

# Contamination-Focused Exposure as a Treatment for Disgust-Based Fears: A Preliminary Test in Spider-Fearful Women

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**Background:** Disgust is thought to play a prominent role in multiple anxiety disorders and fears, including spider phobia, though little attention has been given to specific treatment strategies that may be effective for multiple disgust-based fears. **Aims:** In the present study, we evaluated contamination-focused exposure as a potential transdiagnostic treatment strategy for disgust-based fears in a spider fearful sample. **Method:** Women with significant spider fear were randomized to three 30-minute sessions of exposure therapy involving repeated contact with a dirt mixture ( $n = 17$ ) or a waitlist control condition ( $n = 17$ ). Assessments of spider fear and disgust were administered at baseline and at one-week posttreatment. **Results:** At high (but not low) levels of pretreatment disgust propensity, exposure led to lower in vivo spider fear and perceived danger than waitlist, though exposure had no effects on spider-related disgust. Similar effects of exposure on spider fear were found at high levels of pretreatment spider-related disgust. Exposure also reduced fear and danger perceptions, but not disgust, related to a separate contamination assessment (touching a toilet). No effects of treatment were found on self-report measures of spider fear or disgust propensity. **Conclusions:** These findings suggest contamination-focused exposure therapy may be an effective transdiagnostic treatment strategy for individuals with elevated disgust propensity. Limitations and directions for future research are discussed.

*Keywords:* Disgust, spider phobia, contamination fear, exposure therapy, transdiagnostic

## Introduction

Pathological disgust reactions have been linked to a variety of different anxiety disorders and fears (Cisler, Olatunji and Lohr, 2009; Olatunji, Cisler, McKay and Phillips, 2010), including blood-injection-injury (BII) phobia, spider phobia, and contamination-based OCD. Preliminary evidence suggests it also plays a role in health anxiety (Brady, Cisler and Lohr, 2014; Brady and Lohr, 2014; Olatunji, 2009), vomit phobia (van Overveld, de Jong, Peters, van Hout and Bouman, 2008), and posttraumatic stress disorder (Engelhard, Olatunji and de Jong, 2011). Some have questioned the importance of disgust reactions, suggesting they are secondary to fear (Edwards and Salkovskis, 2006). Others have argued that disgust could play a crucial role in anxiety disorders and, consequently, a clinical focus on disgust may

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have therapeutic value (Mason and Richardson, 2012). Surprisingly, the development and evaluation of specific strategies for treating multiple disgust-based fears have been given little research attention (Mason and Richardson, 2012; Meunier and Tolin, 2009).

Disgust-oriented treatments could have multiple benefits. Evidence suggests disgust is more treatment resistant than fear (Mason and Richardson, 2012); thus, targeting disgust might lead to improved treatment outcomes. Additionally, extant research on the role of disgust in psychopathology is mostly correlational, and research on disgust in the context of exposure therapy (e.g. repeated exposure to a spider for spider phobia; Olatunji, Huijding, de Jong and Smits, 2011; Smits, Telch and Randall, 2002) is limited in that it incorporates corrective learning (i.e. learning that spiders are safe). Thus, a specific focus on disgust in treatment research could have theoretical significance and could more rigorously determine its importance in anxiety disorders and fears.

Some efforts have been made to target disgust reactions in treatment. de Jong, Vorage and van den Hout (2000) randomized a spider phobic sample to one session of exposure therapy or exposure plus counter conditioning. The latter condition incorporated pleasing foods and music during the final 30 minutes of the 3-hour exposure session. They found no differences in outcomes between treatments, though both conditions led to reductions in spider-specific disgust. Olatunji and colleagues (2009) examined whether the addition of disgusting stimuli (vomit images) would facilitate fear reduction in a spider fearful sample undergoing a variant of exposure therapy (viewing a videotaped tarantula). Fear and disgust ratings decreased across conditions, though no significant differences on these outcomes were found.

