousal and reactivity. For these criteria to be met, symptoms must be at a certain threshold and must have persisted for longer than one month, however, meeting the diagnostic criteria is not the only sign of psychological distress following trauma (Reinhardt et al., 2020). Experiencing trauma-related symptoms, even at a sub-threshold level, can be highly disruptive to one's life.

Trauma-related symptoms that commonly cause distress include dissociation, anxiety, depression, sleep disturbances, and sexual problems (Elliot & Briere, 1992). Experiencing trauma is related to both physical and psychological adversities. In a study of 110 women, childhood abuse and domestic abuse were associated with pain and diabetes symptoms (as cited

in Freyd et al., 2005). University women who were victims of childhood sexual abuse were more likely to experience a variety of health symptoms, and women with abuse histories were prone to experience chronic fatigue, bladder problems, pelvic pain, headache, chronic pain, asthma, diabetes, and heart problems (as cited in Freyd et al., 2005). Other common stressors experienced by victims of trauma, namely of interpersonal nature, are dissociation, shame (Platt & Freyd, 2015), substance use (Ullman et al., 2013), suicidal and non-suicidal self-injury (House et al., 2011), among others.

### **Overview and Predictions**

The goal of the current study is to better understand how the following factors may relate to the likelihood of experiencing posttraumatic growth: 1) the presence or absence of betrayal by a close other (i.e., betrayal trauma); 2) the self-perceived importance of the traumatic event to one's life and identity (i.e., event centrality); 3) the level of trauma-related symptoms experienced; and 4) the extent to which individuals hold positive perspectives about their trauma (e.g., belief that calling painful experiences to mind is part of healing).

One possibility is that betrayal trauma's link to increased distress might open a path to recovery through higher event centrality – and thus, higher rehearsal and cognitive processing of the traumatic memory – stimulating growth following trauma. The higher levels of posttraumatic stress symptoms predicted by betrayal trauma might increase the availability of the traumatic memory and therefore, its emotional impact on the individual. The heightened emotional impact of a traumatic event may ignite mechanisms that place the traumatic experience at the center of an individual's life and identity. The distress resulted from these processes (e.g., intrusions and rumination) may contribute to posttraumatic growth via the cognitive processing of the traumatic memory, a precursor to growth following trauma.

## **Hypotheses**

Hypothesis 1: Betrayal trauma will predict post-traumatic growth.

Hypothesis 2: Betrayal trauma will predict event centrality.

Hypothesis 3: Event centrality will predict post-traumatic growth.

Hypothesis 4: Event centrality will mediate the relationship between betrayal trauma and post-traumatic growth.

Hypothesis 5: Trauma-related symptoms will moderate the relationship between betrayal trauma and event centrality.

Hypothesis 6: Positive perspectives about trauma will moderate the relationship between event centrality and post-traumatic growth.

## METHOD

### **Participants and procedure**

Participants were recruited online from Reddit.com communities related to survey recruitment and the experience of stressful and traumatic events. Participants completed the online survey via the Qualtrics platform. A priori power analysis using G\*Power (Faul et al., 2007) suggested a minimal sample size of 129 to achieve power of .95 and a medium effect size. Responses completed in less than 10 minutes were excluded. The sample's average completion rate was 96.26%. Informed consent was obtained prior to the collection of demographic data. The final sample consisted of 349 respondents, with mean age 30.07 ( $SD = 10.88$ ), 80.80% female and 16.62% male. Gender distribution was 73.64% Women, 17.76% Men, and 6.30% Non-Binary. Participants' racial identity was: 78.8% White/Caucasian; 9.2% Multi-Ethnic; 5.7% Asian; 2.6% Other; 1.7% Black/African American, and 0.6% Native American/American Indian. Participants were 10.6% Hispanic and 85.1% Non-Hispanic.

### **Measures**

#### **Brief Betrayal Trauma Survey (BBTS)**

The Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006) asks participants the frequency (never, 1, 2, more than that) of exposure to 12 types of traumatic events both before and after the age of 18. The self-report inventory includes items measuring low betrayal trauma (e.g., experiencing a natural disaster), medium betrayal, (e.g., being made to have sexual contact by someone with whom the respondent was not close), and high betrayal trauma (e.g., being deliberately attacked by someone with whom the respondent was very close). Scores on items indicating traumas higher in betrayal were summed to yield a higher betrayal (HB) trauma

exposure variable, and scores on items indicating traumas lower in betrayal were summed to yield a lower betrayal (LB) trauma exposure variable. The BBTS (Goldberg & Freyd, 2006) has been found to have adequate test-retest reliability (mean  $\gamma = 0.75$ ; 2006). Adequate scale reliability has been shown in previous studies (Platt & Freyd, 2015; Reinhardt et. al, 2020). Cronbach's alpha for the current sample is .84.

