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## Preliminary Evidence for a Unique Role of Disgust-Based Conditioning in Posttraumatic Stress

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### Abstract

Independent lines of evidence have linked posttraumatic stress symptomatology to both peritraumatic disgust (i.e., disgust experienced during a traumatic event) and posttraumatic disgust reactivity in response to traumatic event cues among individuals exposed to traumatic events. Much of this work suggests disgust, defined as a rejection/revulsion response aimed at distancing oneself from a potential source of contamination, may be important in understanding the nature of posttraumatic stress reactions even after accounting for the more frequently studied affective states of fear and anxiety. The current investigation provided a preliminary test of a model of disgust in posttraumatic stress among a sample of 54 community-recruited women with a history sexual victimization. Both peritraumatic disgust and posttraumatic disgust reactivity in response to an ideographic traumatic event script were significantly associated with posttraumatic stress symptom severity. After accounting for variability associated peritraumatic fear and posttraumatic anxious reactivity, an indirect effect of peritraumatic disgust through posttraumatic disgust reactivity also was found, suggesting that one mechanism through which peritraumatic disgust relates to posttraumatic stress is through its relation with increased posttraumatic disgust reactivity. These findings highlight the importance of further elucidating the nature of disgust in relation to traumatic events and subsequent posttraumatic stress reactions.

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Posttraumatic stress disorder (PTSD) has been conceptualized as an anxiety disorder (American Psychiatric Association [APA], 2000). However, researchers have long recognized the need to expand theories of PTSD to incorporate a host of other negative emotions that may be uniquely involved in the development and maintenance of this condition (e.g., Brewin, Andrews, & Rose, 2000; Resick & Miller, 2009; Resick & Schnicke, 1992). In particular, disgust, defined as a basic negative emotion involving a revulsion or rejection response aimed at removing oneself from a potential source of contamination (Olatunji & Sawchuk, 2005; Rozin, Haidt, & McCauley, 2000) may play an important role in posttraumatic stress reactions (Bovin & Marks, 2011; Dalgleish & Power, 2004).

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Emerging evidence has linked posttraumatic stress symptomatology to disgust experienced during a traumatic event (i.e., peritraumatic disgust). For example, individuals reporting disgust, or related emotions of guilt or shame (Barrett, Zahn-Waxler, & Cole, 1993), as their dominant peritraumatic emotion endorse symptoms of posttraumatic stress comparable to levels endorsed by people reporting fear as the dominant emotion (Hathaway, Boals, & Banks, 2010). Similarly, intensity of peritraumatic disgust experienced during combat (Engelhard, Olatunji, & de Jong, 2011) as well as toward the perpetrator of an interpersonal assault (Badour, Bown, Adams, Bunaciu, & Feldner, 2012) predicts severity of posttraumatic stress symptoms independent of peritraumatic fear.

Researchers also have begun to examine how posttraumatic (cf., peritraumatic) disgust-based reactivity (i.e., increase in disgust) in response to traumatic event cues relates to posttraumatic stress. The script-driven imagery procedure (Pitman, Orr, Foa, de Jong, & Claiborn, 1987), which involves the presentation of either standardized or ideographically-generated traumatic event scripts, has been widely used to assess emotional, physiological, and neurobiological reactivity to traumatic event cues in the laboratory (see Lanius, Bluhm, Lanius, and Pain [2006] and Orr and Roth [2000] for reviews). Using this method, researchers have demonstrated that women with PTSD react to traumatic event cues with greater disgust than traumatic event exposed individuals without PTSD (Olatunji, Babson, Smith, Feldner, & Connolly, 2009; Shin et al., 1999). Male veterans with PTSD also evidence increased disgust reactivity to combat cues relative to veterans with other anxiety disorders (Pitman et al., 1990). Collectively, extant work suggests that both peri- and posttraumatic disgust reactivity evidence unique associations with posttraumatic stress symptomatology; however, the nature of these associations remains largely unexamined.