One of the most direct ways in which pathological disgust could be treated is through contamination-focused exposure and response prevention (ERP). This strategy, which involves repeated contact with disgusting stimuli and refraining from cleaning/washing behavior, is typically used for the contamination subtype of OCD. Uncontrolled studies have found ERP to lead to reductions in disgust and general disgust propensity (Olatunji, Tart, Ciesielski, McGrath and Smits, 2011). It is possible that the benefits of this strategy are through its direct attenuation of general disgust reactions. It may also reduce perceptions of danger associated with disgusting stimuli, which have also been proposed to play a role in contamination fear (Brady, Adams and Lohr, 2010). The fact that experienced disgust led to a negative interpretation bias in one study (Davey, Bickerstaffe and MacDonald, 2006) suggests that disgust contributes to clinical fears through this specific mechanism.

Contamination-focused exposure could have value as a transdiagnostic treatment strategy for disgust-based fears. It is possible that individuals with a general vulnerability to disgust (i.e. elevated disgust propensity) could benefit from this treatment focus. This intervention could potentially reduce multiple disgust-related fears through its effects on overall disgust propensity and/or threatening perceptions of disgust. An initial test of this treatment strategy would thus involve the application of this technique to a sample endorsing a disgust-related fear such as spider phobia or BII phobia; to our knowledge, this has not yet been attempted in any published study.

In the current investigation, we examined the efficacy of contamination-focused exposure therapy for spider fear. We randomized participants to three sessions of repeated exposure to a dirt mixture or a waitlist condition matched for time. At pre and posttreatment, participants were administered a separate assessment of contamination fear (touching a toilet) and a spider behavioral approach test; this was done to examine generalization of treatment effects and transfer of learning. Self-report measures of spider fear and disgust propensity were

also administered. We predicted that the exposure group would experience lower disgust, contamination fear, and spider fear at posttreatment relative to the waitlist group. Further, we examined whether the effects of condition on spider fear were accounted for by posttreatment spider-related disgust or danger perceptions. Lastly, we conducted exploratory moderator analyses to examine whether the effects of contamination-focused exposure would vary based on levels of pretreatment disgust propensity.