### **Centrality of Events Scale (CES)**

The Centrality of Events Scale (CES; Berntsen & Rubin, 2006) is a 20-item measure of how central an event is to an individual's identity and life narrative. The CES measures, under one underlying factor, three overlapping functions of central memories and events: the extent to which a traumatic memory becomes 1) a reference point for everyday interpretations, 2) a turning point in life, and 3) a central component of identity (Berntsen & Rubin, 2006). Example items include "I feel that this event has become part of my identity" and "This event has become a reference point for the way I understand new experiences." Items are rated on a 5-point Likert scale ranging from 1 (*Totally disagree*) to 5 (*Totally agree*) in response to an index traumatic event. The CES has been shown to have a unitary factor structure and good internal consistency (e.g., Berntsen & Rubin, 2006). Reliability analyses for the current sample yielded a Cronbach's alpha of .92.

### **The Trauma Symptom Checklist-40 (TSC-40)**

The Trauma Symptom Checklist-40 (TSC-40; Elliot & Briere, 1992) is a 40-item self-report instrument assessing distress related to traumatic experiences. The TSC-40 measures a wide range of trauma symptoms, not limited to PTSD symptoms. The measure yields six subscales of trauma-related symptoms: dissociation, anxiety, depression, sexual abuse trauma index, sleep disturbance, and sexual problems. A calculation of an overall score of trauma

symptomatology is also possible. Respondents are asked to reflect on how frequently they experienced any of the listed symptoms in the past two months (0 = *never* through 3 = *often*). A sample item reads: “How often have you experienced each of the following in the last two months... anxiety attacks?” Previous studies have found good overall internal consistency ( $\alpha = .89$ ) (Elliot & Guy, 1993). Results on the validity of the TSC-40 are mixed (as cited in Reinhardt et al., 2020), with some studies supporting the measure’s discriminate validity in discerning between traumatized and non-traumatized individuals. Other studies have found, however, that the TSC-40 does not discriminate between child sexual abuse survivors and non-survivors in a clinical sample (as cited in Reinhardt, 2020). The average total score for a non-clinical sample of female survivors of sexual abuse was 26.02 ( $SD = 12.1$ ) (as cited in Reinhardt, 2020). Excellent internal consistency has been shown in past studies ( $\alpha = .94$ ) (Reinhardt et al., 2020). Cronbach’s alpha for the present study was .91.

### **The Posttraumatic Growth Inventory-42 (PTGI-42)**

The Posttraumatic Growth Inventory-42 (PTGI-42; Baker et al., 2008) is a 42-item measure of psychological changes experienced in the aftermath of a traumatic event. The PTGI-42 is a revised form of the PTGI (Tedeschi & Calhoun, 1996) with 21 original items measuring posttraumatic growth and 21 corresponding items measuring posttraumatic deterioration. An example of a growth-measuring item is: “I established a new path for my life”, which is followed by its corresponding item: “I have a less clear path for my life”. The PTGI-42 yields a posttraumatic growth (PTG) and a total posttraumatic depreciation (PTD) score. The inventory has good internal reliability ( $\alpha = 0.90$  for growth items and  $\alpha = 0.89$  for deterioration items) (Baker et al., 2008). The present sample yielded a Cronbach’s alpha of .82.

### **Perspectives on Addressing Trauma Symptoms (PATS)**

The Perspectives on Addressing Trauma Symptoms (PATS; Tarakeshwar et al., 2006) is an 11-item questionnaire measuring positive (e.g., Working through feelings will make me a healthier person) and negative (e.g., I don't see how bringing up the past can help me) perspectives about one's traumatic experience. Participants were asked to reflect upon their traumatic memory and respond to each item on a 4-point Likert scale (0 = *false* through 3 = *true*). Exploratory factor analysis supported the positive versus negative perspectives framework adopted (Tarakeshwar et al., 2006). Scores on positive perspectives will be obtained by summing responses on the six positive subscale items. Cronbach's alpha for the present sample is .85.