Models of PTSD posit a central role for peritraumatic fear conditioning in the initial development of symptoms. Specifically, previously neutral stimuli present during the traumatic event become conditioned elicitors of anxiety and fear, which results in persistent posttraumatic stress symptoms (Foa & Kozak, 1986; Keane, Zimering, & Caddell, 1985; Resick & Schnicke, 1992). Consistent with this model, a number of empirical studies have documented a significant association between peritraumatic fear and subsequent posttraumatic stress symptoms (Breslau & Kessler, 2001; Brewin et al., 2000; Creamer, McFarlane, & Burgess, 2005; Schnurr, Spiro, Vielhauer, Findler, & Hamblen, 2002). Moreover, traumatic event-exposed individuals with, versus without, PTSD have been shown to react to traumatic event cues with relatively elevated anxiety (Blanchard et al., 1996; Lanius et al., 2003; McDonagh-Coyle et al., 2001; Orr et al., 1998; Pitman et al., 1987; Shin et al., 1997, 2004). Importantly, our understanding of the mechanisms of fear conditioning in anxiety disorders can inform our theories of how conditioned disgust reactivity also may be acquired and maintained (Woody & Teachman, 2000).

The current study sought extend this literature by examining the nature of the association between peritraumatic disgust, posttraumatic disgust reactivity to traumatic event cues, and posttraumatic stress symptoms. Based on models of peritraumatic fear conditioning, initial pairing of intense disgust with cues present during a traumatic event should result in increased conditioned disgust reactivity to traumatic event cues. Following this model, and consistent with prior research, posttraumatic disgust reactivity to traumatic event cues

should in turn be positively associated with posttraumatic stress symptom levels (Olatunji, Babson, et al., 2009; Pitman et al., 1990; Shin et al., 1999).

Further, elucidating the role of disgust in posttraumatic stress requires demonstrating disgust-related associations with posttraumatic stress symptoms above and beyond relations with other emotions; in particular, fear and anxiety (Woody & Teachman, 2000). The importance of parsing apart variability accounted for by disgust versus fear/anxiety is bolstered by evidence suggesting conditioned disgust responses may function similarly, but at least somewhat independently, from conditioned fear/anxiety (Olatunji, Wolitzky-Taylor, Ciesielski, Etzel, & David, 2009). Indeed, preliminary evidence supports a role for peritraumatic disgust in predicting subsequent posttraumatic stress symptom severity that is independent from peritraumatic fear responses (Badour, Bown, et al., 2012; Engelhard et al., 2011).

Accordingly, we conducted a preliminary test of how both peritraumatic disgust and posttraumatic disgust reactivity to traumatic event cues relate to posttraumatic stress symptom severity after accounting for peritraumatic fear, and posttraumatic anxious reactivity to traumatic event cues among a sample of women with a history of sexual victimization. Evidence suggests sexual victimization, as compared to other traumatic experiences, may be particularly likely to involve feelings of disgust (Badour et al., 2011; Feldner, Frala, Badour, Leen-Feldner, & Olatunji, 2010). Moreover, as compared to men, women are disproportionately likely to experience sexual victimization (Tolin & Foa, 2008), and women with PTSD respond to individualized traumatic imagery with higher disgust as compared to men either with or without PTSD (Olatunji, Babson, et al., 2009). As such, an investigation of specific emotional correlates of sexual victimization among women may yield an ideal model from which to begin elucidating the nature of the relation between disgust and posttraumatic stress. It was hypothesized that 1) self-reported intensity of peritraumatic disgust would positively relate to posttraumatic stress symptom severity, 2) disgust reactivity to traumatic event cues would positively relate to posttraumatic stress symptom severity, 3) an indirect effect of peritraumatic disgust in predicting posttraumatic stress symptom severity would emerge through its association with elevated posttraumatic disgust reactivity to traumatic event cues, and 4) this indirect effect would remain significant after accounting for peritraumatic fear and anxious reactivity to traumatic event cues. Of note, implicit in the model undergirding these hypotheses is that intensity of peritraumatic disgust should result in greater conditioned disgust-based reactivity to traumatic event cues, which in turn maintains posttraumatic stress symptom levels (e.g., Keane et al., 1985; Kraemer, Kiernan, Essex, & Kupfer, 2008).

