Cleanliness is Next to Godliness: Exploring the Limits of the Cleanliness-Morality Link

During the COVID-19 Pandemic

by

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ABSTRACT

The current study aims to explore the bounds of the conceptual link between cleanliness and morality by investigating scrupulosity as a potential mediating factor in the relationship between negative God-concept and fear of contracting COVID-19. That is, the goal of the study is to better understand whether the cleanliness-morality link is literal or metaphorical in nature by examining whether this phenomenon extends to contamination fears. Ninety-nine participants were administered assessments measuring fear of COVID-19, negative God-concept, scrupulosity, and social desirability, which was used as a covariate. Results showed that there was a positive correlation between scrupulosity and negative-God concept, a positive relationship between COVID-19 stress and scrupulosity, and a positive relationship between scrupulosity and negative God-concept. However, these relationships were non-significant when controlling for social desirability. In addition, scrupulosity did not significantly mediate the relationship between negative God-concept and fear of COVID-19 with social desirability as a covariate. Implications of these findings and future directions for research are discussed.

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CHAPTER I

INTRODUCTION

The link between cleanliness and morality is a theme present in religious texts and practices that are millennia old. Religious traditions, such as baptism, personal hygiene practices (e.g., beard maintenance, handwashing before prayer), and the delineation between "clean" and "unclean" foods (e.g., Kosher, Halal), are often used to keep the believer spiritually and morally pure. These cultural practices show a clear and longstanding connection between the concepts of moral purity and physical cleanliness. Although these behaviors are usually normative, in some, this connection becomes pathological in that the moral becomes obsessional and the clean becomes compulsory (Greenberg & Huppert, 2010). Using treatment as usual for highly scrupulous patients, whose problems often have a religious bent, can be difficult due to the ethical obligations of practitioners regarding the sensitive nature of deeply held religious beliefs.

In light of the correlation between scrupulosity and negative conceptions of God (Pirutinsky et al., 2015), the targeting of negative God-concept in therapy could be one path to successful treatment, a potential cognitive component for use in conjunction with standard exposure and response prevention (ERP). However, whether these associations between cleanliness and morality are literal or metaphorical remains to be seen. The coronavirus disease 2019 (COVID-19) pandemic presents the perfect opportunity to determine whether this link extends to the realm of contamination fears in the form of contracting a serious, contagious illness.

The Cleanliness-Morality Link

While the cleanliness-morality link is a somewhat intuitive concept, it also has, in recent years, received empirical support. In fact, recent correlational and experimental studies have shown that the old adage, "Cleanliness is next to godliness," may be more literal than was previously thought. One such study showed that having a higher degree of God-belief was a moderating factor in how strongly impulsive behaviors (e.g., giving in to an urge, doing something without thinking) impacted feelings of cleanliness (Fetterman, 2016). That is, the more the participant believed in God, the less clean they felt after engaging in these impulsive behaviors. The inverse was also found to be true in that those higher in God-belief felt cleaner after engaging in prosocial behaviors (e.g., helping someone, doing someone a favor; Fetterman, 2016).

Another study (Lee & Schwartz, 2010) found that participants who engaged in the act of lying rated personal cleaning products (i.e., hand sanitizer and mouthwash) as more valuable than those who told the truth, and the purported value of the products matched the modality in which the immoral act was completed (i.e., typing a lie via e-mail versus speaking a lie, respectively). Outside of these two studies, there is a robust body of evidence which points to the existence of a psychological link between physical cleanliness and morality (Lee & Schwartz, 2020). Experimental research by Ritter (2010) revealed that Christian participants who were asked to rate the taste of a drink rated it as more disgusting after copying a passage from the Qur'an or from Richard Dawkins' book *The God Delusion* in comparison to a control text; in a second experiment in the same study, this effect was mitigated if the participants washed their hands between copying the text and rating the drink.

The desire to physically cleanse after an immoral act is likely due to feelings of contamination and associated fears, a phenomenon first conceptualized by Rachman (1994). Research in this area has concluded that there are two types of contamination: contact contamination and mental contamination (Elliott & Radomsky, 2012). Contact contamination involves a "readily identifiable contaminant" (Elliott et al., 2012, p. 422), while mental contamination involves some source of perceived immorality (e.g., blasphemy, sexual and/or violent thoughts, images, etc.). People who experience high feelings of mental or physical contamination will feel anxiety and a strong disgust response, which will usually lead to avoidance behaviors and repeated washing (Elliott et al., 2012). When this process causes impairment and distress, an individual has likely developed obsessive-compulsive disorder (OCD). The two types of contamination are closely related to one another and, while most responses to contamination feelings are pervasive and culturally normative (Rachman, 2004), they can in some individuals lead to contaminant-centered and morality-centered (i.e., scrupulous) subtypes of OCD, which overlap in many ways.

Scrupulous OCD

While the vast majority of people engage in religious behaviors in a normative, healthy manner, there is a small subset of the population which can develop a subtype of OCD involving religious practice. This subtype is called scrupulous OCD. The existence of this type of OCD is also evident in literary history. Greenberg and Huppert (2010) detail several early textual examples of the connection between religious belief and obsessive-compulsive behaviors, stating, "The first known descriptions that are retrospectively viewed as OCD-like were all religious in content" (p. 282). Abramowitz

and colleagues (2002) define scrupulosity as, "Persistent doubts about sin and irresistible urges to perform excessive religious behavior" (p. 825). Huppert and Siev (2010) offer another definition: "the obsessional fear of thinking or behaving immorally or against one's religious beliefs" (p. 382). Both definitions capture different aspects of scrupulosity which are vital when considering the scope of this phenomenon. The first includes a description of compulsive ritualistic behaviors which often accompany persistent worries about sin and punishment. The second definition captures an oft-excluded group: those with scrupulous symptomology who are non-religious. Outside of clinically defining scrupulosity, other important factors to consider include prognosis, treatment, assessment, and cultural influences.

When compared to other subtypes of OCD, people with scrupulous OCD tend to have more severe symptoms: "[P]atients with religious obsessions had poorer insight, more perceptual distortions, and more magical ideation than did those with other types of obsessions" (Abramowitz et al., 2002, p. 826). Scrupulosity also may be more treatment-resistant than other forms of OCD (Ferrão et al., 2006), although studies on the efficacy of treatment for scrupulous patients tend to have small sample sizes and mixed results.

Assessing for scrupulosity is also difficult and should focus on the underlying motivations of the person's fears (e.g., the individual fears being an evil person or receiving punishment from God; Huppert & Siev, 2010). The Yale-Brown Obsessive Compulsive Scale (Goodman et al., 1989), a highly reliable assessment tool for determining OCD symptom presentation and severity, contains only two items related to scrupulosity, and scrupulous symptoms are often combined with other categories of symptoms during factor analysis instead of being dealt with as a unique category (Cullen

et al., 2007). It seems that, even in OCD research, scrupulosity is sometimes vaguely defined and its distinctive characteristics sometimes overlooked.