## Method

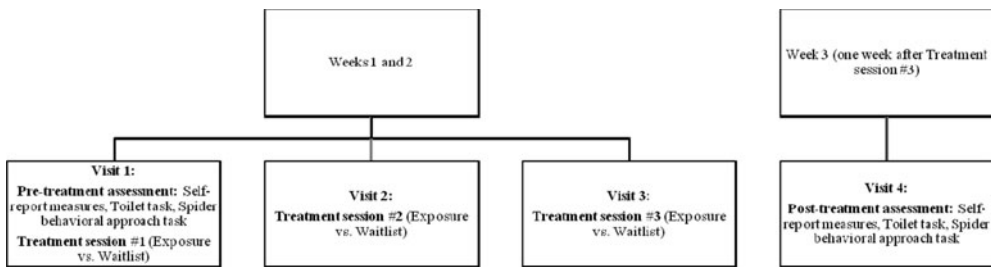
### *Participants*

Participants ( $N = 34$ ; 17 per condition) were recruited via undergraduate psychology courses at a large US university and completed this study as partial fulfillment of course requirements. An a priori power analysis indicated that a sample size of 34 participants (17 per group) would be sufficient to observe a medium effect size ( $f = 0.25$ ). The sample was restricted to women, given the rarity of spider fear in men (Fredrikson, Annas, Fischer and Wik, 1996). Seven participants withdrew from the study before the posttreatment assessment (three in exposure and four in waitlist conditions) and were not included in analyses. All participants endorsed problematic fear of spiders as measured by a score of 15 or greater (corresponding to the 80<sup>th</sup> percentile) on a self-report questionnaire consisting of three representative items from the Fear of Spiders Questionnaire (FSQ; Szymanski and O'Donohue, 1995), which were scored 0 (totally disagree) – 10 (totally agree). This screener has been used in previous research to reliably recruit individuals reporting significant spider fear and correlates highly with the full FSQ (Cougle and Hawkins, 2013; Schmidt, Richey, Funk and Mitchell, 2010). Prospective participants who completed the final step of the spider approach test were excluded ( $N = 11$ ), as this suggested insufficient spider fear. Of note, the average spider fear in the final sample (FSQ  $M = 103.15$ ,  $SD = 11.9$ ) was slightly higher than that found for a clinical spider phobic sample ( $M = 98.5$ ,  $SD = 13.4$ ; Muris, Mayer and Merckelbach, 1998). The mean age of the final sample was 19.12 years ( $SD = 2.1$ ) and the ethnic make-up was White (61.8%), Black (14.7%), Hispanic (11.8%), Asian or Pacific Islander (5.9%), American Indian (2.9%), and other (2.9%).

### *Self-report measures*

Participants completed the 18-item FSQ, a self-report measure commonly used to assess spider fear. This measure has demonstrated good psychometric properties, including strong test-retest reliability, internal consistency (in current sample: pretreatment  $\alpha = .88$ , posttreatment  $\alpha = .87$ ), and validity (Muris and Merckelbach, 1996).

They also completed the 12-item Disgust Propensity and Sensitivity Scale-Revised (Fergus and Valentiner, 2009; van Overveld, de Jong and Peters, 2010), a measure designed to assess disgust propensity (i.e. the frequency of disgust experiences) and sensitivity (i.e. the emotional impact of disgust experiences). The DPSS-12 has demonstrated good reliability, convergent validity, and discriminant validity (e.g. Fergus and Valentiner, 2009; Goetz, Cougle and Lee, 2013; Olatunji, Cisler, Deacon, Connolly and Lohr, 2007). Internal consistency for the current study was good (i.e. pretreatment disgust propensity  $\alpha = .85$ , disgust sensitivity  $\alpha = .80$ ;



**Figure 1.** Procedural overview

posttreatment disgust propensity  $\alpha = .87$ , disgust sensitivity  $\alpha = .81$ ). For the current study, disgust propensity served as a measure of general disgust tendencies.

Visual analogue scales (VAS), anchored from 0 (none) to 10 (extreme) were also used throughout to assess current levels of fear, disgust, and perceived danger.

### *Behavioral tasks*

**Toilet task.** During this task, participants were asked to place the palms of their hands on the seat of a dirty toilet for two seconds. After touching the toilet seat, participants were asked to rate their peak levels of fear, disgust, and perceived danger from 0 (none) to 10 (extreme). They were then given a sanitary hand wipe and allowed to wipe their hands.

**Spider behavioral approach task.** Participants were asked to step out of the room temporarily and watched as an experimenter placed an enclosed jar containing a rose-haired tarantula on top of a desk in the room. They were asked to rate their current levels of fear, disgust, and perceived danger (“How dangerous do you feel this spider is?”) using VAS ratings. Participants were then taken through an 8-step behavioral approach task (range = 0–8) in which they were asked to: (1) open the door of the room that the spider was in; (2) enter the room and stand on the first mark on the floor (80 inches away from the spider); (3) walk half-way to the spider and stand on the second mark on the floor (40 inches away from the spider); (4) walk all the way to the spider and stand on the third mark on the floor (placed next to the desk approximately 24 inches from the jar); (5) touch the jar that the spider was in for at least 2 seconds; (6) remove the lid from the jar; (7) touch the spider with a small paintbrush (which was positioned next to the jar); and (8) touch the spider with one finger. The task was terminated when participants refused a step or after the final step. Immediately afterwards, participants rated their peak fear and disgust during the task.

### *Procedure*

An overview of study procedures is provided in [Figure 1](#). Individuals who endorsed spider fear signed up online and completed the pretreatment assessment. Individuals were administered self-report measures, the toilet task, and the spider BAT. Eligible participants were then assigned to the exposure or waitlist condition via block randomization using

<http://www.randomizer.org>. The experimenter who administered assessments at pre and posttreatment was blind to condition.