## Method

### Participants

Fifty-four adult women with a history of at least one Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR)-defined traumatic event (APA, 2000) involving sexual victimization were recruited via announcements and postings placed throughout a mid-sized community in the south-central United States. Please see Table 1 for demographic information an overview of trauma-related variables.

## Measures

**Posttraumatic Stress Symptoms**—Current posttraumatic stress symptom severity was indexed continuously using the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995) based on research suggesting posttraumatic psychopathology is best represented by a dimensional (as opposed to taxonic) symptom structure, with PTSD at the upper end of this continuum (Broman-Fulks et al., 2009; Ruscio, Ruscio, & Keane, 2002). The CAPS is a well-established semi-structured interview that provides an index of past-month frequency and intensity of the 17 posttraumatic stress symptoms as well as a dichotomous index of current PTSD diagnosis per the criteria of the DSM-IV (APA, 1994). For descriptive purposes, PTSD diagnostic status was obtained using established scoring rules (1, 2 scoring rule; Weathers, Ruscio, and Keane, 1999).

The CAPS evidences excellent psychometric properties including both convergent and discriminant validity, adequate test-retest and interrater reliability, as well as internal consistency ( $\alpha = .92$  in the current sample), and is considered a “gold standard” of PTSD assessment (Weathers, Keane, & Davidson, 2001). A predoctoral researcher trained in the administration of the CAPS conducted all interviews. Reliability checks of 25% of interviews conducted by an independent, CAPS-trained predoctoral researcher yielded 100% diagnostic agreement.

**Peritraumatic Emotion**—Participants used a 0 to 100 scale to rate the level of disgust (toward the perpetrator) and fear experienced during the index traumatic experience (i.e., most distressing) identified on the CAPS. This approach is consistent with prior research in the area (Badour, Bown, et al., 2012; Feldner et al., 2010). Single item ratings of the intensity of peritraumatic emotion have been used extensively in previous research (e.g., Brewin et al., 2000; Engelhard et al., 2011; Feldner et al., 2010; Lancaster, Melka, & Rodriguez, 2011; Roemer, Orsillo, Borkovec, & Litz, 1998). Correlations between single-item ratings of peritraumatic fear or disgust and measures of disgust propensity/sensitivity and anxiety sensitivity offer evidence of convergent validity (Engelhard et al., 2011). This approach also has demonstrated discriminant validity in predicting specific emotional reactions to experimental procedures (Badour, Feldner, et al., 2012).

**Posttraumatic Emotional Reactivity**—Posttraumatic emotional reactivity was indexed via change in state feelings of disgust and anxiety in response to ideographic traumatic event scripts. Participants rated current levels of disgust and anxiety prior to and following the presentation of an ideographic traumatic event script by drawing a single vertical mark on each of two separate visual analogue scales (Freyd, 1923). The scales consisted of 100 mm lines anchored at either end (*no anxiety/disgust* to *extreme anxiety/disgust*). The distance between the no anxiety/disgust anchor and the mark generated by the participant was measured to yield ratings between 0 and 100 for each emotion, with higher numbers reflecting greater levels of each emotion. The use of visual analog ratings to index emotional responding is well established in research using script-driven imagery procedures (e.g., Orr et al., 1998; Pitman et al., 1987) and demonstrates adequate convergent validity (e.g., correlations between anxiety ratings following trauma scripts and anxiety sensitivity; Babson, Badour, Feldner, & Bunaciu, in press).

Change scores were calculated to index disgust and anxiety reactivity to the traumatic event script by calculating the difference between ratings collected before (baseline) and after the traumatic event script (post-script). Raw change scores were examined for descriptive purposes only. For the primary analyses, residualized change scores were calculated by regressing postscript ratings of disgust and anxiety on pre-script ratings (MacKinnon, 2008).