## RESULTS

### Bivariate Correlations

Bivariate correlations were first examined between all study variables (see Table 1; Appendix B) to determine their associations. As expected, the experience of trauma high in betrayal was positively and significantly correlated with trauma-related symptoms,  $r = 0.27, p < .001$ . Betrayal trauma was also significantly and positively associated with posttraumatic growth, although the correlation was small,  $r = 0.11, p < .05$ . The correlation between event centrality and trauma-related symptoms was significant and positive,  $r = 0.33, p < .001$ , as expected. Supporting past evidence claiming that event centrality is linked to both posttraumatic growth and posttraumatic distress (e.g., Berntsen & Rubin, 2007, Tedeschi et al., 1998), we found significant and positive associations between event centrality and posttraumatic depreciation,  $r = .35, p < .001$ , as well as posttraumatic growth,  $r = 0.24, p < .001$ . Posttraumatic growth and positive perspectives on addressing trauma showed a positive and significant association,  $r = 0.54, p < .001$ . Some variables did not correlate as expected. The expected correlation between betrayal trauma and event centrality did not emerge ( $r = .098, p = .07$ ), and the expected relationship between event centrality and positive perspectives about addressing trauma did not emerge ( $r = -.003, p = .95$ ).

### Regression Analyses

Simple linear regressions were conducted to test hypotheses 1 through 3. We report semi-partial Pearson's  $r$  ( $r_{sp}$ ) as a measure of effect size for regression coefficients (Dudgeon, 2016).

**Hypothesis 1:** *Betrayal trauma will predict post-traumatic growth.*

Hypothesis 1 expected the experience of betrayal trauma to predict growth following trauma. When predicting posttraumatic growth based on betrayal trauma, a significant regression equation was found ( $F(1, 318) = 3.975, p < .05$ ), with an  $R^2$  of .012. The experience of betrayal trauma was positively and significantly associated with posttraumatic growth,  $B = .59, \beta = .11; t(318) = 1.99, p < .05, 95\% \text{ CI } [.008, 1.177], r_{sp} = .11$ . Hypothesis 1 was supported.

**Hypothesis 2:** *Betrayal trauma will predict event centrality.*

Hypothesis 2 viewed betrayal trauma as a predictor of event centrality. When we regressed event centrality onto high betrayal trauma, the regression equation yielded was not significant ( $F(1, 337) = 3.276, p = .07$ ), with an  $R^2$  of .01. This was not unexpected because the bivariate correlation between betrayal trauma and event centrality failed to reach significance. Hypothesis 2 was not supported.

**Hypothesis 3:** *Event centrality will predict post-traumatic growth.*

Hypothesis 3 expected event centrality to predict growth following trauma. To test this hypothesis, we regressed event centrality onto posttraumatic growth, which yielded a significant regression equation ( $F(1, 318) = 18.742, p < .001$ ), with an  $R^2$  of .056. Event centrality was positively and significantly associated with posttraumatic growth,  $B = .37, \beta = .24; t(318) = 4.33, p < .001, 95\% \text{ C.I. } [-7.724, 19.674], r_{sp} = .24$ . Hypothesis 3 was supported.

**Hypothesis 4:** *Event centrality will mediate the relationship between betrayal trauma and post-traumatic growth.*

Hypothesis 4 predicted that event centrality would mediate the association between betrayal trauma and posttraumatic growth. According to Hayes and Rockwood (2017), significance between paths a and b are not required to determine the whether the mediator variable influences the relationship between X and Y. Thus, despite the lack of a significant

relationship between the predictor variable, betrayal trauma, and the mediator variable, event centrality, we tested hypothesis 4. To test this hypothesis, a simple mediation analysis was conducted using PROCESS v3.5 macro (model 4; Hayes, 2017) for SPSS. The sample size for the present analysis was 401. As recommended by Hayes and Rockwood (2017), the indirect effect is significant if the bootstrap confidence interval for the indirect effect does not include zero. Five thousand resampled bootstrap confidence intervals (95% C.I.) were used to test the indirect effect.

For the indirect effect of betrayal trauma on posttraumatic growth via event centrality,  $B = .104$ ,  $SE = .07$ , 95% C.I. [-0.03, 0.26]. Since the confidence interval for the indirect effect included zero, the indirect effect was not significant. Thus, hypothesis 4 was not supported.

