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OCD and Scrupulosity Symptoms in the LGBTQ+ Community

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ABSTRACT

OCD AND SCRUPULOSITY SYMPTOMS IN THE LGBTQ+ COMMUNITY

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Research related to obsessive-compulsive disorder (OCD) in the LGBTQ+ community has been limited to date. However, at least one previous study has indicated that the “unacceptable thoughts” symptom dimension of OCD may be particularly relevant to this population. The current study sought to examine whether LGBTQ+ individuals report greater levels than non-LGBTQ+ individuals of scrupulosity symptoms, or religious- and/or moral-based OCD symptoms that often are grouped into the unacceptable thoughts dimension. Participants completed a battery of questionnaires measuring several constructs, which the author proposed may be particularly relevant to the development and maintenance of scrupulosity symptoms among members of the LGBTQ+ community. Additionally, the study sought to replicate past findings indicating differences in obsessive-compulsive (OC) symptoms between LGBTQ+ and non-LGBTQ+ participants as well as to extend those findings by demonstrating possible mechanisms by which such differences may occur. Results indicated that LGBTQ+ participants experienced greater levels of “unacceptable thoughts” ($t_{(207)} = 5.11, p < .001$, Cohen’s $d = 0.71$) and scrupulosity symptoms ($t_{(202)} = 5.74, p < .001$, Cohen’s $d = 0.80$) than did non-LGBTQ+ participants. Further, fear-of-self partially mediated the association between family acceptance of LGBTQ+ identity and scrupulosity symptoms ($b = .42, SE = .11, CI_{95} = .20$ to $.66$), whereas family acceptance of LGBTQ+ identity

moderated an association between religiosity and scrupulosity symptoms ($b = .04, p = .03$). These results suggest that domains related to identity, family acceptance, and religion may be of particular importance to OC symptoms in LGBTQ+ individuals and may warrant special consideration in research and treatment efforts within this population.

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OCD AND SCRUPULOSITY SYMPTOMS IN THE LGBTQ+ COMMUNITY

BY

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CHAPTER 1

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a psychological disorder characterized by experiences of obsessions, or recurring, unwanted thoughts and urges, and/or compulsions, or repetitive behaviors targeted at reducing the anxiety or discomfort associated with obsessions (American Psychiatric Association [APA], 2013). OCD generally is recognized to be a very heterogeneous condition, often occurring in the form of several symptom dimensions, or categories of symptoms organized by content (Abramowitz, Taylor, & McKay, 2009). One commonly observed symptom dimension includes unacceptable or repugnant obsessions, which tend to be related to violent/aggressive, sexual, and/or religious themes (Abramowitz et al.).

The unacceptable thoughts dimension of OCD may be particularly relevant to one population that, despite being the subject of increasing focus in more recent years, consistently has been underrepresented in research (e.g., Suen et al., 2020) – the LGBTQ+ community. In particular, it is this author’s observation that the research regarding OCD in LGBTQ+ populations has been extremely limited to date. For example, a search of the PsycINFO database using the terms “obsessive-compulsive disorder” and “LGBTQ+” returns only one result. A search using “obsessive-compulsive disorder” and “sexual minority” returns seven results, four of which actually refer to the same book and only two of which actually seem to represent information directly relevant to OCD in LGBTQ+ populations. When using the search term “obsessive-compulsive disorder” in combination with the terms represented by each letter of the LGBTQ+ acronym (i.e., lesbian, gay, bisexual, transgender, queer),

searching “obsessive-compulsive disorder” and “gay” returns the most results at 28, the vast majority of which do not relate directly to OCD in LGBTQ+ individuals.