## Procedure

The university Institutional Review Board approved all study procedures prior to participant contact. Written informed consent was collected from all participants prior to administering laboratory procedures. Participants were deemed eligible if they endorsed a history of sexual victimization satisfying Criterion A of the DSM-IV definition of PTSD (i.e., traumatic event exposure; A1: an event involving fear of death, serious injury or harm, or threat to physical integrity; A2: the presence of intense feelings of either fear, helplessness, or horror). Individuals with a history of multiple traumatic events were required to identify an incident involving traumatic sexual victimization as the index event. People deemed potentially eligible upon initial phone screening were invited to the laboratory.

Laboratory procedures were conducted in a 12' × 14' experiment room containing a chair, desk, computer, and audio recorder. The experimenter was located in an adjacent room in the laboratory during completion of questionnaires and the script-driven imagery procedure. The experimenter first administered the CAPS and assessment of peritraumatic emotion. Fifteen individuals were identified as ineligible for the study following the CAPS interview. Reasons for exclusion included 1) report of a sexual experience that did not meet both the A1 and A2 criteria for PTSD ( $n = 7$ ), 2) identification of an index traumatic event involving experiences other than sexual victimization ( $n = 4$ ), and 3) report that memory for the experience was insufficient to generate a written narrative for the script-driven imagery procedure ( $n = 4$ ). These individuals were thanked, debriefed, and compensated for the initial portion of the study.

**Script development**—Eligible participants then generated an ideographic sexual victimization script based on the index traumatic event identified during the CAPS. Specific procedures for script development followed those described in previous work (e.g., Lang, Levin, Miller, & Kozak, 1983; Pitman et al., 1987). Per published procedures (e.g., Pitman et al., 1987), a checklist of specific bodily sensations (e.g., racing heart) was administered to participants during script generation to assist in identifying sensations present during the event and incorporating them into the scripts. In addition to incorporating this information into the written narrative, participants were asked to include any sensory details (e.g., sights, sounds smells) of the experience to aid in the development of a vivid script (sample scripts are available from the first author by request). Following script generation, participants completed a battery of questionnaires relevant to a broader study examining emotional responses to sexual victimization. During this time, the experimenter left the room to generate audio recordings of the scripts.

**Script-driven imagery procedure**—Respondents first provided baseline ratings for disgust and anxiety. Presentation of the script began with a 30-sec baseline period followed

by 30-sec of script presentation, a 30-sec imaginal rehearsal period in which participants were instructed to continue imagining the scene as vividly as possible, and a 30-sec recovery period. Participants then completed post-script disgust and anxiety ratings.

Finally, participants were debriefed regarding study procedures, provided with information regarding relevant local service providers (e.g., rape crisis centers), thanked, and compensated for their time.

### Data Analytic Approach

Primary hypotheses (as detailed above) were tested via two process analyses conducted in SPSS 19 using the PROCESS custom dialog (Hayes, 2012). The first analysis was conducted with only the primary variables of interest. A second model was examined adding peritraumatic fear and anxious reactivity to the traumatic event script as covariates to examine whether the hypothesized model held after accounting for variance associated with these factors.

A bias-corrected (BC) 95% confidence interval (CI) was used as the criterion for evaluating significance of indirect effects. A bootstrapping approach was employed to assess for the presence of an indirect effect. This approach has been identified as a particularly powerful (MacKinnon, Lockwood, & Williams, 2004; Williams & MacKinnon, 2008) and preferred analytic technique for examining indirect effects, particularly among small samples (Hayes, 2009; Shrout & Bolger, 2002). As recommended (Hayes, 2009), 5000 bootstrapping samples were utilized. Significance of the indirect effect was determined if zero was not included in the 95% CI generated based on the established sampling distribution.