**Hypothesis 5:** *Trauma-related symptoms will moderate the relationship between betrayal trauma and event centrality.*

Hypothesis 5 expected trauma-related symptoms to moderate the relationship between betrayal trauma and event centrality. Due to the lack of a significant association between betrayal trauma and event centrality in the present sample, the moderation analysis to test this hypothesis was not warranted. Therefore, hypothesis 5 was not tested.

**Hypothesis 6:** *Positive perspectives about trauma will moderate the relationship between event centrality and post-traumatic growth.*

Hypothesis 6 expected positive perspectives about addressing trauma to moderate the relationship between event centrality and posttraumatic growth. To test the hypothesis, a simple moderation analysis was conducted using PROCESS v3.5 macro (model 1; Hayes, 2017) for SPSS. The sample size for the present analysis was 294. The conditional effect of event centrality on posttraumatic growth was not found to be significant,  $B = .02$ ,  $SE = .01$ , 95% C.I. [-

0.003, 0.044]. The confidence interval for the interaction term included zero, thus, the interaction was not significant. Hypothesis 6 was not supported.

## DISCUSSION

The goal of the present study was to better understand how the following factors may relate to the likelihood of experiencing posttraumatic growth: 1) the presence or absence of betrayal by a close other (i.e., betrayal trauma); 2) the self-perceived importance of the traumatic event to one's life and identity (i.e., event centrality); 3) the level of trauma-related symptoms experienced; and 4) the extent to which individuals hold positive perspectives about their trauma (e.g., belief that calling painful experiences to mind is part of healing). We expected to find that betrayal trauma would predict posttraumatic growth via event centrality, and we also expected trauma symptoms and positive perspectives about trauma to play a moderating role in this relationship. While some of the results of the present study met our predictions, others showed no support for our hypotheses.

As expected, betrayal trauma predicted posttraumatic growth, although the effect size for that relationship was small. To our knowledge, the association between betrayal trauma as conceptualized by Freyd (1996) and posttraumatic growth has not yet been explored in the literature, thus, this finding is a novel contribution to this field of inquiry. The small effect size of this association may be linked to the lessened likelihood of victims of interpersonal trauma to experience posttraumatic growth when compared to victims of non-interpersonal traumatic events (Shakespeare-Finch & Armstrong, 2010). Betrayal trauma was also associated with trauma-related symptoms, suggesting that traumatic events involving the betrayal of a close relationship may elicit adaptations to trauma that are detrimental to the victim's mental health (DePrince & Freyd, 2002; Freyd & Birrell, 2013). Trauma-related distress as measured in the

present study included symptoms of anxiety, depression, and dissociation, which have been previously found in relation to betrayal trauma in the literature (Goldsmith et al., 2012).

In accordance with our expectations, posttraumatic growth was associated with event centrality. Furthermore, event centrality showed positive correlations with posttraumatic depreciation and trauma-related symptoms. These results are in accordance with past research that has recognized event centrality as a “double-edged sword”, for it is linked to both posttraumatic growth and posttraumatic distress (Boals & Schuettler, 2011; Barton et al., 2013).

Posttraumatic growth and positive perspectives about addressing trauma were associated, supporting the notion that holding positive perspectives toward discussing one’s trauma can be a pathway to growth. Past research has identified that trauma victims who had contact with someone who modeled new perspectives about their trauma were more likely to experience posttraumatic growth (Weiss, 2004). This finding suggests that holding positive perspectives about engaging with distressing memories can have a therapeutic effect.

While both event centrality and positive perspectives were associated with posttraumatic growth separately, our hypothesis predicting a moderating role of positive perspectives in the relationship between event centrality and posttraumatic growth was not met. In other words, our notion that posttraumatic growth would be dependent upon holding positive perspectives for those who view their trauma as a central event was not supported. These findings suggest that event centrality and positive perspectives may be independent pathways toward posttraumatic growth.

Contradicting our expectations, betrayal trauma and event centrality showed no relationship. Given the current sample’s significant association between betrayal trauma and trauma-related symptoms, it is possible that the traumatic distress experienced was

overwhelming, and thus, prevented the victim from cognitively processing the trauma memory. This may be especially relevant if cognitive avoidance is part of the individual's trauma response. Although the present study did not measure avoidant symptoms, future research should account for it when analyzing betrayal trauma in relation to event centrality. This notion is further supported by the finding that betrayal trauma and positive perspectives about addressing trauma were not associated. Perhaps, high levels of trauma-related symptoms in those who experienced betrayal trauma fostered negative perspectives about addressing trauma, as processing painful memories is likely to initially increase distress. It is noteworthy to highlight that our analyses of the relationship between betrayal trauma and event centrality approached significance ( $p = .07$ ). It is possible that with a greater sample the relationship would become significant.