However, one recent study (returned by the “obsessive-compulsive disorder” and “sexual minority” search) has demonstrated that LGBTQ+ individuals are significantly more likely than non-LGBTQ+ individuals ($F_{(1,433)} = 9.11, p^2 = .02, p < .01$) to report experiencing OCD symptoms related to the unacceptable thoughts symptom dimension (Pinciotti & Orcutt, 2020). The authors of this study suggested that LGBTQ+ individuals may be particularly sensitive to social stigma (e.g., the risk of social rejection due to unacceptable thoughts about sex), which may in turn lead to greater experiences of anxiety surrounding such stigmas (Pinciotti & Orcutt, 2020). This interpretation would be consistent with conclusions made by Williams et al. (2008), who suggested that differences in contamination concerns across White and Black individuals may be due to a desire on the part of Black individuals to avoid stigma surrounding stereotypes of cleanliness (e.g., the idea underlying historical segregation that White and Black Americans should use separate facilities due to concerns that Black Americans would contaminate said facilities; Williams et al., 2008). This conclusion emerged from findings indicating that Black participants tended to score significantly higher than White participants on measures of contamination concerns, including the Padua Inventory (PI) contamination and washing items ($t = 4.39, p < .0001, d = .73$) and Obsessive Compulsive Inventory-Revised (OCI-R) Washing ($t = 3.19, p = .002, d = .52$). Further, it is consistent with other findings: Although a priming task designed to increase ethnicity salience did not impact contamination scores for White participants, Black participants for whom ethnicity had been made salient scored significantly higher on both PI Contamination ($t = 2.07, p = .040, d = .29$) and OCI-R Washing ($t = 2.41, p = .017, d = .33$). This research indicates that there is some precedence for the idea that social stigmas may result in or exacerbate OC symptoms in minority individuals. It may be expected that avoidance of

concepts related to stigmas associated with one's minority group status may function as a safety-seeking behavior, thus contributing to the maintenance of OC symptoms.

Given the mixed and sometimes deeply harmful impact of religion on individuals belonging to the LGBTQ+ community (e.g., loss of relationships upon coming out; Beagan & Hattie, 2015), it is possible that religious and spiritual identification may be relevant to the development and maintenance of repugnant obsessions and associated compulsions. Specifically, it is possible that these factors may play a role in symptoms of scrupulosity, or the experience of obsessions and compulsions centered on moral and/or religious themes (Abramowitz & Jacoby, 2014) among the LGBTQ+ community. LGBTQ+ people may be expected to experience and report higher levels of obsessions and compulsions related to religion and/or morality in order to avoid being associated in the minds of others with negative stereotypes surrounding immorality (e.g., LGBTQ+ individuals as sexually deviant), in accordance with previous findings regarding stereotype threat related to ethnicity (e.g., Williams et al., 2008). Several factors may be expected to come into play in experiences of scrupulosity symptoms among LGBTQ+ people. Independent bodies of literature have examined the importance of factors such as religion (e.g., associations between greater religiosity and OC-related cognitions) and the family (e.g., attachment anxiety is associated with higher levels of OC symptoms) to anxiety and OCD (e.g., Doron et al., 2011; Himle et al., 2011) and to the well-being of LGBTQ+ individuals (e.g., Ryan et al., 2010; Toscano, 2017), respectively, although the intersection among these has received much less attention. Additionally, fear-of-self only recently has emerged as a construct of interest in the field of OCD research (e.g., Aardema & Wong, 2020) and may be particularly relevant to marginalized individuals such as the LGBTQ+ community, who often face discrimination on the basis of their identities.

In order to expand upon the current understanding of experiences of OCD among LGBTQ+ individuals, the current study will seek to replicate the findings of Pinciotti and Orcutt (2020)

as well as to begin examining potential mechanisms by which LGBTQ+ people may come to experience increased likelihood of having “unacceptable thoughts.” In particular, the current study will focus on the potential roles of religion/spirituality, family acceptance, and fear of self in symptoms of scrupulosity among an LGBTQ+-identifying sample. A second aim of the current study is to yield knowledge relevant to the specific social and psychological experiences of this historically understudied and undeserved population, with the goal of informing future research utilizing LGBTQ+ samples as well as potential therapeutic interventions. As such, the current study will give LGBTQ+ participants the opportunity to offer their perceptions of the appropriateness of the design methods in evaluating their lived experiences.