## Results

### Descriptive Information

Table 2 includes means and standard deviations for all of the measures examined as well as zero-order correlations among them. Of note, significant correlations emerged between posttraumatic stress symptoms and both peritraumatic disgust and disgust reactivity to the traumatic event script. Peritraumatic disgust was also correlated with posttraumatic disgust reactivity. Paired-samples *t*-tests revealed that the mean intensity ratings for peritraumatic disgust were significantly higher than mean ratings for peritraumatic fear [ $t = 2.07, p < .05$ ] and raw change scores for disgust reactivity to the traumatic event script were greater than raw change scores for anxious reactivity to the traumatic event script ( $t = 5.97, p < .001$ ).

### Primary Analyses

See Figure 1. Ratings of peritraumatic disgust and posttraumatic disgust reactivity to the traumatic event script (employing residualized change scores) entered into the omnibus regression model accounted for 23.92% of the total variance in posttraumatic stress symptom severity [ $F(2, 51) = 8.02, p < .001$ ]. As predicted, the total effect (path c) of peritraumatic disgust was significant in predicting posttraumatic stress symptom severity ( $B = .19, SE = .08, p < .05$ ). Similarly, peritraumatic disgust significantly predicted disgust reactivity to the traumatic event script (path a:  $B = .49, SE = .13, p < .001$ ), and disgust

reactivity predicted posttraumatic stress symptoms after accounting for peritraumatic disgust (path b:  $B = .26$ ,  $SE = .08$ ,  $p < .01$ ). Bootstrapping analyses further revealed a significant indirect effect of peritraumatic disgust on posttraumatic stress symptom severity, through its positive association with disgust reactivity to the traumatic event script (path ab:  $B = .12$ ,  $SE = .05$ , BC 95% CI [.05, .25],  $\kappa^2 = .19$ ). Examination of the ratio of the indirect to total effect indicated that the indirect effect accounted for 64.99% of the total effect of peritraumatic disgust on posttraumatic stress symptom severity. Finally, the direct effect of peritraumatic disgust on posttraumatic stress symptom severity was no longer significant after accounting for the indirect effect (path c':  $B = .07$ ,  $SE = .09$ ,  $p = .44$ ).

The second process model incorporating intensity of peritraumatic fear and anxious reactivity to the traumatic event script accounted for an additional 9.68% of variance in posttraumatic stress symptom severity [ $F(4, 49) = 6.20$ ,  $p < .001$ ]. The inclusion of covariates in this model reduced the total effect of peritraumatic disgust on posttraumatic stress symptom severity to non-significance (path c:  $B = .10$ ,  $SE = .08$ ,  $p = .22$ ). However, the effect of peritraumatic disgust on posttraumatic stress reactivity (path a:  $B = .37$ ,  $SE = .13$ ,  $p < .01$ ), the effect of posttraumatic stress reactivity on posttraumatic stress after accounting for peritraumatic disgust (path b:  $B = .17$ ,  $SE = .08$ ,  $p < .05$ ), and the indirect effect of peritraumatic disgust on posttraumatic stress symptom severity through increased disgust reactivity to the traumatic event script (path ab:  $B = .07$ ,  $SE = .04$ , BC 95% CI [.01, .18]) all remained significant.

## Discussion

A growing literature has documented an association between posttraumatic stress symptomatology and disgust experienced both peritraumatically (Badour, Bown, et al., 2012; Engelhard et al., 2011; Hathaway et al., 2010) as well as after a traumatic event (e.g., in response to reminders of the experience; Olatunji, Babson, et al., 2009; Pitman et al., 1990; Shin et al., 1999). Elucidating our understanding of the role disgust plays in relation to posttraumatic stress symptoms contributes to extant models of posttraumatic stress reactions that emphasize fear and anxiety (e.g., Foa & Kozak, 1986; Keane et al., 1985). Accordingly, the current study examined the unique relations among peritraumatic disgust, persistent posttraumatic stress reactivity to traumatic event cues, and posttraumatic stress symptoms among women with a history of traumatic sexual victimization. Results were consistent with hypotheses.