Exposure and response prevention (ERP) is considered a gold-standard evidence-based treatment for OCD, but due to the difficult nature of scrupulosity and issues of cultural sensitivity, it has to be modified very carefully. For instance, standard ERP for contamination fears in OCD involves the direct confrontation of anxiety-provoking cues with the intention of preventing rituals and with the overall goals of increasing distress tolerance and, in many cases, to disprove feared consequences (Barlow, 2021). However, it would be impossible to disprove that a highly scrupulous individual will go to hell if they do not engage in repetitive prayer after having a sinful thought, for example. In addition, in highly scrupulous individuals, the perceived significance of their own thoughts often exacerbates symptoms. This is called thought-action fusion, the idea that thoughts are morally equivalent to actions (e.g., thinking about killing someone is morally equivalent to actually killing someone; Huppert & Siev, 2010). This teaching is prevalent in Abrahamic religions and is therefore often reinforced by an individual's religious community and clergy.

Members of the person's religious community also can unintentionally exacerbate a patient's scrupulous symptoms by encouraging their compulsive behaviors or by reinforcing fears of punishment or immorality (Huppert & Siev, 2010). Scrupulous symptoms tend to include culturally specific beliefs and behaviors (Greenberg & Huppert, 2010). Scrupulosity varies widely in prevalence depending upon the community being studied, and primarily scrupulous OCD is more prevalent in communities where religion is central to everyday life, such as in Muslim-majority

countries or ultra-Orthodox Jewish communities (Greenberg & Huppert, 2010). On top of this, patients' religious peers and leaders may discourage them from seeking help from a mental health professional due to beliefs that their symptoms are a spiritual issue (Huppert & Siev, 2010). Although there are cases in which carefully instructing and involving clergy may be necessary for treatment (Huppert & Siev, 2010), it is often fraught with complexity and therefore not always advisable.

God-Concept

God-concept, as the term is used in this study, is defined as an individual's abstract conception of a deity, and it can be described in both positive and negative terms. A person with a positive God-concept might describe God as loving and compassionate, while someone with a negative God-concept may use descriptors such as punitive or harsh. As simple as this may seem, God-concept is a complex construct, and past research has found that positive and negative God-concepts within one individual are not mutually exclusive in that they are not significantly correlated (Pirutinsky et al., 2015). When operationalizing God-concept, it is important to make a distinction between implicit and explicit beliefs. Pirutinsky and colleagues (2015) found that scores on implicit and explicit negative God-concept beliefs did not correlate with one another, showing a clear delineation between the two types of beliefs. For this study, only explicit negative beliefs were measured.

There is a robust body of research implicating God-concept as a significant factor in religious people's mental health. One study by Fergus and Rowatt (2014) found a positive correlation between scrupulosity and attachment anxiety in participants' relationships with God. Another study of the relationship between religious belief and

self-esteem found a significant correlation between God-concept and self-esteem.

Namely, the authors found that those with a positive God-concept had higher self-worth,

while those with a negative God-concept tended to score lower on self-worth measures

(Francis et al., 2001). Evidence seems to indicate that there is a link between how

religious people perceive God and various mental health outcomes. Although this

phenomenon needs to be studied further, it would not be unreasonable to hypothesize that

a positive relationship with God leads to better mental health outcomes than a negative

one.

Taking into consideration what is known on this topic, targeting negative God-

concept in the treatment of scrupulous OCD could be effective in alleviating symptoms.

In ERP for scrupulous OCD, it is considered unethical for the clinician to try to convince

the patient to carry out a behavior that they deem as sinful, and the goal is typically to

"convince the patient that it is acceptable to risk sin" during normative religious practices

and in everyday life (Huppert & Siev, 2010, p. 387). Therefore, since cognitive

restructuring of components of the individual's worldview are indeed the ultimate goal of

ERP, changing a person's negative God-concept to a more positive one could be used in

conjunction with treatment as usual to lead to better outcomes for highly scrupulous

patients.

Greenberg and Huppert (2010) suggest that, in treating scrupulous OCD, it is best

to ensure that the patient understands that removing their religious beliefs and practices is

not the ultimate goal but instead "to help the patient live a religious life more fully" (p.

287). Part of this process might involve helping the patient examine their conception of

God in order to decide whether belief in a harsh, punishing God is reasonable or if it is

exacerbating symptoms. The researchers also suggest that an expectation of perfectionism in religious practice is not one present in most religious frameworks and that this belief can be a hindrance to patient motivation and treatment adherence; in their words, "The goal of treatment should be to help the patient realize their own goals, often including better and healthier religious functioning (e.g., having a closer relationship with God…)" (Greenberg & Huppert, 2010, p. 391). If negative God-concept is involved in the religious perfectionism that underlies scrupulous OCD, it could be effective to explicitly address God-concept as part of the cognitive reframing process.

Limitations of previous studies

Broadness of scope. It is commonly believed that those who are religious have better mental health outcomes generally than those who are non-religious. Indeed, some authors of literature reviews on the topic have concluded that religious belief and involvement in a faith community have a net-positive impact on mental health, with a few caveats (Koenig, 2009; Papaleontiou-Louca, 2021). Upon further investigation of these reviews, it becomes apparent that many of the studies cited are funded and produced by overlapping institutions and authors (i.e., Duke University, The Templeton Foundation). Although the benefits of holding certain religious beliefs and participating in a religious community should by no means be discounted, a more granular examination of the literature on this topic reveals a more complex picture. This is especially true when factors more specific than mere degree of religiousness are taken into account. For example, one study of American adults found that belief in a critical or punishing God was positively correlated to psychiatric symptoms (e.g., obsession, compulsion) than those who saw God as benevolent or detached, after controlling for

religiousness and strength of belief (Stilton et al., 2013). Given the evidence, it stands to reason that there are factors beyond mere degree of participation in religious activities involved in the relationship between religion and mental health.

Categorization of participants. Many studies on this topic tend to divide participants along broad, denominational lines when measuring the interaction between religious belief and mental health outcomes. This division, while useful, is not adequate, as God-concept varies between individuals and overlaps heavily between religious groups. Even individual members of the same local religious body likely will differ in the characteristics that they ascribe to their deity. That is not to say that religious affiliation should not be taken into account at all during research, but that, in addition to theological beliefs specific to a particular religion, there are likely to be psychological factors affecting scrupulosity that cross sectarian lines. In fact, there are some contexts in which religious affiliation is very important. For example, division along denominational lines may be useful when evaluating OCD symptom presentation in clinical populations, as certain fears are more common in some religious groups than others (Buchholz et al., 2019; Huppert & Siev, 2010).