We did not find support for our prediction that event centrality would mediate the relationship between betrayal trauma and posttraumatic growth. While betrayal trauma predicted posttraumatic growth, event centrality was not the process by which that occurred. Our hypothesis assumed that the persistent nature of a trauma memory that is perceived as central to one's life would lead to growth via the cognitive processing of such memory. The present study did not address, however, whether such cognitive rehearsal of trauma memories was accompanied by deliberate attempts to reappraise the traumatic event, a mechanism that addresses possible meanings of the trauma, and leads to posttraumatic growth (Tedeschi & Calhoun, 2004).

The present study has some limitations. The role of event centrality in our predictions was of the cognitive process through which growth would emerge from betrayal. This notion assumed that reappraisal of trauma would be part of the cognitive rehearsal of the central

memory. Nevertheless, it is possible that those who view their experience of betrayal trauma as central do not deliberately engage with the trauma memory, and instead, experience unwanted memories they do not cognitively process in order to avoid distress. Therefore, another limitation of our study is not having considered the role of avoidance, a common interpersonal trauma response (Littleton & Bretkopf, 2006). Individuals who avoid engaging with the trauma memory to prevent pain may not experience posttraumatic growth due to not reappraising the meaning of the trauma. Furthermore, the present study tested a causal claim using cross-sectional rather than longitudinal data.

Future research examining the relationships between betrayal trauma, event centrality, and posttraumatic growth should consider the cognitive processes that underlie the associations between trauma-related distress, centrality of the traumatic event, and subsequent growth. The role of deliberate re-evaluation of one's perceptions of the trauma memory as a pathway to growth has been established in the literature (Barton et al., 2013; Boals & Schuettler, 2011). Based upon that assumption, future studies should differentiate between intentional reappraisal of the trauma memory and intrusive distress without deliberate cognitive engagement. Furthermore, future examinations of the relationship between betrayal trauma and posttraumatic growth should explore the mechanisms that facilitate that association. Knowledge of the factors that may motivate growth in victims of betrayal trauma can inform clinical treatment and aid recovery.

The present study has some clinical implications. The link between event centrality and both posttraumatic distress and growth should be taken into consideration in clinical settings. For clients who view their trauma as a central event in their lives, growth can be fostered, even when there is distress associated with the trauma memory. Additionally, fostering positive perspectives

about addressing the client's trauma memory may facilitate growth, given the association between those variables in the present sample. Another clinical implication concerns clients who present a history of betrayal trauma and distress related to the event. While those clients may show heightened distress when addressing their trauma in their pathway to recovery, positive changes may be possible in the aftermath of their trauma. If future investigations explore the mechanisms through which posttraumatic growth may arise from betrayal trauma, those can be fostered in the therapy setting, facilitating growth.

## CONCLUSION

The present study aimed at analyzing the relationships between the experience of trauma involving betrayal, one's perceptions of the trauma as a central event in their lives, and growth following the traumatic experience. We predicted that posttraumatic growth would emerge for victims of betrayal trauma via the perception of the trauma as a central event. We also expected trauma-related distress to moderate the relationship between betrayal trauma and event centrality, in addition to a moderating role of holding positive perspectives about addressing one's trauma between event centrality and posttraumatic growth.

Our moderated mediation model was not supported. Nevertheless, associations between some of the variables in the model emerged, contributing interesting findings to the literature. Namely, posttraumatic growth was associated with betrayal trauma, suggesting that despite the pain associated with experiencing the betrayal of a relationship, growth is possible amidst the traumatic distress. Posttraumatic growth was also linked to event centrality, suggesting that perceiving the trauma event as central to one's life and identity may facilitate growth, even when the central memory causes suffering. Posttraumatic growth was also associated with holding positive perspectives about addressing trauma, highlighting the value of one's attitudes toward approaching the trauma memory in the process of recovery and growth.

We emphasize the importance of considering the curvilinear relationship between trauma-related distress and posttraumatic growth (Joseph et al., 2012). High levels of posttraumatic stress may hamper purposeful reappraisal of the trauma memory, which is a key mechanism toward growth (Helgeson et al., 2006). We imagine that the lack of an association between betrayal trauma and event centrality in the present sample may stem from heightened

distress, resulting from betrayal, as a hindrance toward bringing the trauma memory to mind.