As hypothesized, there was a significant indirect effect of peritraumatic disgust in predicting posttraumatic stress symptom severity that remained significant even after accounting for intensity of peritraumatic fear and posttraumatic anxious reactivity in response to traumatic event cues. This pattern offers preliminary support for a role of peri- and posttraumatic disgust in posttraumatic stress symptom severity that may be unique from fear and anxiety. Specifically, elevated disgust reactivity in response to traumatic event cues may be one mechanism through which intensity of peritraumatic disgust may relate to posttraumatic stress symptom severity. Indeed, this path accounted for nearly 70% of the relation between peritraumatic disgust and posttraumatic stress symptom severity. Replication is needed in larger and more diverse samples. However, the presence of the substantial indirect effect

observed here, combined with the absence of a direct effect (and total effect when accounting for peritraumatic fear and posttraumatic anxious reactivity), suggests that the unique influence of peritraumatic disgust on posttraumatic stress symptoms may be largely due to increased posttraumatic disgust reactivity to traumatic event cues.

Pairing of intense feelings of disgust with stimuli present during a traumatic event should result in the formation of conditioned disgust reactions to traumatic event cues. Reminders of the traumatic event would then be expected to elicit disgust. Results were consistent with this model. Intensity of peritraumatic disgust predicted disgust reactivity to traumatic event cues and disgust reactivity was subsequently related to posttraumatic stress symptom severity. These findings converge with prior research documenting a link between disgust reactivity in response to traumatic event cues with severity of posttraumatic stress symptoms (Olatunji, Babson, et al., 2009; Shin et al., 1999). Importantly, the conservative approach of accounting for fear and anxiety-relevant covariates increases confidence that disgust reactivity to traumatic event reminders may account for unique variability in subsequent posttraumatic stress symptom severity. Given models of PTSD purport that avoidance of both traumatic event cues and associated distress are central maintaining factors in posttraumatic stress reactions (Foa & Kozak, 1986; Keane et al., 1985; Resick & Schnicke, 1992), future research should specifically examine the role of behavioral and subjective avoidance of traumatic event-related disgust reactivity, as compared to anxious reactivity, as a potential mechanism underlying the link between posttraumatic disgust reactivity to traumatic event cues and posttraumatic stress symptom severity.

Several limitations warrant discussion. The cross-sectional nature of the current study leaves open the possibility that ratings of peritraumatic emotion and baseline levels of disgust and anxiety may have been influenced by posttraumatic stress symptom severity as well as state-like emotional distress associated with the traumatic event. The retrospective self-report of peritraumatic emotion relied upon here is standard as there are few feasible alternatives. However, this approach is vulnerable to error introduced via recall bias. A better assessment of peritraumatic emotion (e.g., ratings made shortly following traumatic event exposure) may reduce measurement error. Although these results will also need to be replicated in a longitudinal design, the use of the script-driven imagery procedure to elicit reactivity of disgust and anxiety in response to traumatic event cues was considered a methodological strength of this study for two reasons. First, the emotion elicitation procedure moves beyond limitations inherent in retrospective self-report by providing a controlled assessment of emotional responding to ideographic traumatic event cues in real-time (Badour et al., 2011; Orr & Roth, 2000). Second, examination of emotional reactivity (i.e., change from baseline to post-script) in response to the procedure increases confidence that the findings are not entirely attributed to reporting biases associated with retrospective or cross-sectional assessment.