At the same time, Buchholz and colleagues (2019) showed that there were "no differences across religious affiliation with respect to global OCD symptom severity or the severity of any particular OCD symptom dimension" (p. 8), including fears of contamination and compulsive decontamination behaviors. Contamination fears related to COVID-19 were also found to be unrelated to general levels of religiousness, since religiosity was used to establish discriminant validity for a modified form of the SARS-related fear scale (Ho et al., 2005) adapted to study fear of COVID-19 in university

students (Contagion Fear and Threat Scale; Collins, 2021). All in all, it can be concluded that factors besides strength of religious belief and sectarian affiliation should be examined.

Lack of diversity. It is common for past studies on this topic to have not even taken into account non-Abrahamic religions such as Buddhism or Hinduism, even though these religions are practiced by a substantial portion of the world's population and are becoming more popular in the Western world. People practicing these religions also engage in rituals and prayers, in addition to abstaining from activities or foods deemed "unclean" or "evil," so it stands to reason that these populations could also experience scrupulous symptoms. Scrupulosity can also be found in nonreligious populations in the form of secular moral scrupulosity, although not much research has been conducted in this area. Buchholz et al. (2019) point out that "some individuals without a current religion may have identified with a religion in the past, and therefore endorse scrupulous beliefs… Alternatively, these individuals may have developed a rigid moral code outside the context of religion" (pp. 10-11), which highlights the importance of identifying exactly how scrupulous beliefs are formed. Since scrupulosity can be seen across populations and cultures, and manifest similarly in people with diverse backgrounds and beliefs, it is clear there likely are multiple ways in which scrupulous beliefs and behaviors can develop in individuals who are susceptible to them.

Response bias in religious research. Another problem that is overlooked in mental health research in general is that of response bias. Social desirability is "a type of response bias characterized by socially expected responses, either involving over-reporting of appropriate and positive behaviors or underreporting of negative

characteristics, such as psychopathological symptoms" (de Oliveira Maraldi, 2020, pp. 773-774). This can be done consciously or unconsciously. Not much research has been done on response bias in mental health research, while only a fraction of a percent of studies (Van de Mortel, 2008) specifically control for socially desirable responding. There have been some studies, spanning several decades, indicating that social desirability is positively correlated with various aspects of religious belief and practice, including spirituality, general religiosity, religious coping, and religious involvement, although these studies' small effect sizes and homogenous samples have been called into question (de Oliveira Maraldi, 2020). All in all, the research into this topic is scant and has produced mixed results.

Contextual effects are also important. How do researchers prevent respondents from inferring the study's purpose and giving defensive responses which show their belief system in a positive light? Researchers themselves are susceptible to such unconscious biases as expectancy effects or demand characteristics, likely affecting their results. Considering what is known about unconscious bias, it is not unreasonable to assume that those researchers or participants who have strong beliefs regarding the topic of religion (whether for or against) would not want to be invalidated in their convictions (de Oliveira Maraldi, 2020), making controlling for social desirability and other forms of bias especially important.

Purpose and Hypotheses

The current study sought to explore the limits of the cleanliness-morality link by examining the impact of scrupulosity on the relationship between negative God-concept and contamination fears. Past research on the cleanliness-morality link has not yet

determined the degree to which the association between fears concerning immoral behaviors and the desire for cleanliness is metaphorical or literal in nature. Although studies such as the Lee and Schwarz (2010) embodiment study have found there to be a literal component in the cleanliness-morality link, there is currently not enough evidence to conclude with any certainty the degree to which this link is literal versus metaphorical. This is something which Fetterman (2016) brings up in the discussion of his findings, noting that "it could be that individuals were representing their feelings of morality through the cleanliness metaphor rather than *actually* feeling less/more clean" (p. 5). The current study aimed to determine whether the literal aspect of the cleanliness-morality link extends to contamination fears during a global disease outbreak and, by doing so, clarify the bounds of this phenomenon. The overall goal was to determine whether a relationship between negative God-concept (i.e., morality) and fear of COVID-19 (i.e., cleanliness) exists, with scrupulosity as a possible mediating factor. The proposed theoretical relationship is presented in Figure 1. The study's hypotheses were as follows:

H1: It was expected that negative God-concept would be positively correlated with scrupulosity and positively correlated with fear of COVID-19, after controlling for social desirability.

H2: It was expected that scrupulosity would mediate the relationship between negative God-concept and fear of COVID-19, using social desirability as a covariate.

Figure 1. *Scrupulosity Mediates the Relationship Between Negative God-Concept and Fear of COVID-19.*
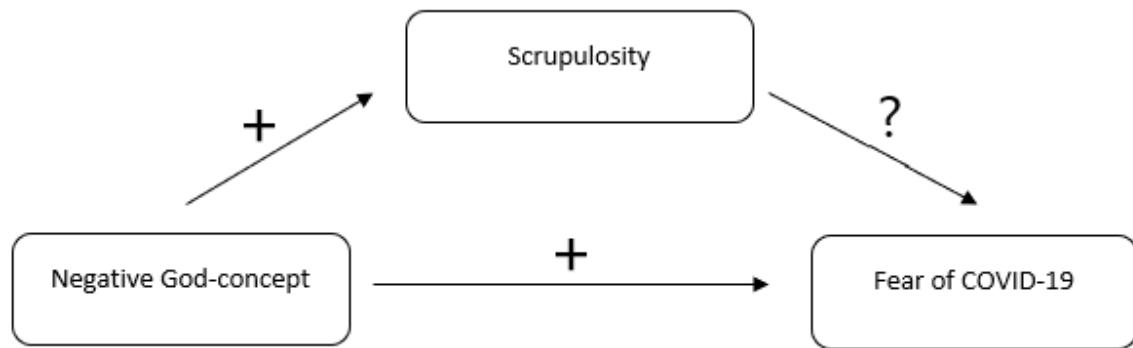
CHAPTER II

METHOD

Participants

The current study utilized a convenience sample of undergraduate psychology students over the age of 18 years ($n = 99$, $M = 19.24$, $SD = 2.53$), recruited from the university research pool. An a priori power analysis using SAS Studio indicated that a sample size of 68 would yield .8 power for a medium effect size. Fritz & MacKinnon (2007) recommended a sample size of 71 for mediation analysis, which would yield sufficient power to find a medium effect size. In addition, participants were asked whether they believe in God, with the options of answering "Yes," "No," or "Unsure." Only those who answered "Yes" were included in the final sample. According to the Religious Landscape Study (Pew Research Center, 2020), approximately 19% of adults aged 18-29 do not believe in God or are unsure about the existence of God. Since this is anticipated to closely match the sample's age group, it was expected that 19% of participants would meet the exclusion criterion. Therefore, at least 85 total participants were needed to achieve a final minimum sample size of 71. All participants were compensated with course credit for their participation. A total of 112 participants qualified for inclusion. Thirteen participants had incomplete data sets, leaving a total of 99 responses used in the analyses of this study. Note that two participants declined to provide age data. The descriptive frequencies of the final sample are detailed in Table 1.