Treatment sessions took place on the first (immediately following the pretreatment assessment), second, and third lab visits and were scheduled over the course of 2 weeks such that sessions did not fall on consecutive days. The same protocol was followed for each condition at each of the three sessions. Individuals assigned to the exposure condition were first provided with the following rationale:

The fear and avoidance of spiders is thought to be maintained by elevated disgust reactions. One method that may reduce fear of spiders is by repeatedly confronting disgusting objects until they are not disgusting anymore. You will be exposed to a dirt mixture over three sessions in order to reduce your disgust reactions; we will assess the effectiveness of this method in reducing fear and avoidance of spiders.

Participants were then presented with a box containing a mixture of dirt, human hair, and trash (gum wrappers and a fake used tampon/applicator); they were asked to place both of their hands in this mixture for 6 minutes until the experimenter told them to stop. Next, participants were asked to rate their peak levels of fear and disgust using the VAS. This process (i.e. 6 minutes of exposure) was repeated for five trials (30 minutes total) and process ratings (i.e. peak fear and disgust) were completed after trials one, three, and five. This timeline was used to reduce the assessment burden on participants over the course of treatment. Following the fifth trial, participants were given a break to go to the bathroom and wash their hands.

Individuals assigned to the waitlist control condition were provided with magazines and asked to sit in a quiet room in the lab and read for 35 minutes (to match the exposure condition). Afterwards, participants were given a break to go to the bathroom and wash their hands.

One week after the third treatment session (i.e. 2 weeks after session one), participants returned to the lab to complete a posttreatment assessment. All participants again completed the self-report questionnaires followed by the toilet task and spider BAT.

### *Statistical analyses*

To address study hypotheses, analyses of covariance (ANCOVAs) were conducted covarying for pretreatment scores to assess between-group differences. Ordinal regression was used to examine the effects of treatment on BAT steps completed. To examine the potential moderating effect of pretreatment disgust propensity on treatment outcome, linear regression analyses were conducted using centered pretreatment disgust propensity, condition, and their interaction term as predictors of posttreatment outcomes; corresponding pretreatment variables were entered into the models to control for pretreatment symptoms. Significant interactions were followed up by analyses of simple effects of condition at high and low levels of pretreatment disgust propensity (1 *SD* above and below the mean); of note, these follow-up analyses included *all* participants, which preserves power and is consistent with conventional recommendations (Aiken and West, 1991). Mediation analyses were conducted in SPSS version 22.0 using the PROCESS (Hayes, 2013) macro. Analyses included 5,000 bias-corrected bootstraps to provide replicable standard errors.

**Table 1.** Descriptive statistics for self-report measures and task ratings by condition.

	Exposure condition ( <i>N</i> = 17)		Waitlist condition ( <i>N</i> = 17)	
	Pretreatment <i>M</i> ( <i>SD</i> )	Pretreatment <i>M</i> ( <i>SD</i> )	Pretreatment <i>M</i> ( <i>SD</i> )	Pretreatment <i>M</i> ( <i>SD</i> )
Self-report measures:				
Fear of Spiders Questionnaire	99.76 (12.77)	94.35 (14.05)	106.53 (10.22)	100.82 (9.21)
Disgust Propensity	13.00 (2.96)	13.06 (2.82)	15.35 (4.46)	14.76 (4.78)
Disgust Sensitivity	11.71 (3.46)	10.82 (3.84)	11.82 (5.54)	10.00 (4.86)
Contamination fear assessment (toilet task):				
Peak fear	5.41 (2.50)	1.94 (2.73)	5.76 (3.46)	4.71 (3.58)
Peak disgust	8.12 (1.80)	5.59 (3.16)	8.18 (2.51)	7.18 (3.19)
Perceived danger	3.94 (2.59)	1.47 (1.81)	2.81 (2.48)	3.40 (4.95)
Spider behavioral approach task:				
Pretask fear	7.94 (1.39)	4.35 (2.69)	6.82 (2.56)	5.35 (3.43)
Pretask disgust	5.59 (2.50)	3.00 (2.57)	6.06 (3.17)	4.41 (3.62)
Pretask danger	6.76 (2.99)	3.00 (2.62)	6.59 (2.60)	5.12 (3.06)
Number steps completed	6.24 (1.40)	6.71 (1.31)	6.24 (1.30)	6.71 (1.16)
Posttask peak fear	8.53 (1.77)	6.35 (3.43)	8.53 (1.46)	6.82 (3.03)
Posttask peak disgust	6.59 (2.43)	3.76 (3.01)	7.00 (2.76)	4.94 (3.40)

## Results

### Baseline comparisons

Chi-square and *t*-tests revealed no significant group differences in age, ethnicity, pretreatment self-report measures, or pretreatment toilet task and spider BAT variables ( $p$ 's > .08), suggesting successful randomization. Main study variables (pre and posttreatment) are presented in Table 1.

### Process ratings for exposure condition

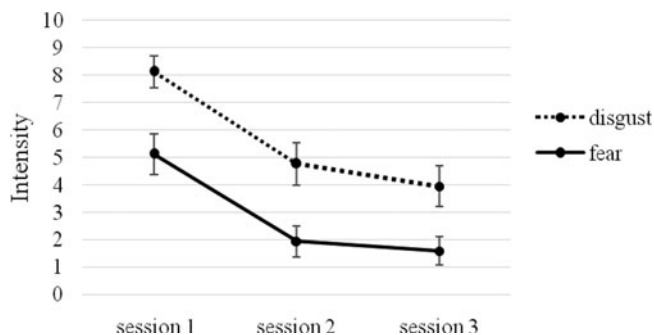
Repeated measures ANOVAs of initial (trial 1) peak fear and disgust ratings over the course of the three exposure sessions revealed that fear ( $F(2, 32) = 19.48, p < .0001, \eta_p^2 = .55$ ) and disgust ( $F(2, 32) = 29.49, p < .0001, \eta_p^2 = .65$ ) reactions declined over time in this condition (see Figure 2), indicating substantial between-session habituation.

### Self-report measures

ANCOVAs revealed no effects of condition with regard to self-report measures of spider fear ( $p = .48$ ) and disgust propensity ( $p = .76$ ) at posttreatment.

### Toilet task

On the toilet contamination fear assessment, exposure led to greater reductions than waitlist on posttreatment peak fear ( $F = 9.58, p < .004, \eta_p^2 = .24$ ) and perceived danger ( $F = 7.19, p < .02, \eta_p^2 = .19$ ), but not peak disgust ( $p = .08$ ).



**Figure 2.** Changes in peak disgust and fear ratings (reported after trial 1) over the course of treatment in the exposure condition. Error bars represent standard error of the mean

### Spider BAT

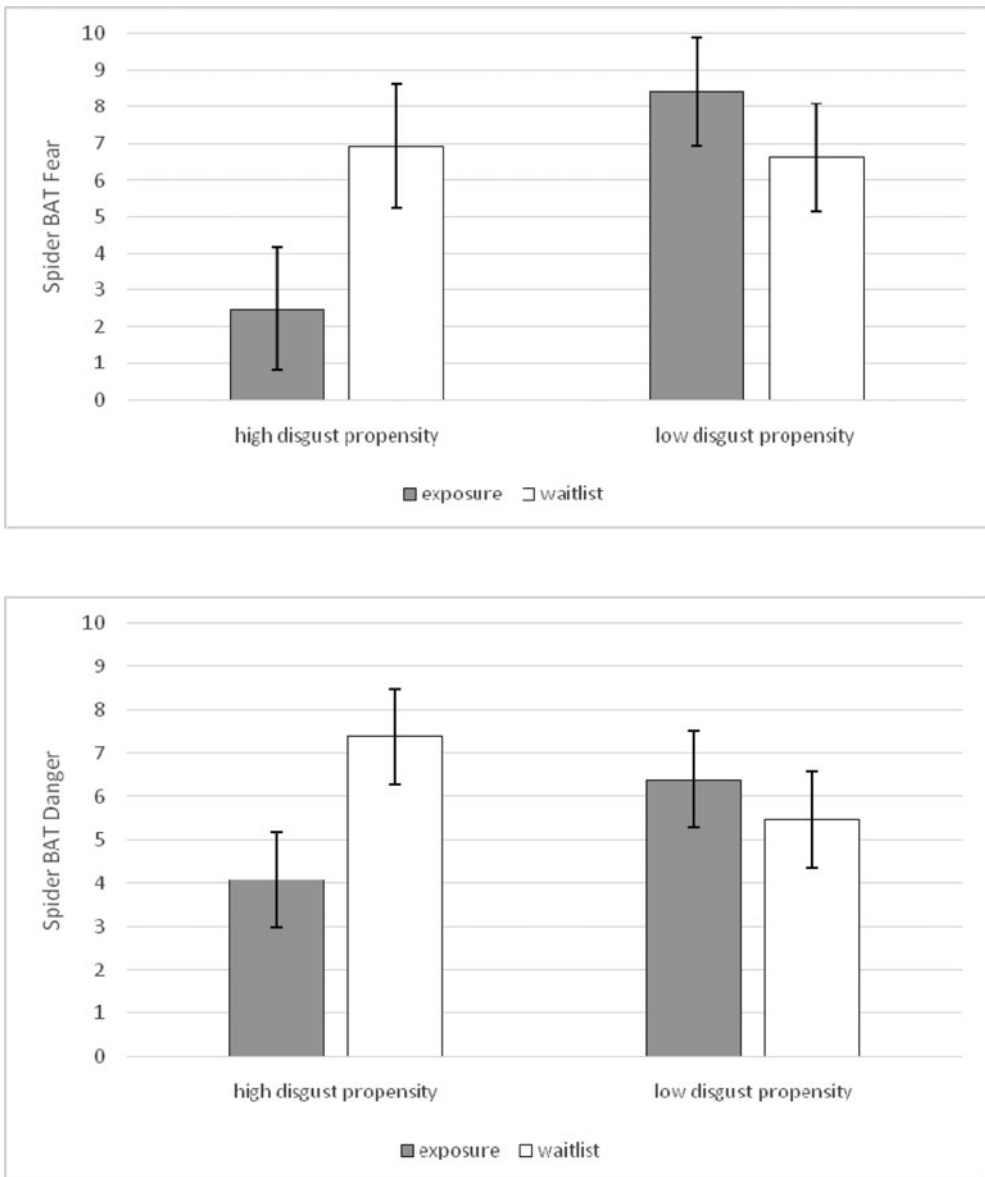
Ordinal regression analyses of posttreatment BAT steps revealed no main effect of condition ( $p = .81$ ). It is possible that these null findings are due to a ceiling effect, as most (79.4%) participants completed the last or next to last BAT step at the posttreatment assessment. Further, ANCOVAs revealed no effects of condition with regard to current fear or disgust reported prior to the BAT ( $p$ 's  $> .08$ ) or perceived dangerousness of the spider ( $p = .08$ ). Lastly, contrary to our predictions, no effect of condition was found on peak fear ( $p = .68$ ) or peak disgust ( $p = .35$ ) reported following the BAT.

### Moderator analyses

Analyses were conducted to examine whether pretreatment disgust propensity moderated the effects of condition on the main outcomes. No main effects of condition or significant interactions ( $p$ 's  $> .24$ ) were found with regard to posttreatment self-report measures of disgust propensity or spider fear.

Analyses predicting posttreatment spider BAT peak fear revealed no main effects of condition ( $p = .23$ ) or pretreatment disgust propensity ( $p = .23$ ), though an interaction between the two was found ( $\beta = -.54$ ,  $t = -2.68$ ,  $p < .02$ ). To interpret the interaction, we assessed the simple effect of condition at high and low pretreatment disgust propensity (1 *SD* above and below the mean DPSS-propensity scores; Aiken and West, 1991). At high disgust propensity, exposure led to greater reductions in peak fear relative to the waitlist control ( $\beta = -.71$ ,  $t = -2.64$ ,  $p < .02$ ), though no group differences were found at low disgust propensity ( $p = .23$ ; see Figure 3).

To assess the consistency of this moderated effect, we conducted an additional analysis with spider-related disgust (peak disgust in response to the pretreatment Spider BAT) replacing disgust propensity in the model. Analyses also revealed a significant interaction between spider disgust and condition ( $\beta = -.60$ ,  $t = -2.79$ ,  $p < .01$ ). Follow-up analyses revealed that at high (1 *SD* above mean) levels of spider disgust, exposure led to greater reductions in peak fear ratings relative to waitlist ( $\beta = -.53$ ,  $t = -2.27$ ,  $p < .04$ ); no group differences were observed at low levels (1 *SD* below mean) of spider disgust ( $p = .09$ ).



**Figure 3.** Interaction between condition and pretreatment disgust propensity in predicting posttreatment spider BAT peak fear and perceived dangerousness. Error bars represent standard error of the mean

Analyses predicting posttreatment spider BAT perceived dangerousness again revealed no main effects ( $p$ 's  $> .05$ ), though an interaction between pretreatment disgust propensity and condition was found ( $\beta = -.45$ ,  $t = -2.59$ ,  $p < .02$ ). Follow-up analyses revealed at high (1  $SD$  above mean) pretreatment disgust propensity, exposure led to greater reductions in perceived dangerousness relative to the waitlist condition ( $\beta = -.65$ ,  $t = -3.00$ ,  $p < .01$ );



no group differences were found at low (1 *SD* below mean) disgust propensity ( $p = .42$ ; see Figure 3). Pretreatment spider-related disgust did not interact with condition to predict posttreatment spider BAT perceived dangerousness ( $p = .16$ ).

No significant main effects of condition ( $p = .32$ ) or pretreatment disgust propensity ( $p = .72$ ) or their interaction ( $p = .23$ ) were found with regard to peak disgust following the BAT. Of note, analyses also revealed that pretreatment disgust sensitivity did not interact with condition to predict any of the spider BAT outcome variables ( $p$ 's  $> .12$ ).

### *Moderated mediation analyses*

Given that pretreatment disgust propensity and spider-related disgust moderated the effect of condition on posttreatment spider BAT peak fear, and posttreatment spider BAT perceived dangerousness is a plausible mechanism explaining the effects of the treatment on peak fear, moderated mediation analyses were conducted to examine these models. Models were conducted in SPSS version 22.0 using the PROCESS (Hayes, 2013) macro. Analyses were conducted including 5,000 bias-corrected bootstraps to provide replicable standard errors. In the model including pretreatment disgust propensity as a moderator of the effect of condition on posttreatment spider BAT perceived dangerousness, a significant interaction was found ( $B = -.76, p < .01$ ), resulting in a marginally significant mediated effect of treatment on posttreatment spider BAT peak fear (controlling for pretreatment spider BAT peak fear) through posttreatment spider BAT perceived dangerousness, such that a significant mediation effect was found at high pretreatment disgust propensity ( $B = -1.26, 90\%$  confidence interval [CI;  $-3.83, -.001$ ]).

In the model including pretreatment spider-related disgust as a moderator of the effect of condition on posttreatment spider BAT perceived dangerousness a significant interaction was found ( $B = -.79, p < .05$ ), resulting in a marginally significant mediated effect of treatment on posttreatment spider BAT peak fear (controlling for pretreatment spider BAT peak fear) through posttreatment spider BAT perceived dangerousness, such that a significant mediation effect was found at high pretreatment spider disgust ( $B = -.89, 90\%$  confidence interval [CI;  $-3.06, -.01$ ]).

## **Discussion**

Contamination-focused exposure did not have the hypothesized effects on general self-report measures of spider fear or general disgust propensity. However, at high levels of general disgust propensity at pretreatment, exposure was effective (relative to waitlist) in reducing spider fear and perceived dangerousness of spider in a behavioral approach task. Similar effects of exposure on spider fear were found among those reporting heightened spider-related disgust. Contrary to predictions, exposure did not impact spider-related disgust. A moderated-mediation analysis indicated that, at high levels of disgust propensity or spider-related disgust, the effects of exposure on spider fear were mediated by perceived dangerousness of the spider at posttreatment; however, these effects were only marginally significant (which may be due to low power), and this analysis should be considered only exploratory.

Exposure did not reduce disgust reactions associated with an *in vivo* assessment of contamination fear (touching a toilet), though it did reduce fear and perceived danger related to this task. These findings provide additional corroborating evidence that the therapeutic

benefits of contamination-focused exposure may be attributable to its impact on perceptions of danger associated with disgusting stimuli rather than its impact on disgust reactions. This is consistent with the perspective that, for individuals with significant fears, disgust may be interpreted as an early warning sign for danger (Brady et al., 2010).

The absence of treatment effects on self-report measures warrants some discussion. The spider fear measure, in particular, may have lacked sensitivity in this context. At posttreatment, when this measure was administered, those in the exposure condition had not yet confronted the tarantula again to experience and reflect on reductions in spider fear. It is possible that similar effects would have been found if this measure of spider fear had been administered following the spider approach test. Further, broader effects of exposure therapy on general disgust propensity might be found if additional exposure sessions were used. It is noteworthy that controlled evaluations of the effects of contamination-focused exposure therapy on disgust propensity are lacking.

### *Limitations*

The present study should be interpreted in light of some limitations. First, the use of a waitlist condition did not allow us to rule out demand or expectancy effects. Our reliance on a female student sample limits generalizability. Though our sample reported levels of spider fear that were higher than a clinical spider phobia sample (Muris et al., 1998), we did not recruit based on DSM-5 criteria. Our follow-up assessment was brief, only at one week posttreatment. We encountered a ceiling effect with our spider approach test; thus, we were not able to adequately assess the effects of treatment on approach behavior. Further, we evaluated a minimal amount of treatment (90 minutes total); larger doses of exposure may produce more pronounced treatment effects. Though our sample size was comparable to other studies in this research area (e.g. Cogle and Hawkins, 2013; de Jong et al., 2000) and was adequately powered for testing our main hypotheses, additional research with larger samples is needed to replicate these findings. Lastly, it is possible that other mechanisms that were not considered in this study, including disgust or anxiety tolerance, may have accounted for treatment effects.

This study provides some preliminary evidence for the potential efficacy of contamination-focused exposure as a transdiagnostic treatment strategy for disgust-based fears; importantly, this treatment was only effective for those with elevated disgust propensity and impacted response to an *in vivo* assessment of spider fear (rather than a self-report measure of general spider fear). This is, to our knowledge, the first examination of this particular treatment strategy for disgust-based fears. The fact that exposure was beneficial when high levels of spider-related disgust were present has special clinical relevance and suggests that individuals reporting significant disgust reactions related to a feared stimuli may benefit from this intervention. This technique may augment traditional exposure strategies involving direct fear confrontation with corrective learning (e.g. exposure to spiders for those with spider phobia) or may be useful as a transdiagnostic treatment strategy. Future research is needed to better understand the mechanisms underlying the efficacy of this treatment, as well as its application to other fears (e.g. BII phobia).

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*Conflict of interest:* The authors have no conflicts of interest with respect to this publication.

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