While single-item measures of both peritraumatic emotion and posttraumatic emotional reactivity have been widely used, this assessment strategy is limited. For example, correlations between single-item ratings and established measures may be high because the single item taps into one, but not all features, of a broader complex construct. Future research would benefit from psychometric evaluation of these single-item measures and



development of alternative measures for assessing peritraumatic emotion and posttraumatic emotional reactivity. Additionally, the inclusion of only women with a history of traumatic sexual victimization in the sample limits generalizability. Research suggests traumatic event-related disgust may exhibit unique associations with posttraumatic stress symptom severity among women (as compared to men; Lancaster et al., 2011; Olatunji, Babson, et al., 2009) and following experiences of sexual victimization (as compared to other traumatic experiences; Badour et al., 2011; Feldner et al., 2010). As such, it will be important to replicate these findings in more diverse samples including among men with a history of sexual victimization and among both men and women with a history of other traumatic events (e.g., combat, natural disasters). Finally, examining posttraumatic stress symptom severity continuously (cf., dichotomously) is consistent with research examining the nature of such symptoms (Broman-Fulks et al., 2009; Ruscio et al., 2002) and avoids restricting the range of the criterion variable of interest (Weathers et al., 1999). Nonetheless, extending this work to a sample of individuals with current PTSD will be an important next step.

These limitations notwithstanding, the present results offer tentative clinical implications. First, results highlight the importance of assessing for disgust-based reactions among individuals seeking treatment for emotional problems secondary to sexual victimization. Although the effect of PTSD treatment on traumatic event-related disgust reactivity has yet to be examined, evidence from other anxiety disorders suggests that compared to fear and/or anxiety, disgust may be relatively resistant to extinction in exposure-based treatments (McKay, 2006; Olatunji, Smits, Connolly, Willems, & Lohr, 2007; Smits, Telch, & Randall, 2002). Further examination of this issue may be particularly critical among individuals with a history of sexual victimization who experience persistent feelings of disgust. Finally, these findings coalesce with calls to expand the definition of traumatic events and PTSD to increasingly focus on a broader range of emotions including disgust as well as anger, guilt, and shame (Bovin & Marks, 2011; Brewin et al., 2000; Resick & Miller, 2009; Resick & Schnicke, 1992). Future research should continue to examine the associations among these different emotions as they relate to posttraumatic stress symptomatology.

Taken as a whole, the present data provide preliminary support for an emerging model of disgust in posttraumatic stress symptomatology. Peritraumatic disgust appears to relate to posttraumatic stress symptom severity following experiences of sexual victimization by increasing posttraumatic disgust reactivity in response to reminders of the traumatic event. Importantly, this relation appears to be at least somewhat unique from the contributions of fear and anxiety, supporting the need for future research to elaborate the specific nature of traumatic event-related disgust reactions.

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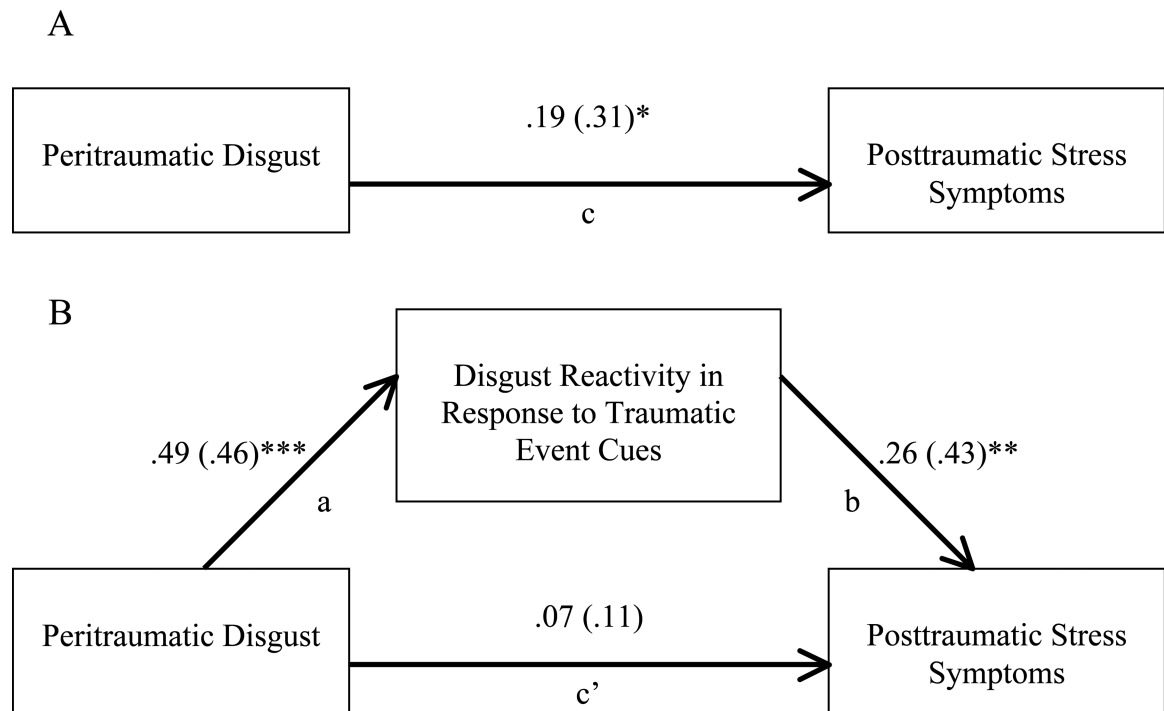
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**Figure 1.**