Avoidance of one's trauma is a common adaptation to the experience of trauma, and may impede cognitive processing of the event. Thus, we recommend future studies to control for avoidant symptoms when analyzing associations between trauma, cognitive processing of trauma, and posttraumatic growth.

These findings elucidate processes that may occur (and co-occur) in the aftermath of trauma. The results presented here have implications for the clinical treatment of trauma, encouraging the fostering of event centrality and positive perspectives about addressing trauma in therapy settings to promote positive changes after the traumatic event.

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## APPENDIX A

### MEASURES

#### **Brief Betrayal Trauma Survey (BBTS) (Goldberg & Freyd, 2006)**

For each item below, participants report on exposure "before age 18" (the lower item number, i.e. 1-12) and "age 18 or older" (the higher item number, i.e. 13-24). Response choices are: never, 1 or 2 times, more than that.

For each item below, please mark one response in the column labeled "Before Age 18" AND one response in the column labeled "Age 18 or Older."

Have each of the following events happened to you, and if so, how often?

1 /13. 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.

2/14. Been in a major automobile, boat, motorcycle, plane, train, or industrial accident that resulted in similar consequences.

3/15. Witnessed someone with whom you were very close (such as a parent, brother or sister, caretaker, or intimate partner) committing suicide, being killed, or being injured by another person so severely as to result in marks, bruises, burns, blood, or broken bones. This might include a close friend in combat.

4/16. Witnessed someone with whom you were not so close undergoing a similar kind of traumatic event.

5/17. Witnessed someone with whom you were very close deliberately attack another family member so severely as to result in marks, bruises, blood, broken bones, or broken teeth.

6/18. You were deliberately attacked that severely by someone with whom you were very close.

7/19. You were deliberately attacked that severely by someone with whom you were not close.

8/20. You were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close (such as a parent or lover).

9/21. You were made to have such sexual contact by someone with whom you were not close

10/22. You were emotionally or psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover).

11/23. Experienced the death of one of your own children.

12/24. Experienced a seriously traumatic event not already covered in any of these questions.

### **Centrality of Events Scale (CES) (Berntsen & Rubin, 2006)**

Please think back upon the most stressful or traumatic event in your life and answer the following questions in an honest and sincere way, by circling a number from 1 to 5.

1. This event has become a reference point for the way I understand new experiences.  
totally disagree 1 2 3 4 5 totally agree

2. I automatically see connections and similarities between this event and experiences in my present life.  
totally disagree 1 2 3 4 5 totally agree

3. I feel that this event has become part of my identity.  
totally disagree 1 2 3 4 5 totally agree

4. This event can be seen as a symbol or mark of important themes in my life.  
totally disagree 1 2 3 4 5 totally agree

5. This event is making my life different from the life of most other people.  
totally disagree 1 2 3 4 5 totally agree

6. This event has become a reference point for the way I understand myself and the world.  
totally disagree 1 2 3 4 5 totally agree

7. I believe that people who haven't experienced this type of event think differently than I do.  
totally disagree 1 2 3 4 5 totally agree

8. This event tells a lot about who I am.  
totally disagree 1 2 3 4 5 totally agree

9. I often see connections and similarities between this event and my current relationships with other people.  
totally disagree 1 2 3 4 5 totally agree

10. I feel that this event has become a central part of my life story.  
totally disagree 1 2 3 4 5 totally agree

11. I believe that people who haven't experienced this type of event, have a different way of looking upon themselves than I have.  
totally disagree 1 2 3 4 5 totally agree

12. This event has colored the way I think and feel about other experiences.  
totally disagree 1 2 3 4 5 totally agree

13. This event has become a reference point for the way I look upon my future.  
totally disagree 1 2 3 4 5 totally agree

14. If I were to weave a carpet of my life, this event would be in the middle with threads going out to many other experiences.  
totally disagree 1 2 3 4 5 totally agree

15. My life story can be divided into two main chapters: one is before and one is after this event happened.  
totally disagree 1 2 3 4 5 totally agree