Of note, the term “LGBTQ+” is used throughout the text in order to balance inclusivity and representation with conciseness. It is the author’s intent in using this term to refer to all sexual and gender identities that fall under the broad LGBTQ+ spectrum, including those not specifically listed under this acronym. The author acknowledges the limitations inherent in this method of grouping individuals of different identities whose experiences may differ meaningfully and markedly (e.g., Bettinger, 2010). Such limitations notwithstanding, this grouping is used throughout the current document because it is the level of grouping that tends to be utilized within the relevant literature and, thus, provides the most accurate description of the methods and conclusions of the studies reported here. Further, and from a practical perspective, it is outside of the scope of the current study to investigate the experiences of more specific groups included under the LGBTQ+ umbrella. It is the current author’s hope that the findings of the proposed study may be used to inform future research regarding the varied and nuanced experiences of the groups who comprise the LGBTQ+ community.

Literature Review

Mental Health in LGBTQ+ Populations

In general, LGBTQ+ populations experience unique difficulties in health and healthcare settings. LGBTQ+ youth are more likely than their non-LGBTQ+ counterparts to engage in risky behaviors and to experience difficulties with mental health, including depression, suicidal ideation, and substance use problems (Hafeez et al., 2017). Additionally, various factors related to LGBTQ+ experiences have been shown to be associated with negative mental health outcomes. For example, in a study of British LGBTQ+ university students, several such factors emerged as predictors of one or more of four outcomes (i.e., experiencing mental health problems, utilizing mental health services, experiencing suicidal risk, and engaging in self-harm; Gnan et al., 2019). These factors included identifying as transgender ($ORs : 2.44 - 3.25, ps < .005$) or bisexual ($ORs : 1.39 - 1.59, ps < .05$), believing oneself to be LGBTQ+ before 10 years of age ($OR = 1.41, p < .05$), coming out as LGBTQ+ before 16 years of age ($ORs : 1.34 - 1.47, ps < .05$), experiencing a lack of acceptance of one's sexual and/or gender identity at home ($OR = 1.96, p < .005$), having a lack of openly LGBTQ+ staff at the university ($OR = 1.33, p < .05$), and experiencing hate crimes ($OR = 1.67, p < .005$; Gnan et al., 2019).

In particular, LGBTQ+ individuals may experience negative mental health outcomes due to discrimination related to their sexual and/or gender minority status. For example, a study of high school students found that LGBTQ+ participants experienced higher rates of bullying ($F_{(3,18666)} = 264.98, p^2 = .041, p < .001$) and negative emotions ($F_{(3,18548)} = 280.88, p^2 = .043, p < .001$) than did non-LGBTQ+ participants. Students who identified as both a sexual and gender minority experienced the greatest rates of these problems (bullying:

$F_{(2,18656)} = 398.58, p^2 = .041, p < .001$; negative emotions: $F_{(3,18537)} = 433.71, p^2 = .045, p < .001$; White et al., 2018). In a study of LGBTQ+ college students, experiences of both overt discrimination and microaggressions were associated with decreased self-esteem (overt: $b = -0.29, p < .001$, microaggressions: $b = -0.16, p < .01$) and increased anxiety (overt: $b = 0.21, p < .001$, microaggressions: $b = 0.20, p < .001$) and stress (overt: $b = 0.20, p < .01$, microaggressions: $b = 0.23, p < .001$; Seelman, Woodford, & Nicolazzo, 2016). As the authors note, this finding is important to understanding the well-being of LGBTQ+ students, as some people may not conceptualize microaggressions as a form of discrimination. Therefore, it is important to inquire directly about more subtle forms of victimization when assessing discrimination against LGBTQ+ individuals (Seelman et al., 2016).