Table 1

Descriptive Frequencies of the Final Sample

Variable	*%*	*n*
Race/Ethnicity		
African American/Black	14	14
Asian	3	3
Hispanic or Latina/o	11	11
Native American or Native Alaskan	0	0
White/Caucasian	63	62
Other	9	9
Gender Identity		
Woman	77	76
Man	22	22
Non-binary	1	1
Other	0	0
Age (in years)		
18 – 24	96	93
25 – 30	3	3
31+	1	1
Religious Affiliation		
Muslim	5	5
Jewish	0	0
Christian	84	83
Buddhist	0	0
Hindu	0	0
Atheist	0	0
Agnostic	3	3
Other	8	8

Materials and Measures

Demographics Questionnaire. Participants were asked to give basic demographic information (Appendix A). These included age, gender identity, ethnicity/race, and religious affiliation (e.g., Christian, Buddhist, etc.).

Positive/Negative God Go/No-Go Associations Task (PNG-GNAT). Negative God-concept was evaluated using the negative stimuli from the Positive/Negative God Go/No-Go Associations Task (PNG-GNAT; Pirutinsky et al., 2017). Participants rated a list of 20 negative words regarding their conception of God on a five-point scale from "not at all" to "very much." Individual item ratings were averaged to produce a mean score for each participant. Higher scores on this scale indicated a more negative God-concept. During initial development of this measure, it was found that the negative items had a mean factor loading of .78 and showed excellent internal consistency ($\alpha = .97$; Pirutinsky et al., 2015). Accordingly, PNG-GNAT scores produced excellent internal consistency in the present sample ($\alpha = .95$)

COVID Stress Scales (CSS). The COVID Stress Scales (CSS; Taylor et al., 2020) are six self-report measures of distress related to the COVID-19 outbreak. The CSS consists of scales measuring fear of danger, fear of contamination, socioeconomic consequences, xenophobia, traumatic stress, and compulsive checking, with six items per scale. Only the fear of danger, fear of contamination, traumatic stress, and compulsive checking scales were used for this study due to its focus on the relationship between scrupulosity and fear of COVID-19. The danger and contamination scales were rated on a five-point scale from "not at all" to "extremely," while the traumatic stress and compulsive checking scales were rated on a five-point scale from "never" to "almost

always." The scores for these four subscales were combined to produce an average score with equal weighting for each scale, and high scores indicated a greater degree of fear of COVID-19 for each participant. During the initial validation study of the CSS, the authors used exploratory factor analysis to determine that the six scales corresponded with five factors: (1) fears of danger and contamination ($\alpha = 0.95$), (2) fear of socioeconomic consequences ($\alpha = 0.91$), (3) fear of foreigners as carriers of the virus (i.e., xenophobia; $\alpha = 0.93$), (4) compulsive checking and reassurance seeking ($\alpha = 0.86$), and (5) traumatic stress symptoms ($\alpha = 0.93$). This assessment tool was intended for and validated using a nonclinical population, making it appropriate for use in this study.

Due to this scale having been validated and published recently, there are not many studies to test its psychometric properties. However, one study (Mahamid et al., 2021) analyzed an Arabic language version of the CSS in Palestine and found that it had good concurrent validity when compared to scores from other measures of COVID-19 stress ($r = .71$), anxiety ($r = .50$), and depression ($r = .46$). The authors also found that the CSS had very good test-retest reliability ($r = .81$). These results indicate that the CSS is valid and reliable for assessing stress related to the COVID-19 pandemic. CSS scores in the current sample were observed to have excellent internal consistency ($\alpha = .94$).

Penn Inventory of Scrupulosity (PIOS). The Penn Inventory of Scrupulosity (PIOS; Abramowitz et al., 2002) was used to measure the scrupulosity of participants. It is a self-report measure, containing 19 items, which assesses two facets of scrupulous OCD: fear of sinning and fear of being punished by God. It also assesses the core characteristics of scrupulous OCD, such as fixation on following religious laws perfectly, disruption of everyday activities, and fear of losing control. Items were rated on a five-

point scale from "never" to "constantly." The individual item scores (ranging from 0 to

4) from the two subscales were summed to obtain a total score for each participant, with

higher values meaning that the person experiences a higher degree of scrupulosity. It was

created for the purpose of measuring scrupulous OCD symptomology in nonclinical

populations, which is why it was selected for this study.

The authors of this assessment tool found that the items had high internal

consistency overall (α = .93), as well as high internal consistency within both subscales

(Fear of Sin, α = .90; Fear of God, α = .88). They compared the PIOS to measures of

OCD symptom severity and religiosity to establish convergent validity and found that

scores between these measures were significantly correlated. Discriminant validity was

evaluated using an assessment tool measuring anger, and scores did not correlate

significantly (Abramowitz et al., 2002). A Turkish version of the PIOS was also used in

one study and was found to have an internal consistency of .98 (Inozu et al., 2017).

Overall, this is a highly valid and reliable assessment tool for scrupulosity across

populations. In accordance with previous research, excellent internal consistency was

observed for PIOS scores in the current sample (α = .93).

Marlowe-Crowne Social Desirability Scale Short Form C (M-C C). Social

desirability response bias was measured using the Marlowe-Crowne Social Desirability

Scale Short Form C (M-C C; Reynolds, 1982). It is a self-report measure consisting of

13 items which is used to assess the degree to which individuals respond in a socially

desirable way. Items were rated as "true" or "false," and the socially desirable answer for

each item received a score of one, while the non-socially desirable answer received a

score of zero. Items were summed together to produce a final score for each participant,

with higher scores indicating a higher degree of social desirability. Due to the association between religiosity and socially desirable responding (de Oliveira Maraldi, 2020), this measurement was selected for use as a control variable.

The M-C C was chosen for both its brevity and its level of reliability ($\alpha = .76$) in comparison to other short forms (Reynolds, 1982). The M-C C also correlated highly with the standard form ($r = .93$), showing that it is both a reliable and valid substitution for the standard 33-item measure (Reynolds, 1982). Unlike previously reported psychometrics, the internal reliability of the M-C C in the present sample was questionable ($\alpha = .60$).

Effort Validity. To check for effort validity, three multiple-choice items created for this study were randomly placed in the test battery. These items can be found in Appendix A. All questions must have been answered correctly for the participant's data to be included in this study.