16. This event permanently changed my life.  
totally disagree 1 2 3 4 5 totally agree

17. I often think about the effects this event will have on my future.  
totally disagree 1 2 3 4 5 totally agree

18. This event was a turning point in my life.  
totally disagree 1 2 3 4 5 totally agree

19. If this event had not happened to me, I would be a different person today.  
totally disagree 1 2 3 4 5 totally agree

20. When I reflect upon my future, I often think back to this event.  
totally disagree 1 2 3 4 5 totally agree

### **The Trauma Symptom Checklist – 40 (TSC-40) (Briere and Runtz, 1989)**

#### *Subscale composition and scoring for the TSC-40*

The score for each subscale is the sum of the relevant items, listed below:

Dissociation: 7,14,16,25,31,38

Anxiety: 1,4,10,16,21,27,32,34,39

Depression: 2,3,9,15,19,20,26,33,37

SATI (Sexual Abuse Trauma Index): 5,7,13,21,25,29,31

Sleep Disturbance 2,8,13,19,22,28

Sexual Problems 5,9,11,17,23,29,35,40

TSC-40 total score: 1-40

How often have you experienced each of the following in the last two months?  
0 = Never 3 = Often

1. Headaches 0 1 2 3
2. Insomnia (trouble getting to sleep) 0 1 2 3
3. Weight loss (without dieting) 0 1 2 3
4. Stomach problems 0 1 2 3
5. Sexual problems 0 1 2 3
6. Feeling isolated from others 0 1 2 3
7. "Flashbacks" (sudden, vivid, distracting memories) 0 1 2 3
8. Restless sleep 0 1 2 3
9. Low sex drive 0 1 2 3
10. Anxiety attacks 0 1 2 3
11. Sexual overactivity 0 1 2 3
12. Loneliness 0 1 2 3
13. Nightmares 0 1 2 3
14. "Spacing out" (going away in your mind) 0 1 2 3
15. Sadness 0 1 2 3
16. Dizziness 0 1 2 3
17. Not feeling satisfied with your sex life 0 1 2 3
18. Trouble controlling your temper 0 1 2 3
19. Waking up early in the morning and can't get back to sleep 0 1 2 3
20. Uncontrollable crying 0 1 2 3
21. Fear of men 0 1 2 3
22. Not feeling rested in the morning 0 1 2 3
23. Having sex that you didn't enjoy 0 1 2 3
24. Trouble getting along with others 0 1 2 3
25. Memory problems 0 1 2 3
26. Desire to physically hurt yourself 0 1 2 3
27. Fear of women 0 1 2 3
28. Waking up in the middle of the night 0 1 2 3
29. Bad thoughts or feelings during sex 0 1 2 3
30. Passing out 0 1 2 3
31. Feeling that things are "unreal" 0 1 2 3
32. Unnecessary or over-frequent washing 0 1 2 3
33. Feelings of inferiority 0 1 2 3
34. Feeling tense all the time 0 1 2 3
35. Being confused about your sexual feelings 0 1 2 3
36. Desire to physically hurt others 0 1 2 3
37. Feelings of guilt 0 1 2 3
38. Feelings that you are not always in your body 0 1 2 3
39. Having trouble breathing 0 1 2 3
40. Sexual feelings when you shouldn't have them 0 1 2 3

## The Posttraumatic Growth Inventory – 42 (PTGI-42; Baker et al., 2008)

For each of the statements below, use the scale provided to indicate the degree to which this change occurred in your life as result of the stressful or traumatic situation you identified. That statements are arranged in pairs representing different types of change you might have experienced.

Within each pair,

- You might not have experienced either change,
- You might have experience both changes to some degree, or
- You might only have experienced one type of change.

Consider both statements in each pair, then rate the degree to which you experienced each type of change using the scale below.

- 0= I did not experience this change as a result of my crisis.
- 1= I experienced this change to a very small degree as a result of my crisis.
- 2= I experienced this change to a small degree as a result of my crisis.
- 3= I experienced this change to a moderate degree as a result of my crisis.
- 4= I experienced this change to a great degree as a result of my crisis.
- 5= I experienced this change to a very great degree as a result of my crisis.

Please rate each item below by placing a number from the scale that reflects your choice in the space provided to the left of the item.

- \_\_\_ 1a. I change my priorities about what is important in life.
- \_\_\_ 1b. I find it difficult to clarify priorities about what is important in life.
  
- \_\_\_ 2a. I have less of an appreciation for the value of my own life.
- \_\_\_ 2b. I have a greater appreciation for the value of my own life.
  