A diagram of the hypothesized indirect effect model. A: The total effect of peritraumatic disgust on posttraumatic stress symptoms. B: The indirect effect model with disgust reactivity in response to traumatic event cues as a mediator of the relation between peritraumatic disgust and posttraumatic stress symptoms. Unstandardized path coefficients are displayed, with corresponding standardized coefficients in parentheses.

**Table 1**

## Demographic and Trauma-Related Variables

	<i>Mean (SD)</i>	<i>% of total N</i>
<i>Demographic Information</i>		
Age	32.19 (15.67)	--
Race		
Caucasian	--	85.2 %
African American	--	5.6 %
Asian	--	3.7 %
Bi-/multi-racial	--	5.6 %
Ethnicity		
Hispanic	--	9.3 %
Non-Hispanic	--	88.9 %
Not reporting	--	1.9 %
Education Completed		
High School or Equivalent	--	5.6 %
Some College	--	57.4 %
Completed 2- or 4-year college	--	3.7 %
Some graduate/professional school	--	14.8 %
Completed graduate/professional school	--	16.7 %
Not reporting	--	1.9 %
<i>Trauma-Related Variables</i>		
Age at time of the index event	14.65 (7.5)	--
Index event occurring before the age of 18	--	72.2 %
Relationship to perpetrator		
Relative	--	27.8%
Intimate partner/spouse	--	14.8 %
Other known person	--	42.6 %
Stranger	--	3.7 %
Current diagnosis of PTSD	--	22.2 %

Note: PTSD = posttraumatic stress disorder

**Table 2**  
Descriptive Data and Zero-Order Relations among Continuous Predictor and Criterion Variable

	1	2	3	4	5	<i>M(SD)</i>	Range
1. PTSD symptom severity	-	.31*	.42**	.46***	.30*	29.35 (19.71)	4 – 78
2. Peritraumatic disgust	-	-	.32*	.47***	.16	79.44 (31.62)	0 – 100
3. Peritraumatic fear	-	-	-	.36**	.28*	68.43 (35.53)	0 – 100
4. Disgust reactivity <sup>a</sup>	-	-	-	-	.32*	51.28 (33.18)	0 – 100
5. Anxious reactivity <sup>b</sup>	-	-	-	-	-	22.82 (25.92)	-39 – 100

Note. *n* = 46. PTSD: Posttraumatic stress disorder.

<sup>a</sup>Raw change scores included here for descriptive purposes (Post-script minus pre-script); primary analyses include residualized change scores.

<sup>b</sup>Raw change scores included here for descriptive purposes (Post-script minus pre-script); primary analyses include residualized change scores.

\* *p* < .05

\*\* *p* < .01

\*\*\* *p* < .001.