Procedure

Approval from Middle Tennessee State University's Institutional Review Board was obtained prior to conducting this online study (Appendix C). Participants were directed to the test battery, which was administered via Qualtrics, through the university's online research pool. After giving informed consent (Appendix D), participants were asked to confirm that they were at least 18 years of age and that they spoke English fluently. Then, they were asked whether or not they believe in God. Those who answered "No" or "Unsure" were directed to only the CSS and the M-C C. However, this data was not included in the final analysis for this study. If this exclusion criterion was not met, participants were administered the PNG-GNAT, the CSS, the PIOS, and the

M-C C. After this, each participant was administered a brief demographic survey

(Appendix A). Once they completed the study, participants were provided with a

debriefing letter (Appendix E). Finally, participants were directed to click to the next

page to return to the Psychology Research Pool to receive credit for study participation.

CHAPTER III

RESULTS

Descriptive Statistics

The statistical software SAS Studio (version 3.80) was used to perform all

statistical analyses. For each of the study variables (i.e., Covid stress, scrupulosity,

negative God-concept, social desirability), mean scores and standard deviations are

reported for this sample (Table 2). Skewness and kurtosis were used to check for

normality. CSS, PIOS, and M-C C scores were within normal distribution limits. PNG-

GNAT scores, however, were positively skewed and leptokurtic (Table 2). Further

examination of PNG-GNAT scores yielded no notable outliers. Root and logarithmic

transformations were applied, but skewness could not be reduced to acceptable limits.

Table 2

Descriptive Statistics of the Final Sample

Variable	Mean	SD	Skewness	Kurtosis
CSS	2.02	0.78	0.74	-0.09
PNG-GNAT	1.29	0.51	2.16	4.17
PIOS	24.30	14.00	0.39	-0.05
M-C C	5.54	2.54	0.05	-0.26

Note. n = 99; CSS possible scores range from 1 – 5, PNG-GNAT possible scores range from 1 – 5, PIOS possible scores range from 0 – 76, M-C C possible scores range from 0 – 13

Hypotheses Testing

Hypothesis 1. Hypothesis 1 predicted a positive relationship between negative God-concept, as measured by the PNG-GNAT, and scrupulosity, as measured by the PIOS, after controlling for social desirability, as measured by the M-C C. It also predicted a positive relationship between negative God-concept and the fear of COVID-19, as measured by the CSS, after controlling for social desirability. Given the non-normality of the PNG-GNAT data, the Spearman's rank correlation procedures were used to explore this hypothesis. Although there were correlations between these measures that were in the expected direction, they were not statistically significant after controlling for the covariate. Therefore, hypothesis one was not supported by the data. However, there was a significant positive relationship between scrupulosity and fear of COVID-19, after controlling for social desirability. See Tables 3 and 4 for Spearman's Rho correlation coefficients and Spearman's partial Rho correlation coefficients, respectively.

Table 3

Spearman's Rho Values Among PNG-GNAT, CSS, PIOS, and M-C C

	1	2	3	4
1. CSS	-			
2. PNG-GNAT	.10	-		
3. PIOS	*.25	*.20	-	
4. M-C C	-.13	-.16	**-.30	-

*Note. *p < .05, **p < .01.*

Table 4

Spearman's Partial Rho Values Among CSS, PNG-GNAT, and PIOS Using M-C C as a Covariate

|	1	2	3
1. CSS	-		
2. PNG-GNAT	.08	-	
3. PIOS	.*22	.16	-

*Note. *p* < .05*

Hypothesis 2. Hypothesis two predicted that scrupulosity would act as a mediating variable on the relationship between negative God-concept and fear of COVID-19 with social desirability as a covariate. The total effect of negative God-concept on fear of COVID-19 was not significant, (β = .17, SE = .10, BC 95% CI [-.09, .44]). The direct effect of negative God-concept on fear of COVID-19 also was not significant (β = .14, SE = .10, BC 95% CI [-.11, .41]). Additionally, the indirect effect of scrupulosity on fear of COVID-19 was not significant, (β = .03, SE = .02, BC 95% CI [-.002, .09]), indicating that scrupulosity is not a significant mediator. Therefore, hypothesis two was not supported by the data. See Table 5 and Figure 2 for the observed path values for the tested mediation analysis with social desirability as a covariate.

Table 5

Observed Path Values for the Tested Mediation Analysis

	B	β	SE	t
a (PNG-GNAT – PIOS)	.223	.156	.144	1.58
b (PIOS – CSS)	.175	.165	.110	1.59
c′ (PNG-GNAT – CSS)	.222	.144	.157	1.41

Figure 2. *Mediating Relationship of PIOS on PNG-GNAT and CSS with Social Desirability as a Covariate*
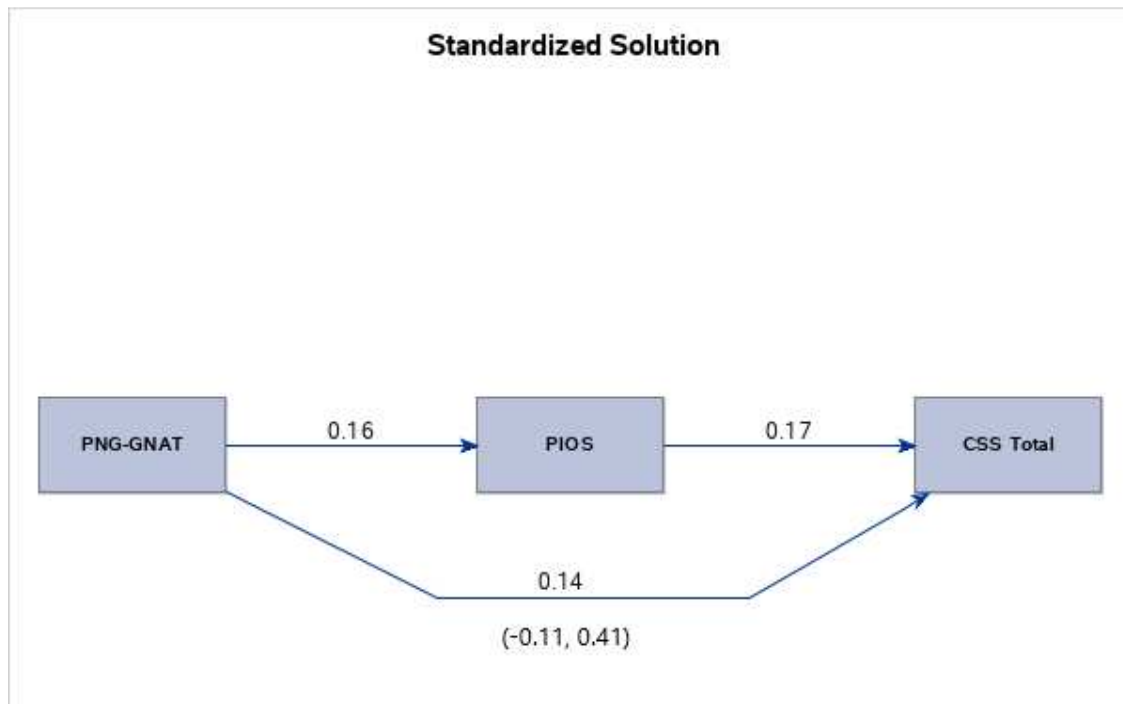
Note. Bootstrap confidence interval is shown in parentheses