- \_\_\_ 3a. I developed new interests.
- \_\_\_ 3b. I have fewer interests than before.
  
- \_\_\_ 4a. I have diminished feeling of self- reliance.
- \_\_\_ 4b. I have a greater feeling of self- reliance.
  
- \_\_\_ 5a. I have a better understanding of spiritual matters.
- \_\_\_ 5b. I have a poorer understanding of spiritual matters.
  
- \_\_\_ 6a. I more clearly see that I cannot count on people in times of trouble.
- \_\_\_ 6b. I more clearly see that I can count on people in times of trouble.
  
- \_\_\_ 7a. I established a new path for my life.

- \_\_\_ 7b. I have a less clear path for my life.
- \_\_\_ 8a. I have a greater sense of distance from others.  
\_\_\_ 8b. I have a greater sense of closeness with others
- \_\_\_ 9a. I am more willing to express my emotions.  
\_\_\_ 9b. I am less willing to express my emotions.
- \_\_\_ 10a. I am less certain that I can handle difficulties.  
\_\_\_ 10b. I know better than I can handle difficulties.
- \_\_\_ 11a. I am able to do better things with my life.  
\_\_\_ 11b. I am less capable of doing better things with my life.
- \_\_\_ 12a. I am less able to accept the way things work out.  
\_\_\_ 12b. I am better able to accept the way things work out.
- \_\_\_ 13a. I can better appreciate each day.  
\_\_\_ 13b. I appreciate each day less than I did before.
- \_\_\_ 14a. Fewer opportunities are available than would have been before.  
\_\_\_ 14b. New opportunities are available which wouldn't have been otherwise.
- \_\_\_ 15a. I have less compassion for others.  
\_\_\_ 15b. I have more compassion for others.
- \_\_\_ 16a. I put more effort into my relationships.  
\_\_\_ 16b. I put less effort into my relationships.
- \_\_\_ 17a. I am less likely to try to change things that need changing.  
\_\_\_ 17b. I am more likely to try to change things that need changing.
- \_\_\_ 18a. I have a weaker religious faith.  
\_\_\_ 18b. I have a stronger religious faith.
- \_\_\_ 19a. I discovered that I'm stronger than I thought I was.  
\_\_\_ 19b. I discovered that I'm weaker than I thought I was.
- \_\_\_ 20a. I learned a great deal about how disappointing people are.  
\_\_\_ 20b. I learned a great deal about how wonderful people are.
- \_\_\_ 21a. I better accept needing others.  
\_\_\_ 21b. I find it harder to accept needing others.

**Perspectives on Addressing Trauma Symptoms (PATS; Tarakeshwar, Hansen, Kochman, Fox, & Sikkema, 2006)**

Please indicate how much you agree or disagree with each statement listed below.

	False	Somewhat False	Somewhat True	True
1. I still get upset but I am starting to feel better.	0	1	2	3
2. Talking about my problems makes me feel better.	0	1	2	3
3. Facing dark secrets will make me feel better.	0	1	2	3
4. Calling to mind painful experiences is part of healing.	0	1	2	3
5. Working through feelings will make me a healthier person.	0	1	2	3
6. Things have been getting a little better.	0	1	2	3
7. The pain I have felt has not been worth it.	0	1	2	3
8. I don't see how bringing up the past can help me.	0	1	2	3
9. I have stayed the same or gone downhill.	0	1	2	3
10. I am afraid sharing my past is not helping me.	0	1	2	3
11. I am sorry I decided to open up the past.	0	1	2	3

APPENDIX B

TABLES

**Table 1**

*Descriptive Statistics and Correlations for Study Variables*

	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Higher Betrayal Trauma	346	6.40	4.18	-						
2. Less Betrayal Trauma	345	3.03	2.85	.546**	-					
3. Event Centrality	339	80.39	14.78	.098	-.007	-				
4. Trauma Symptoms	333	64.19	19.79	.271**	.275**	.331**	-			
5. Posttraumatic Growth	320	35.66	22.11	.111*	.147**	.236**	-.050	-		
6. Posttraumatic Depreciation	319	46.23	23.16	.189**	.088	.354**	.552**	-.214**	-	
7. Positive Perspectives on Addressing Trauma	295	20.00	7.24	-.068	-.012	-.003	-.268**	.540**	-.477**	-

*Note.* *M* and *SD* are used to represent mean and standard deviation, respectively. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ .