Understanding Mental Contamination: Relationships with Scrupulosity, Thought Action Fusion, and Perfectionism

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Psychology Honors Thesis
Mental contamination (MC) refers to the experience of physical dirtiness without contact with a physical contaminant. Despite its importance as a psychological construct, little is known about MC, its predictors, or how to treat it. Accordingly, the present study explores relationships between MC and hypothesized related constructs: perfectionism, scrupulosity, and thought-action fusion (TAF). Undergraduate students enrolled at the University of North Carolina at Chapel Hill who reported having an experience of MC \( (n = 111) \) completed the self-report study measures through Qualtrics. In line with hypotheses, MC was significantly positively correlated with (a) maladaptive perfectionism but not adaptive perfectionism, (b) scrupulosity but not religiosity, and (c) likelihood TAF. Contrary to hypotheses, MC was not associated with moral TAF. When all variables were included in a simultaneous regression, they cumulatively accounted for 26\% of the variance in MC symptoms. Likelihood TAF, Moral TAF, and maladaptive perfectionism emerged as significant unique predictors. Clinical implications regarding the study and treatment of mental contamination as well as study limitations will also be discussed.
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Mental contamination is defined as the “feeling of dirtiness/pollution/danger provoked by direct or indirect contact with an impure, soiled, harmful, contagious, immoral human source” (Rachman, 2006, p. 19). Unlike more conventional contact contamination concerns (e.g., of contracting an illness from touching a public restroom toilet), in the case of mental contamination contact with a physical contaminant is not required (Rachman, 2006). Rather, an individual who experiences mental contamination may feel dirty and contaminated just from imagining a subjectively unpleasant or immoral person or scenario (e.g., thoughts of committing incest; a memory of a friend’s betrayal). In response to the resulting distress, this individual may feel the urge to physically cleanse his or her body. Despite much research on contact contamination (Rachman, 2006), further research on mental contamination specifically is needed, because not much is known about this phenomenon or how to treat it.

As a clinical example, consider the case of Beth who experienced distressing intrusive thoughts about performing actions that were not in accordance with her religious beliefs. For example, if she had a sexual intrusive thought (e.g., “What if I were to one day engage in sex outside the context of marriage?”), she would feel highly distressed and physically unclean, and would often take showers to relieve the feeling of contamination from these thoughts. Another sin that Beth had intrusive thoughts about was whether she inadvertently told a lie (which was also against her moral and religious beliefs). She experienced a lot of shame when recalling instances in which he had told a “white lie” (or hadn’t told someone the full truth). In order to “wipe her mind clean,” Beth would engage in the mental ritual of neutralizing her unwanted
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thought, or thinking of good thoughts to cancel out the memories of lying and restore a sense of morality.

Despite the fact that most research on mental contamination has investigated the extent to which this construct is associated with experiences of contact contamination (e.g., Radomsky et al. 2014), as is illustrated by the previous example mental contamination is often thematically linked to immorality and religion (Rachman, 2006). In these instances, individuals feel physically contaminated because of the perceived immorality of a blasphemous or sinful urge or thought and experience the urge to wash or cleanse themselves (Rachman, 2006). Indeed, as other authors have previously stated (Berman, Wheaton, Fabricant, & Abramowitz, 2012), several religious faiths emphasize the importance of having “pure” thoughts, and that sinful thoughts can leave one “unclean.” For example, the Christian Bible states, “I say to you that everyone who looks on a woman to lust for her has committed adultery already in his heart” (Matthew 5:27-28), suggesting that the thought of committing adultery is just as morally wrong as the actual act. Furthermore, in response to this uncleanliness, religious texts frequently make reference to symbolically cleansing one’s body and conscience (e.g., “Wash you make you clean; put away the evil of your doings before mine eyes,” Isaiah 1:16). Similar sentiments are also seen in other religions. For example, Abramowitz and Jacoby (2014) mentioned an Orthodox Jewish woman who had thoughts about desecrating the Torah scrolls in the synagogue she attended. In order to neutralize this thought, she compulsively washed her hands, as if physical cleaning were the solution and would cancel out the blasphemous thought.

Accordingly, the phenomenon of mental contamination is conceptually related to scrupulosity, a presentation of obsessive-compulsive disorder involving religious obsessions and com-
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pulsions that literally means “fearing sin when there is none” (Abramowitz & Jacoby, 2014, p. 140). Those with scrupulosity fear that they may have committed a sin or done something immoral without realizing it, which causes significant distress. Thus, they may spend hours obsessing over possible moral or religious violations (e.g., “Did my mind wander while I was praying”), and use repetitive prayer and reassurance-seeking (e.g., from religious figures) in order to reduce their distress. Accordingly, scrupulosity is associated with increased symptoms of depression and anxiety (Nelson et al., 2006). Although higher levels of scrupulosity are associated with higher levels of religiosity, (i.e., strength of religious faith; Plante & Boccaccini, 1997), these two constructs are distinct. Indeed, the vast majority of religious individuals do not suffer from scrupulosity, and religiosity may serve as a protective factor (i.e., healthy religious practice is typically associated with positive emotions; Greenberg & Shefler, 2008). Thus, in summary, both mental contamination and scrupulosity can be centered on religious immorality and the desire to alleviate the distress associated with subjectively immoral thoughts, whether through physical washing (as seen in mental contamination) or through prayer and reassurance seeking (as seen with scrupulosity). To date, however, no researchers have empirically examined the potential overlap between mental contamination and scrupulosity.

Furthermore, two key constructs related to scrupulosity are thought-action fusion (TAF; Shafran, Thordarson, & Rachman, 1996) and perfectionism (Allen & Wang, 2014). Considering the conceptual similarities between mental contamination and scrupulosity, these constructs may also be important in the development and maintenance of mental contamination, although no studies have empirically examined these relationships. First, thought-action fusion refers to a set of faulty beliefs about the relationship between mental events and behaviors (Shafran, Thordar-
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Son, & Rachman, 1996). Specifically, there are two types of TAF: (a) Moral TAF refers to the idea that thinking an immoral thought is as bad as carrying out the associated action (e.g., thinking about cheating on an exam is morally equivalent to actually cheating), and (b) Likelihood TAF refers to the idea that thinking of an event will make it more likely to occur (e.g., imagining a loved one getting in a car accident means that an accident is more likely to happen). While both aspects of TAF may certainly play a role, moral TAF in particular has been associated with scrupulosity symptoms (e.g., Nelson et al., 2006) and religiosity (e.g., Berman, Abramowitz, Pardue, & Wheaton, 2010; Rassin & Koster, 2003; Siev & Cohen, 2007), such that individuals with scrupulosity symptoms often believe that blasphemous thoughts are as immoral as blasphemous actions. Accordingly, TAF is likely to also contribute to feelings of mental contamination.

Perfectionism is a second construct central to scrupulosity. Depending on its function, perfectionistic traits can either be adaptive or maladaptive (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Specifically, whereas adaptive perfectionism enables an individual to set high goals and expectations for him or herself, individuals with maladaptive perfectionism focus on falling short of expectations and not being good enough to the extent that their functioning is impaired (Slaney et al. 2001). For example, in the context of religious practice, while an individual with adaptive perfectionism may use her religious beliefs as motivation to be the best version of herself, someone else with maladaptive perfectionism may ruminate excessively on his religious short-comings (e.g. failing to be the “perfect Christian”). In a sample of individuals identifying as Latter-Day Saints (LDS, or Mormons), Allen and Wang (2014) found that maladaptive (but not adaptive) perfectionism was positively associated with scrupulosity symptoms.
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In summary, the conceptualization of both mental contamination and scrupulosity suggests that the two share similar characteristics because morality plays an important role in both constructs. Both moral TAF and maladaptive perfectionism, in particular, are robustly associated with scrupulosity symptoms. Based on these findings, I hypothesize that mental contamination will be associated with: (a) scrupulosity but not religiosity, (b) both moral and likelihood TAF, and (c) maladaptive but not adaptive perfectionism.

Method

Participants

The participants of this study were 365 undergraduate students recruited from Introduction to Psychology (PSYC 101) classes at the University of North Carolina at Chapel Hill (UNC-CH) during either the Fall 2015 or Spring 2016 semesters. There were no inclusion/exclusion criteria for the study. Following data screening and limiting the sample to individuals who identified having an experience of mental contamination (described further in the “Procedures” section below), the final sample size was 111 participants. The sample was primarily female (69.4%, n = 77), Caucasian (74.8%, n = 83; 4.5% African American, 13.5% Asian, 0.9% American Indian / Alaska Native, 4.5% multi-racial, 1.8% other), non-Latino (94.6%, n = 105), and first-year students (54.1%, n = 60); M age = 19.17 years old (SD = 2.25; range 17 - 40). A range of religious affiliations were represented: 13.5% Catholic (n = 15), 46.8% Protestant (n = 52), 9.9% other religion (n = 11; e.g., Islamic, Jewish), and 29.7% no religion (i.e., agnostic or atheist, n = 33). The majority of the sample reported that they were not currently receiving any form of psychological treatment (86.5%, n = 96), while some reported receiving psychiatric medication only (9.0%, n = 10), therapy only (3.6%, n = 4), or both (0.9%, n = 1).
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Measures

**Vancouver Obsessive Compulsive Inventory Mental Contamination Subscale** (VOCI-MC; Rachman, 2006). The VOCI-MC is a 20-item self-report questionnaire designed to assess the severity of mental contamination symptoms. The items ask the extent to which participants agree with a series of statements about mental contamination (e.g. “I often look clean but feel dirty”, “I often feel the need to cleanse my mind”). Participants rate how much they agree with each of the statements on a scale of 0 (not at all) to 4 (very much); total scores range from 0 to 80. The VOCI-MC demonstrated excellent internal consistency as well as convergent, divergent, and discriminate validity in previous studies (e.g., Radomsky et al. 2014). Internal consistency of the VOCI-MC in the present sample was excellent ($\alpha = .94$).

**Santa Clara Strength of Religious Faith Questionnaire** (SCSRFQ; Plante & Boccaccini, 1997). The SCSRFQ measures the degree to which one is religious (i.e., religiosity) with a series of 10 questions (e.g., “I pray daily”, “My faith impacts many of my decisions”). Items are scored on a 4-point Likert scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). Total scores range from 10 to 40, with higher scores indicating that an individual is more religious (Plante & Boccaccini, 1997). The SCSRFQ has excellent reliability and demonstrates convergent validity with other established measures of religiosity (Plante & Boccaccini, 1997). Internal consistency of the SCSRFQ in the present sample was excellent ($\alpha = .99$).

**Penn Inventory of Scrupulosity** (PIOS; Abramowitz, Huppert, Cohen, Tolin, & Cahill, 2002). The PIOS is a 19-item self-report measure used to assess obsessive-compulsive symptoms related to religion (i.e., scrupulosity). The measure is not focused on any one specific religion, but rather the items are worded so as to refer to religious experiences regardless of one’s reli-
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The PIOS consists of two subscales: (a) fears of having unintentionally committed a religious sin (i.e., Fear of Sin subscale; e.g., “I am afraid of having sexual thoughts”), and (b) fears of being punished by God (i.e., Fear of God subscale; e.g., “I worry that God is upset with me”). Items are scored on a 5-point Likert scale ranging from 0 (Never) to 4 (Constantly); total scores range from 0 to 76. The PIOS has shown adequate psychometric properties in non-clinical samples (Abramowitz et al., 2002; Olatunji, Abramowitz, Williams, Connolly, & Lohr, 2007). Internal consistency of the PIOS in the present sample was excellent (α = .94).

Thought-Action Fusion Scale (TAFS; Shafran, Thordarson, & Rachman, 1996). The TAFS is a 19-item self-report measure of beliefs about the importance of thoughts. Specifically, it contains two subscales: Moral TAF (TAFS-M; 12 items, e.g., “Having a blasphemous thought is almost as sinful to me as a blasphemous action”), and Likelihood TAF (TAFS-L: 7 items, e.g., “If I think of a relative/friend losing their job, this increases the risk that they will lose their job” and “If I think of myself having an accident, it increases the risk that I will have an accident”). Each item is rated on a scale from 0 (Disagree strongly) to 4 (Agree strongly); total scores range from 0 to 76. Internal consistency and discriminant validity in previous studies was excellent (Shafran, Thordarson, & Rachman, 1996). Internal consistency of the TAFS in the present sample was excellent (TAFS-M: α = .93; TAFS-L: α = .94).

Almost Perfect Scale-Revised (APS-R; Slaney, Rich, Mobley, Trippi, & Ashby, 2001). The APS-R is a 23-item self-report scale designed to measure perfectionism. The items on the scale can be divided into three sub-scales, (a) standards (i.e., having high personal standards for oneself; e.g., “I have high standards for my performance at work or school.”), (b) order (i.e., neatness and orderliness; e.g. “I am an orderly person.”), and (c) discrepancy (i.e., the perception
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that one’s high personal standards are not being met; e.g. “My best just never seems to be good enough for me.”). Factor analytic studies have identified two higher order dimensions of perfectionism: adaptive perfectionism (i.e., positive striving; comprised of standards and order subscales; APS-A) and maladaptive perfectionism (i.e., preoccupation with unrealistic standards and a feeling of falling short of these standards; comprised of the discrepancy subscale; APS-M). Each item is rated on a scale from 1 (Strongly disagree) to 7 (Strongly agree); total scores range from 23 to 161. Internal consistency and construct validity for the APS-R was good to excellent in previous studies (Slaney et al., 2001). Internal consistency of the APS in the present sample was excellent (APS-A: $\alpha = .91$; APS-M $\alpha = .95$).

Procedure

The University’s Institutional Review Board approved all measures and procedures. PSYC 101 students ($N = 365$) signed up for the study online through SONA, the University’s Psychology Research Participant Pool. Upon signing up, participants received a secure link to complete a 30-minute online survey investigating “personality traits and mental experiences” through Qualtrics, a secure online survey tool. After providing consent, participants completed a series of demographics questions (e.g., gender, age, race/ethnicity, religion) as well as the previously mentioned measures. Participants who began the survey but did not complete it ($n = 34$) and those who completed the survey more than once ($n = 9$) were removed from analyses. Three distractor items (e.g., “please answer Always True for this item”, “while watching television I have fatal heart attacks”, “please select Strongly Agree for this item”) were also included among the survey questions. Examination of participant responses eliminated 38 participants who answered in a manner on these questions that indicated they were not paying attention.
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At the beginning of the VOCI-MC participants were given a definition of mental contamination and asked if they had ever had this experience. If participants answered yes \( n = 111 \), they were then asked to describe two specific examples of mental contamination thoughts. Participants then were asked to report: (a) how long ago they last experienced an intrusion about mental contamination, (b) how often they experienced an intrusion about mental contamination in the last six months, and (c) the average level of distress they have when experiencing an intrusion on a scale from 0 (None) to 5 (Extreme). Those who could not identify a mental contamination experience were directed to the end of the survey.

Participants were allowed to skip any questions that they did not feel comfortable answering. At the end of the survey, participants were debriefed, and granted half an hour of course credit in exchange for their participation.

Data Analytic Plan

We used SPSS to compute descriptive statistics for all of the study variables. We then computed Pearson’s correlations to examine zero-order associations between the VOCI-MC, PIOS, SCSRFQ, TAFS-M, TAFS-L, APS-A, and APS-M. Finally, to examine the relative contributions of scrupulosity, TAF, religiosity, and perfectionism in predicting mental contamination, we computed a simultaneous multivariate regression using the PIOS, SCSRFQ, TAFS-M, TAFS-L, APS-A, and APS-M to predict the VOCI-MC.

Results

Descriptive Statistics

Means and standard deviations for all study measures in the sample of individuals who identified a mental contamination thought appear in Table 1. The sample’s mean VOCI-MC
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score was comparable to a sample of undergraduate students in a previous study who were re-
cruited based on elevated contamination concerns ($M = 18.70, SD = 7.89$; Coughtrey, Shrafran,
& Rachman, 2014). Furthermore, the mean was higher compared to samples of unscreened un-
dergraduates ($M = 8.34, SD = 9.64$) and lower than patients with OCD who had contamination
concerns ($M = 30.57, SD = 19.29$) in another study (Radomsky et al. 2014). On average, partici-
pants reported moderately strong religious beliefs ($M = 3.18, SD = 1.52$, range = 1-5).

**Characteristics of Mental Contamination Thoughts**

Participants reported a wide range of mental contamination thoughts. For example, one
participant reported feeling the need to shower in order to wash away the shame she felt after she
had failed a test. In addition, many participants reported experiencing mental contamination re-
lated to thoughts about past emotional violations, thoughts about germy or dirty surfaces, and
thoughts about unwanted sexual situations. Participants were asked how long ago they last expe-
rienced an intrusion about mental contamination. Forty-two percent of the sample ($n = 47$) re-
ported experiencing their mental contamination thought in the past week (22% in the last month;
36% in the last year). When asked how often they experience an intrusion about mental contami-
nation in the last six months, 12% said once or more per day (36% once or more per week; 52%
once a month or less). The average level of distress participants reported when experiencing an
intrusion was between “a little” and “moderately” distressing ($M = 2.32, SD = 1.05$); distress
levels covered the entire range of the scale (range = 0-5).

**Correlational Analyses**

Pearson’s correlations among the study measures appear in Table 2. As can be seen, the
SCSRFQ was strongly, positively correlated with the PIOS as well as the TAFS-M. Furthermore,
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the PIOS was also moderately to strongly correlated with both TAFS-M and TAFS-L. The APS-M was weakly, negatively correlated with SCSRFQ and the TAFS-M. Finally, as can be seen, the VOCI-MC was weakly, positively correlated with the PIOS and the TAFS-L, and was moderately, positively correlated with the APS-M. There were no significant associations between the APS-A and any other study measures.

Simultaneous Regression Analyses

Finally, simultaneous regression analyses were conducted to determine the joint contributions of the SCSRFQ, PIOS, TAFS, and APS in VOCI-MC. Summary statistics for these analyses appear in Table 3. When the SCSRFQ, PIOS, TAFS, and APS were entered as predictors, they collectively accounted for 26% of the variance in VOCI-MC scores ($R^2 = .26$), which was significant, $F(6, 104) = 5.96, p < .0001$. As can be seen in Table 3, TAFS-M, TAFS-L and APS-M emerged as significant unique predictors.

Discussion

As previously discussed, mental contamination is defined as a feeling of physical dirtiness or contamination without contact with or the presence of a physical contaminant (Rachman, 2006). Despite some research examining relationships between contact and mental contamination (e.g., Radomsky et al. 2014), little is known about mental contamination, its predictors, or how to address it. Accordingly, the goal of this study was to gain an understanding of possible predictors of mental contamination in order to direct future research as well as generate hypotheses for possible treatments of this phenomenon.

First, in line with hypotheses, higher levels of scrupulosity were weakly associated with elevated mental contamination symptoms. This suggests that there is an association between re-
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Religious obsessive-compulsive symptoms (e.g., fears of having unintentionally committed a religious sin) and experiences of mental contamination. For instance, religious individuals who have an immoral, blasphemous, or sinful thought or urge may feel physically contaminated as a result and experience the urge to cleanse themselves. However, scrupulosity did not emerge as a significant unique predictor after controlling for other included study variables, suggesting that it may not be as central of a predictor of mental contamination as some other constructs discussed subsequently. Notably, strength of religiosity more generally, did not emerge as a significant predictor of mental contamination, suggesting that perhaps healthy religiosity serves as a protective factor against mental contamination. As mentioned in Greenberg and Shefler (2008), healthy religious practice is often associated with various positive emotions, and religious doctrines provide lessons (e.g., forgiveness of oneself and others) that may buffer individuals from developing anxiety-related problems.

Second, as hypothesized, the endorsement of TAF likelihood beliefs was associated with elevated levels of mental contamination (even after accounting for other related cognitions and symptoms), which may be due to the fact that both likelihood TAF and mental contamination center on the importance of thoughts. Specifically, (a) those with likelihood TAF beliefs endorse that thinking certain thoughts can lead to corresponding negative outcomes, and (b) those with mental contamination symptoms consider thoughts to be almost tangible, thus requiring physical cleansing to cancel them out. As an example, if someone merely thinks of something that they find to be contaminated (e.g., a public restroom), they may believe they are more likely to then become contaminated, and feel the need to physically clean themselves to cancel out the distress and perceived dirtiness. Contrary to what was hypothesized, moral TAF was not associated with
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mental contamination symptoms. However, when moral TAF was entered along with the other cognitive and symptom measures in predicting mental contamination symptoms it did emerge as a significant unique predictor. The fact that the squared semi-partial correlation between moral TAF and mental contamination (after controlling for other study constructs) was stronger than the zero-order relationship between these two variables suggests the presence of a suppressor system; specifically, moral TAF was associated with a unique portion of the leftover unexplained variance in mental contamination symptoms after accounting for the other cognitive and symptom predictors. This finding requires additional investigation in order to better understand the complex relationships between these phenomena.

Third, as hypothesized, higher levels of maladaptive perfectionism were associated with elevated levels of mental contamination (even after accounting for other related cognitions and symptoms). Individuals endorsing maladaptive perfectionism are hyper-focused on falling short of excessive personal standards, and this need for perfectionism could also translate to mental contamination-related thoughts. For example, as previously mentioned, one participant reported feeling the need to shower after she thought she had failed an exam in order to “wash the shame” off of herself. In this case, physical cleaning could be seen as an attempt to manage rigid feelings of imperfection (i.e., maladaptive perfectionism). In contrast, adaptive perfectionism was not significantly associated with mental contamination. Thus, there appears to be something unique to maladaptive perfectionism that explains its association with mental contamination. One hypothesis is that cognitive inflexibility (i.e., rigid beliefs and standards) accounts for this difference. Future research might examine this more closely.

The results of this study have provided a starting point for understanding mental contam-
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ination. Based on these results, we are able to better predict which variables portend the presence of this phenomenon (e.g., likelihood TAF and maladaptive perfectionism). This knowledge could also help in addressing mental contamination through psychoeducation. For example, the knowledge that likelihood TAF is associated with mental contamination suggests that therapists may wish to educate individuals that simply thinking of something contaminated or disgusting does not necessarily mean that one is physically more dirty. In addition, these results could have important implications for treatment itself. Knowing that both maladaptive perfectionism and likelihood TAF are positively associated with mental contamination suggests that similar treatment strategies could be effective. For example, TAF is often seen in individuals with OCD, which can be treated with cognitive behavioral therapy (CBT; Wilhelm & Steketee, 2006). Specifically, patients can conduct behavioral experiments in less anxiety provoking domains in order to “test out” their TAF beliefs (e.g. buying a lottery ticket, thinking about winning every day for a week, and seeing if they win). Similarly, perfectionism can be addressed with cognitive strategies in which patients could be encouraged to take on an alternate perspective (i.e., imagining what rules and standards a friend may have in a certain domain), and exploring any discrepancies in levels of perfectionism that exist. Thus, similar strategies may be useful to implement with individuals who experience mental contamination.

Although the findings of this study are of value in providing direction for better understanding mental contamination, this investigation is not without limitations and further research should be conducted to address these shortcomings. First, our sample consisted of students enrolled in an introductory psychology course, which limited the age range of participants in the study. In addition, the study consisted of non-treatment seeking individuals (rather than individu-
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als with clinically elevated levels of OCD or other anxiety symptoms). Future studies should consider examining these constructs in a more diverse, treatment-seeking sample, in order to see the extent to which our findings generalize to clinical populations.

Second, the data were collected using an online survey, and participants were asked to read a definition of mental contamination prior to answering the survey questions. Because of this methodology, we cannot be sure whether participants included in the study fully understood the definition of mental contamination. Thus, future studies should consider having participants complete survey measures in person after an experimenter (a) explains the definition, and then (b) asks participants to identify a mental contamination thought, in order gauge whether or not the participant is able to identify a thought consistent with the definition. Additionally, future studies should utilize methodology beyond self-report. For example, it may be beneficial to use behavioral approaches to experimentally induce mental contamination in a laboratory-based setting. For example, participants could be asked to identify a mental contamination thought that they experience related to morality or religion. The participants then would be asked to think or say a statement that triggers the thought (e.g., “I hope I go to Hell when I die”) and then report their *in vivo* levels of distress and urges to wash. They would also be given the opportunity to wash their hands (and the amount of time they spend washing could be quantified).

In addition, the cross-sectional nature of the study design does not allow for definitive conclusions regarding causation because the data were only collected at one time point for each participant. While it seems that increased maladaptive perfectionism and likelihood TAF may lead to increased chances of experiencing mental contamination, it is also possible that, for example, individuals with mental contamination symptoms develop perfectionistic beliefs about
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how the mind should be clean in response to their thoughts. In addition to experimental paradigms, future studies should consider longitudinal designs to examine the extent to which the study constructs predict later experiences with mental contamination over time.

Finally, since only a modest percentage of the variance in mental contamination was accounted for by the measures included in the current study, it is important to consider other variables that may also predict mental contamination symptoms. Several of the examples of mental contamination thoughts from this study had to do with memories of past emotional or physical betrayals or sexual assaults. For instance, one participant reported feeling physically dirty after thinking about a time that she was sexually assaulted. This indicates that there are constructs related to PTSD that may predict whether an individual experiences mental contamination related thoughts that should be incorporated in future research. For example, Fergus and Bardeen (2015) determined that difficulty tolerating negative emotions (i.e., distress intolerance) was a necessary condition (i.e., moderator) for the association between mental contamination and post-traumatic stress symptoms following a sexual assault. Another potentially relevant construct is disgust, since Badour, Oiserkis, McKay and Feldner (2014) found that self-focused disgust was significantly related to mental contamination in a trauma-exposed sample. Accordingly, a final direction for future research is to examine the relative contributions of constructs such as such as distress tolerance and disgust in addition to the current study measures in predicting mental contamination symptoms.
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References


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**Table 1.** Means and standard deviations on study measures \((n = 111)\)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean ((SD))</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<td>SCSRFQ</td>
<td>25.51 (11.11)</td>
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<td>APS-Maladaptive</td>
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<td>22.24 (13.87)</td>
<td>0 - 62</td>
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*Note.* SCSRFQ = Santa Clara Strength of Religious Faith Questionnaire, PIOS = Penn Inventory of Scrupulosity, TAFS = Thought Action Fusion Scale, APS-R = Almost Perfect Scale – Revised, VOCI-MC = Vancouver Obsessional Compulsive Inventory – Mental Contamination
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**Table 2.** Associations among cognitive and symptom study measures \( (n = 111) \)

<table>
<thead>
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<th>Measure</th>
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<td>3. TAFS-Moral</td>
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<td></td>
<td>.14</td>
<td>.16</td>
<td>-.26*</td>
<td>.15</td>
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<td>4. TAFS-Likelihood</td>
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<td></td>
<td></td>
<td>-.09</td>
<td>.08</td>
<td>.28*</td>
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<tr>
<td>5. APS-Adaptive</td>
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<td></td>
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<td>.07</td>
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<tr>
<td>6. APS-Maladaptive</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.37*</td>
</tr>
<tr>
<td>7. VOCI-MC</td>
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</tbody>
</table>

*Note. SCSRFQ = Santa Clara Strength of Religious Faith Questionnaire, PIOS = Penn Inventory of Scrupulosity, TAFS = Thought Action Fusion Scale, APS-R = Almost Perfect Scale – Revised, VOCI-MC = Vancouver Obsessional Compulsive Inventory – Mental Contamination

\( *p < .05 \)
Table 3. Predicting VOCI-MC scores from cognitive and symptom study measures ($n = 111$)

<table>
<thead>
<tr>
<th>Predicting VOCI-MC</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCSRFP</td>
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<td>-1.08</td>
<td>.28</td>
<td>-.09</td>
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<tr>
<td>PIOSS</td>
<td>.07</td>
<td>0.55</td>
<td>.59</td>
<td>.05</td>
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<td>.03</td>
<td>.19</td>
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<td>2.25</td>
<td>.03</td>
<td>.19</td>
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<tr>
<td>APS- Adaptive</td>
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<td>.41</td>
<td>.68</td>
<td>.04</td>
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<td>APS-Maladaptive</td>
<td>.37</td>
<td>3.85</td>
<td>&lt; .001</td>
<td>.33</td>
</tr>
</tbody>
</table>

*Note. SCSRFP = Santa Clara Strength of Religious Faith Questionnaire, PIOSS = Penn Inventory of Scrupulosity, TAFS = Thought Action Fusion Scale, APS-R = Almost Perfect Scale – Revised, VOCI-MC = Vancouver Obsessional Compulsive Inventory – Mental Contamination*