CHAPTER IV

DISCUSSION

Previous research has suggested that those with negative conceptions of God (e.g., punitive, harsh) tend to be higher in scrupulosity symptoms (Siev et al., 2011). There is also support for the idea that scrupulosity and contamination fears overlap conceptually in clinical populations (Inozu et al., 2017). In addition, research on the characteristics of scrupulous OCD highlights the role that thought-action fusion plays in exacerbating the disorder by heightening the perceived moral importance of intrusive thoughts in the highly scrupulous individual (Huppert & Siev, 2010). Intensity of God-belief also has been found to be a moderating factor in feelings of cleanliness after impulsive and prosocial behaviors (Fetterman, 2016). Given this evidence, more investigation is needed to determine the nature of the relationships between these cognitive factors and how they interact within highly scrupulous patients through the lens of the cleanliness-morality link, leading to the current study.

Negative God-concept was expected to be positively correlated with both scrupulosity and fear of COVID-19 after controlling for social desirability. Although the data did not support this, it did show that several significant correlations among the variables became non-significant when the social desirability covariate was added. This is in line with previous research on the role of social desirability in research involving religious belief or spirituality. Although evidence suggests that religious people tend to respond to self-report items in a more socially desirable manner, a very small minority of studies on the topic include social desirability as a covariate in their analyses (de Oliveira Maraldi, 2020). The outcome of this project certainly lends credibility to the practice of

controlling for social desirability in the field of religious research in order to prevent Type I errors. However, due to the M-C C's questionable internal consistency in this study ($\alpha = .60$), future researchers may want to either use the full version of the Marlowe-Crowne Social Desirability Scale, which has a much higher reported internal consistency (Crowne & Marlowe, 1960), or the Social Desirability Scale-17 (Stöber, 1999), which has acceptable internal consistency (Stöber, 2001).

Scrupulosity was also expected to mediate the relationship between negative God-concept and fear of COVID-19 after controlling for social desirability. The findings of the mediation analysis were non-significant, which could be due to several factors. The most obvious conclusion that could be made is that the cleanliness-morality link is primarily metaphorical. As mentioned previously, it is unknown whether this link extends to physical cleanliness or whether it is purely metaphorical in nature (Fetterman, 2016). One of the main goals of this project was to add to the extant literature concerning this phenomenon in order to determine its limits, and there is a possibility that the cleanliness-morality link does not extend to the realm of physical cleanliness in any significant way. It would not be unreasonable to make such a conclusion based on the results of this project.

However, it is also important to keep in mind limitations when interpreting the results of the current study. One limiting factor was that the small size of the sample restricted the types of analyses that could be performed. This study was limited to path analysis, a weaker statistical test, while a larger sample (e.g., 200 or more) could be used to perform structural equation modeling instead. By controlling for the reliability of the measures, it produces a stronger statistical analysis that could detect smaller effect sizes,

should they exist. Overall, the pattern of what was hypothesized based on extant literature was present but with borderline non-significance, indicating that there may have been a small effect that could have been detected with a more powerful analysis.

Another limiting issue that may have affected the outcome of the current study is the reliability and validity of the measures used. Specifically, the PNG-GNAT measure used for explicit negative God-concept has no validation studies outside of its initial development at this time. Additionally, the PNG-GNAT was originally created to measure implicit beliefs as a go/no-go associations task and included positive stimuli (e.g., compassionate, loving) in addition to the negative-word items used in this study (Pirutinsky et al., 2017). Using any measure in a manner other than the way in which it was originally designed to be used will inevitably affect its validity and reliability, potentially in a detrimental way.

The PIOS, used to measure scrupulosity, is also not without its flaws, the first of which is that it is better suited for detecting scrupulosity in purely Christian populations than for those that are religiously diverse. As previously stated, the PIOS has two subscales, one which measures the fear of sinning and one which measures the fear of punishment from God. However, these fears are not present in all highly scrupulous people. For example, according to Greenberg and Huppert (2010), "the fear of punishment due to having sinned is not a central theme of Judaism or of our patients' world views. Judaism places emphasis on *halacha*—carrying out religious practices—but not out of fear of retribution" (p. 285). Although the Jewish example is not necessarily relevant to the current study, it is provided as an illustration of the limitations of the

PIOS, and it would behoove future researchers working with diverse populations to use a measure of scrupulosity that can capture scores more accurately should one exist.

A second issue with the PIOS, one more relevant to this project, is that it contains no items related to compulsive religious rituals, even though this is an important aspect of scrupulosity. Greenburg and Huppert (2010) go on to say that compulsive religious rituals are present in "most" of their cases, stating, "At face value, the PIOS does not seem sensitive for some Jewish or Muslim patients" (p. 285). Some researchers, such as Siev and colleagues (2011), have hypothesized that "because they do not suffer from scrupulosity, the PIOS might simply be a marker of religious belief in [nonclinical samples]," (p. 1193), leading some to include degree of religiosity as a covariate in their studies of scrupulosity (Fergus & Rowatt, 2014). This is something that was not done in the current study but that may have had an impact on the results. Future researchers on this topic should take this into consideration.

A final limitation in the measurements used for this study was the inclusion of the danger, traumatic stress, and compulsive checking scales in addition to the contamination scale in the participants' CSS scores. Although "fear of COVID-19" as a construct may certainly include these elements, the resultant scores are not necessarily reflective of the participants' pure contamination fears regarding contracting the SARS-CoV-2 virus itself. Since the original intent of the study was to explore the bounds of the cleanliness-morality link by examining the relationships between negative God-concept, scrupulosity, and contamination fears, the inclusion of the other CSS scales likely watered down the latter construct. All in all, the participants' CSS scores likely do not

reflect solely their fear of becoming contaminated by the virus, but rather are inclusive of their behaviors in response to this fear.

There also were several limitations in the sample used for this study. First, it was a sample of convenience that was largely homogenous and not representative of the population of the United States, making these results difficult to generalize. This study's sample skewed young, with the most commonly reported age being 18 years old ($n = 56$). Given that younger people tend to be less religious than older people (Pew Research Center, 2020), it stands to reason that levels of scrupulosity in the college-aged population may be lower and more difficult to capture with the assessment methods used. Additionally, past research has found that younger people tend to view risk less negatively than older people (Donkers et al., 2001). Utilizing such a young sample may have produced unusually low CSS scores. The sample also consisted mostly of women ($n = 76$). Worldwide, women are generally more religious than men, particularly in Christian populations (Pew Research Center, 2016). This is a fact which would certainly affect the outcomes of any study of religious beliefs in which the sample used consisted mostly of women. Therefore, the factors of age and gender should be taken into account in future projects, if possible.

Another issue with the sample used in this study is that it was non-clinical. As previously mentioned, data analyses indicated that there may have been small effects which were undetectable at this time due to the small sample size. However, the type of sample used could also have affected this, as a clinical population would likely have produced larger effects that were easier to detect. Several studies cited in this project (e.g., Abramowitz et al., 2002; Greenberg & Huppert, 2010; Lee & Schwarz, 2021)

mention the need for more projects focused on clinical populations when studying

scrupulosity, showing that this is a long-standing problem in this area of research. Future

investigators should take this into account when exploring the relationships between

these constructs.

The current study was conducted in the fall of 2022, nearly three years after the

beginning of the COVID-19 pandemic. Due to this delay, the presence of COVID-19 has

become a part of everyday life for most, and many have returned to the level of social,

academic, and occupational functioning they engaged in before the onset of the

pandemic. Additionally, the peak of case numbers in the general population has passed

with the dissemination of effective vaccines, and successful treatments for COVID-19

infection are readily available. The American Centers for Disease Control and

Prevention (CDC) has loosened many of its social distancing and masking guidelines for

the general population, and many local and state governments have failed to renew

quarantining and masking policies as a result. Science communicators and researchers

have also disseminated knowledge about the SARS-CoV-2 virus and its resultant

infection in the past three years to the public as more research is conducted. Due to these

factors, it stands to reason that fears of contracting COVID-19 for most people have

reduced a substantial amount, making the timing of the current study somewhat

problematic.

Despite these limitations, the current study is a cohesive extension of previous

research and provides an opportunity to engage in broader projects within the topic of

scrupulosity and the cleanliness-morality link. More specifically, future research that is

inclusive of secular moral scrupulosity and its effects on mental health outcomes for the

commonly overlooked ex-religious or secular population would be enlightening to

clinicians who work with this group. Additionally, COVID stress scores were collected

for people who did not believe in God, and this data could be used to make comparisons

in levels of fear of COVID-19 between religious people and those who were religiously

unaffiliated. This would add to the literature concerning religious belief or affiliation as a

potential protective factor in various mental health domains. All in all, this study adds to

the literature concerning scrupulous OCD in its search for a viable target for cognitive

restructuring to use in conjunction with ERP in clinical settings, a search which is vital

for improving the treatment of highly scrupulous patients.

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APPENDICES

APPENDIX A

DEMOGRAPHICS QUESTIONNAIRE

What is your religious affiliation?

○ Muslim

○ Jewish

○ Christian

○ Buddhist

○ Hindu

○ Atheist

○ Agnostic

○ Other, please describe:

What is your age in years?

What is your ethnicity?

○ African American/Black

○ Asian

○ Hispanic or Latina/o

○ Native American or Native Alaskan

○ White/Caucasian

○ Other, please describe:

What is your gender identity?

- ○ Woman
- ○ Man
- ○ Non-binary
- ○ Other, please describe:

APPENDIX B

EFFORT VALIDITY QUESTIONS

Which of the following is NOT an animal?

○ Tiger

○ Horse

○ Rock

○ Dog

What color is the sky on a clear, sunny day?

○ Red

○ Blue

○ Green

○ Yellow

$10 - 3 = ?$

○ 27

○ 32

○ 12

○ 7

APPENDIX C

MIDDLE TENNESSEE STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129
FWA: 00005331/IRB Regn.. 0003571

IRBN007 – EXEMPTION DETERMINATION NOTICE

Tuesday, May 31, 2022

Protocol Title	**The Belief and Cleanliness Study**
Protocol ID	**22-1156 2q**

Principal Investigator	**Sarah Cho** (Student)	*Faculty Advisor:* James Loveless
Co-Investigators	NONE	
Investigator Email(s)	*Smj3j@mtmail.mtsu.edu; james.loveless@mtsu.edu*	
Department/Affiliation	Psychology	

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category **(2) Educational Tests, surveys, interviews or observations of public behavior** *(Qualtrics Survey).* A summary of the IRB action and other particulars of this protocol are shown below:

IRB Action	**EXEMPT from further IRB Review** Exempt from further continuing review but other oversight requirements apply
Date of Expiration	**8/31/2024** *Date of Approval:* **5/31/22** *Recent Amendment:* **NONE**
Sample Size	FIVE HUNDRED (500)
Participant Pool	**Healthy adults (18 or older) – (1) English Speaking Adults; and (2) MTSU SONA registrants**
Exceptions	Online consent followed by internet-based survey using Qualtrics is permitted (Qualtrics links on file).
Type of Interaction	☐ Non-interventional or Data Analysis ☒ Virtual/Remote/Online Interview/survey ☐ In person or physical– Mandatory COVID-19 Management (refer next page)
Mandatory Restrictions	**1. All restrictions for exemption apply.** **2. The participants must be 18 years or older.** **3. Mandatory ACTIVE informed consent.** **4. Identifiable information, such as, names, addresses, and voice/video data, must not be obtained.** **5. NOT approved for in-person data collection.**
Approved IRB Templates	*IRB Templates:* Recruitment SONA Script and Online Informed Consent *Non-MTSU Templates:* Recruitment Script(s)
Research Inducement	Class credit for SONA participants and NONE for others
Comments	NONE

Summary of the Post-approval Requirements: The PI and FA must read and abide by the post-approval conditions (Refer "*Quick Links*" in the bottom):

- ***Final Report:*** The Faculty Advisor (FA) is responsible for submitting a final report to close-out this protocol before 8/31/2024; if more time is needed to complete the data collection, the FA must request an extension by email. REMINDERS WILL NOT BE SENT. **Failure to close-out (or request extension) may result in penalties** including cancellation of the data collected using this protocol or withholding student diploma.
- ***Protocol Amendments***: IRB approval must be obtained for all types of amendments, such as:
    - o Addition/removal of subject population and sample size.
    - o Change in investigators.
    - o Changes to the research sites – appropriate permission letter(s) from may be needed.
    - o Alternation to funding.
    - o Amendments must be clearly described in an addendum request form submitted by the FA.
    - o The proposed change must be consistent with the approved protocol and they must comply with exemption requirements.
- ***Reporting Adverse Events:*** Research-related injuries to the participants and other events , such as, deviations & misconduct, must be reported within 48 hours of such events to compliance@mtsu.edu.
- ***Research Participant Compensation:*** Compensation for research participation must be awarded as proposed in Chapter 6 of the Exempt protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- ***COVID-19:*** Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

COVID-19 Management:

The FA must enforce social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The FA must enforce the MTSU's "Return-to-work" questionnaire found in Pipeline must be filled and signed by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA's Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would not result in the cancellation of the protocol's eligibility for exemption. ***Only THREE procedural amendments will be entertained per year*** *(changes like addition/removal of research personnel are not restricted by this rule).*

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Post-approval IRB Actions:

The following actions are done subsequent to the approval of this protocol on request by the PI or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement:

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additionally,

the Tennessee State data retention requirement may apply (*refer "Quick Links" below for policy 129*). Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects. **The IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this notice**. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:
- Post-approval Responsibilities: http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php
- Exemption Procedures: https://mtsu.edu/irb/ExemptPaperWork.php
- MTSU Policy 129: Records retention & Disposal: https://www.mtsu.edu/policies/general/129.php

APPENDIX D

INFORMED CONSENT

Information and Disclosure Section

The following information is provided to inform you about the research project in which you have been invited to participate. Please read this disclosure and feel free to ask any questions. The investigators must answer all of your questions and please save this page as a PDF for future reference.

- Your participation in this research study is voluntary.
- You are also free to withdraw from this study at any time without loss of any benefits.

For additional information on your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance (Tel 615-494-8918 or send your emails to irb_information@mtsu.edu. (URL: http://www.mtsu.edu/irb).

Please read the following and respond to the consent questions in the bottom if you wish to enroll in this study.

1. **Purpose**: This research project is designed to help us evaluate the nature of the relationship between people's beliefs and how they have experienced stress during the COVID-19 pandemic.
   .
2. **Description**: This study involves collecting information about people's beliefs, their experiences with stress due to the COVID-19 pandemic, and their levels of social desirability. Participants will be asked to answer 85 survey questions, lasting approximately 30 minutes. There will be an opportunity to learn more about the study during the debriefing process at the end of the session. Benefits involve learning more about research and helping us learn more about how individual differences in belief can impact stress from COVID-19. You will NOT be audio recorded or videotaped in this study.

3. **IRB Approval Details**
   - Protocol Title: The Belief and Cleanliness Study
   - Primary Investigator: Sarah Cho
   - PI Department & College: Department of Psychology, College of Behavioral and Health Sciences
   - Faculty Advisor (if PI is a student): Dr. James Loveless
   - Protocol ID: 22-1156 2q   Approval Date: 05/31/2022   Expiration Date: 08/31/2024

4. **Duration**: The whole activity should take about 30 minutes. The subjects must take at least 10 minutes to complete the study.

5. **Here are your rights as a participant:**

   - Your participation in this research is voluntary.
   - You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below)
   - If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions.
   - Some items may require a response to accurately present the survey.

6. **Risks & Discomforts:** Risks in this project are no more than what one would encounter in everyday life.

7. **Benefits:**
   a. There are no direct benefits to you.
   b. Benefits to the field of science or the community: A better understanding of whether there is a relationship between beliefs and COVID-19 stress, as well as the impact that scrupulosity has on this relationship.

8. **Identifiable Information**: You will NOT be asked to provide identifiable personal information.

9. **Compensation:** The participants will be compensated as described below:

   ☒Class credit: Participants recruited through the psychology department's participant pool will receive 1 SONA credit for their participation. Participants recruited through an institutional course may receive extra credit at the instructor's discretion. However, participants recruited via other means will not be compensated for their participation.

   Compensation Requirements:

   a) *The qualifications to participate in this research are: You must be at least 18 years old and fluent in English. If you do not meet these qualifications, you will not be included in the research and you will not be compensated.*
   b) *Please do not participate in this research more than once. Multiple attempts to participate will not be compensated.*

10. **Confidentiality.** All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, *if* you or someone else is in danger or if we are required to do so by law.

11. **Contact Information.**   If you should have any questions about this research study or possibly injury, please feel free to contact Sarah Cho by email, smj3j@mtmail.mtsu.edu OR my faculty advisor, Dr. James Loveless, at James.Loveless@mtsu.edu. You can also contact the MTSU Office of compliance via telephone (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented again at the end of the experiment.

You are not required to do anything further if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to part take in this study.

Participant Response Section

☐No   ☐Yes I have read this informed consent document pertaining to the above identified research

☐No   ☐Yes The research procedures to be conducted are clear to me

☐No   ☐Yes I confirm I am 18 years or older

☐No   ☐Yes I am aware of the potential risks of the study

By clicking below, I affirm that I freely and voluntarily choose to participate in this study.   I understand I can withdraw from this study at any time without facing any consequences.

☐ NO I do not consent

☐ Yes I consent

APPENDIX E

DEBRIEFING FORM

Study Debriefing

What is the purpose of the study?

This study aims to determine (1) whether scrupulosity influences the relationship between negative God-concept and contamination fears, after controlling for social desirability, and (2) whether the literal aspect of the cleanliness-morality link includes contamination fears during a global disease outbreak.

How is this study designed to accomplish that purpose?

The researchers are using validated measures for each of the constructs they seek to measure. A portion of the COVID Stress Scale (CSS) is used to determine an individual's stress response to the COVID-19 pandemic. The Penn Inventory of Scrupulosity (PIOS) is used to determine how much an individual's life is impacted by moral or religious fears/concerns, or a construct called scrupulosity. The Positive/Negative God Go/No-Go Associations Task (PNG-GNAT) is used to measure how a person explicitly perceives God, also called their God-concept. Finally, the Marlowe-Crowne Social Desirability Scale (MCSDS) measures how much a person responds to the questions on this survey in a socially desirable manner. The results of these measures will allow the researchers to analyze how much variation in the relationship between negative God-concept and COVID stress is accounted for by an individual's level of scrupulosity, and possibly allow us to better understand the relationship between morality and desires for cleanliness.

Can I obtain a summary of the results of the study? What form will this summary take?

To obtain details of the results contact the researcher at smj3j@mtmail.mtsu.edu

How can I contact the researcher if I have any further questions or if, for any reason, I wish to withdraw my data once I have left?

You may email the primary investigator, Sarah Cho at smj3j@mtmail.mtsu.edu or the faculty advisor, Dr. James Loveless, at James.Loveless@mtsu.edu

If you feel you have been adversely affected by taking part in this study, and would like to speak to a counseling service you are advised to seek help from:

MTSU Counseling Services:
https://www.mtsu.edu/countest/services.php
615) 898-2670
KUC 326-S

I have concerns about this study, or the way in which it was conducted – who should I contact?

MTSU Office of Compliance:
https://www.mtsu.edu/compliance/
(615) 898-2400