A specific challenge facing the LGBTQ community stems from discriminatory experiences in healthcare settings. Based on their review of the literature surrounding healthcare disparities in LGBTQ+ youth, Hafeez et al. (2017) suggested that LGBTQ+ youth may feel uncomfortable disclosing their sexual and/or gender identities to healthcare providers, which prevents formation of a strong therapeutic alliance and may result in reduced quality of care. Moreover, according to a review of the literature related to mental health among LGBTQ+ youth, there is a lack of empirical support for services targeted at LGBTQ+ youth across contexts such as schools and clinical settings (Russell & Fish, 2016). These challenges to accessing appropriate, supportive healthcare for LGBTQ+ individuals likely compounds the health-related deficits experienced by this population.

Anxiety and OCD

There is evidence that LGBTQ+ individuals are more likely to experience anxiety than their non-LGBTQ+ counterparts. For example, a review of the published literature regarding

the prevalence of anxiety disorders in transgender populations indicated that the rate of these disorders is higher among individuals identifying as transgender (as high as 8.9% in a study conducted in Japan) as opposed to the general population (1%; Millet, Longworth, & Arcelus, 2017). According to this review, the most commonly experienced anxiety disorders in this population include specific phobias, social phobia, panic disorder, and OCD. However, it is notable that there was significant variation in the findings across studies included in this review. Specifically, two studies of transgender individuals in Italy found rates of OCD of less than 1%. Of the other studies, both the lowest average (2.5%) and highest average (8.9%) rates of OCD were reported by Japanese transgender participants.

Although the research relating directly to experiences of OCD among LGBTQ+ individuals is limited, there is some indication that this population experiences OCD at greater rates than non-LGBTQ+ individuals. For example, according to a systematic review of the literature, studies have found a prevalence rate of OCD as high as 9.8% among transgender women; estimates of the prevalence of OCD in the general population typically are in the range of 1% (Millet et al., 2017). One study utilized a nonclinical sample in order to examine whether sexual minorities (i.e., individuals identifying their sexual orientation as something other than straight/heterosexual) would report greater levels of symptom dimensions of OCD that are associated with greater stigma (Pinciotti & Orcutt, 2020). The results of this study indicated that sexual minorities were more likely to report OCD-related unacceptable thoughts related to violence, sex, or religion ($F_{(1,433)} = 9.11, p^2 = .02, p < .01$), but less likely to endorse symptoms of contamination ($F_{(1,433)} = 3.92, p^2 = .01, p < .05$) than straight/heterosexual individuals. This association was significant when traumatic experiences and symptoms of posttraumatic stress disorder (PTSD), for which LGBTQ+ individuals are at greater risk than non-LGBTQ+ individuals (Roberts et al., 2010), were controlled. The authors concluded that individuals in this population may be more likely to experience OCD symptoms that are related to the social stigmas, as they may have de-

veloped increased sensitivity to such stigmas due to experiences of minority stress and may feel particularly threatened by thoughts that seem likely to elicit further stigma (Pinciotti & Orcutt, 2020).

Religion and Spirituality

In LGBTQ+ Populations

Spanning the estimated 5.6% of the U.S. population who identify as LGBT (Jones, 2021), religious and spiritual beliefs vary markedly—as is the case within any other community of approximately 18 million people. Namely, some member individuals identify with a particular religious organization, whereas others describe themselves as spiritual but not religious, and others reject religion and spirituality altogether (Toscano, 2017). Likewise, the impact of religion and spirituality can vary markedly among LGBTQ+ individuals. For example, a study of interviews with LGBTQ+ adults concluded that some participants reported experiencing no conflict between their religious identification and LGBTQ+ identity; others experienced significant harm caused through their involvement with organized religion (Beagan & Hattie, 2015). Some commonly reported experiences among these individuals included a feeling of being disconnected from their bodies and the delaying of sexual activity until later in life relative to non-LGBTQ+ individuals.

Importantly, it may be difficult to make generalizations about the impact of religion and spirituality on LGBTQ+ experiences, as the outcomes of exposure to religious contexts appears to vary and may include both positive and negative effects. For example, an analysis of interviews with adolescents and young adults raised in Christian households uncovered a number of negative themes related to religion, including feelings of inadequacy, guilt, de-

pression, social strain, and unsupportive reactions and insults from peers and family (Dahl & Galliher, 2012). However, in this same sample, positive themes related to religion also emerged, including increased acceptance of one's identity, open-mindedness and acceptance toward others, an incorporation of religious values such as service to others into one's identity, and social support (Dahl & Galliher, 2012). Moreover, in another study of interviews with religious LGBTQ+ individuals, participants reported a number of positive factors associated with the intersection of these two identities, including a sense of "spiritual strength" associated with the difficulties of coming out and coping with discrimination, possessing "deeper meaning and purpose" as the result of having the perspective of an LGBTQ+ identity, and experiencing positive relationships with others in one's community based on one's identity and authenticity (Rosenkrantz et al., 2016). Additionally, in a study of interviews with LGBTQ+ homeless youths, many participants reported deriving resilience from their religions and spiritual beliefs (Schmitz & Woodell, 2018). In keeping with the theme of variability, however, others in that same study identified religion as a source of stigma. Further, in a study of interviews with leaders of Muslim Canadian organizations, both those who reported high acceptance and low acceptance of LGBTQ+ people reported that their religion (i.e., Islam) was the basis from which they derived their beliefs regarding acceptance of this community (Golriz, 2020). Although these results relate to a specific subset of a much larger community and cannot necessarily be generalized to other groups, Golriz (2020) concluded that religious belief alone is not indicative of LGBTQ+ acceptance and that, instead, different understandings of what religion means may lead to differences in acceptance.

There may be several explanations for disparities in perceptions of how religion/spirituality and LGBTQ+ identities intersect. It may be that exposure to factors such as discrimination and the messages received from trusted sources such as activist groups influences the manner in which religious/spiritual experiences are internalized and impact the well-being of LGBTQ+ people. For example, one study of interviews with LGBTQ+ activist groups

at Christian colleges found that, depending on the purpose and goals of the activist group in question, these groups had the capacity to powerfully impact individuals' views of the compatibility or conflict between these two identities (Coley, 2020). Another issue of particular importance to the impact of religion and spirituality on LGBTQ+ individuals is that of microaggressions, or subtle instances of discrimination experienced throughout daily life by members of minority groups. In a qualitative study of LGBTQ+ individuals who identified as being religious or spiritual, participants reported experiences of microaggressions in religious contexts, of which three themes emerged: the concept of LGBTQ+ identities as being inauthentic, the idea that LGBTQ+ identities should be tolerated but not accepted and still met with disapproval, and the belief that there is incompatibility between being religious or spiritual and being LGBTQ+ (Lomash, Brown, & Galupo, 2018).

One particular way in which religion may negatively impact LGBTQ+ individuals is through its effect on family dynamics. In one study of LGBTQ+ youth, an analysis of interview themes that emerged was these youths felt that coming out to their families was necessary and wanted to have the support of their families, but they also acknowledged that the initial reactions of their parents to their coming out tended to be negative (Roe, 2017). Participants in this study identified religion as a specific barrier to obtaining the support they wanted from their parents (Roe, 2017). Further, in another study of LGBTQ+ young adults, having parents with homophobic religious beliefs ($b = .29, t = 6.30, p < .001$), as well as experiencing conflict between one's sexual identity and one's religion ($b = .96, t = 12.72, p < .001$), was associated with greater internalized homophobia, which was associated with increased current ($OR = 1.193, 95\% CI = 1.114-1.278$) and chronic ($OR = 1.271, 95\% CI = 1.093-1.479$) suicidal ideation (Gibbs, 2015). Additionally, a study of LGBTQ+ Seventh-day Adventists found low family acceptance and support (e.g., 81.9% reported that parents had difficulty accepting their identities) for these individuals in addition to high levels of depressive symptoms (e.g., 31% reported suicidal ideation in the past six months) and

risk-related behaviors (e.g., 22% reported unprotected sex with a casual or non-monogamous partner in the past six months; VanderWaal, Sedlacek, & Lane, 2017).

It is important to consider the effects of intersectionality when considering the impact of religion on LGBTQ+ individuals as this impact may vary depending on other demographic factors, such as race/ethnicity and culture. In one study of interviews with Black LGBTQ+ individuals, the authors concluded that learning which originated in Christian homes and reinforced by other environments (e.g., school) led to a view of the LGBTQ+ identity as something that runs counter to Christianity (Kolysh, 2017). Further complicating this issue was the fact that being LGBTQ+ was sometimes associated with “Whiteness,” which led to difficulties for study participants in finding acceptance either from their home communities or LGBTQ+-friendly spheres (Kolysh, 2017). Likewise, Schmitz and Woodell (2018) found that the young LGBTQ+ people of color in their qualitative study tended to discuss the impact of religion on their lives alongside significant, negative childhood experiences (e.g., abuse). Although an examination of race/ethnicity is outside the scope of the current study, it is clear from this research that a consideration of multiple different variables is important to understanding the experiences of religion/spirituality among members of the LGBTQ+ community.

Methods of coping with religion-related stigma vary across LGBTQ+ individuals, with some ultimately deciding to distance themselves from their religious backgrounds. Beagan and Hattie (2015) found that many of the participants in their interview-based study left their religion of origin. Furthermore, those who remained associated with their religion of origin tended to differentiate between their religion and their spiritual beliefs, although it is notable that they tended to endorse the idea that neither religion nor spirituality is widely accepted in LGBTQ+ communities. Likewise, Kolysh (2017) concluded based on her participants’ interview responses that these participants tended to leave their religion of

origin (i.e., eight out of ten participants left Christianity). Additionally, she noted that this decision is associated with a loss of social support and other advantages (Kolysh, 2017).

In OCD

Early research on the relationship between religion and mental health often seemed to indicate that religion was associated with more negative mental health outcomes (Koenig & Larson, 2001). Today, however, religion generally is considered to be associated with better mental health outcomes. For example, this was the conclusion reached by a review of recent studies utilizing more sound methodologies than earlier research that often suggested otherwise (Koenig & Larson, 2001). However, the research described above indicates that this relationship may not be straightforward in every case (e.g., may differ from the expected for LGBTQ+ populations). Likewise, the relationship between religion and OCD also is potentially complicated, with findings indicating mixed associations between some aspects of religion and OCD symptoms (Himle et al., 2011). For example, mixed associations have been observed between OCD and aspects such as religious denomination and degree of religiosity, with some studies indicating positive correlations and others finding no significant relationships (Himle et al., 2011). For example, one study found no significant correlation between strength of religious faith and scrupulosity symptoms, and this association remained nonsignificant when Catholic and Protestant participants were considered separately (Nelson et al., 2006). This stands in contrast to previous findings, which have indicated a significant positive association between degree of religiosity and both the Fear of God ($F_{(1,116)} = 26.08, p < .001$) and Fear of Sin ($F_{(1,116)} = 17.71, p < .001$) subscales of the Penn Inventory of Scrupulosity (PIOS; Abramowitz et al., 2002).

However, specific religious beliefs, particularly the idea that an individual is culpable for potentially sinful thoughts, may be responsible for the positive associations that are sometimes observed (Himle et al., 2011). Such beliefs about the importance of thoughts ($F_{(2,220)} = 18.72, p < .001$), as well as obsessions ($F_{(2,220)} = 3.95, p = .02$) and washing compulsions ($F_{(2,220)} = 10.16, p < .001$), have been found at greater levels in highly religious as opposed to moderately religious Protestant Christians (Abramowitz et al., 2004). Compared with individuals identifying as atheists or agnostics, these highly religious Christians also reported higher levels of several additional OCD-relevant symptoms, including intolerance of uncertainty ($F_{(2,220)} = 6.24, p = .002$), sense of responsibility ($F_{(2,220)} = 7.04, p = .001$), and need for control of one's thoughts ($F_{(2,220)} = 10.79, p < .001$; Abramowitz et al., 2004). These findings may be consistent with Koenig and Larson's (2001) suggestion that, when research demonstrates a negative impact of religion on mental health, it is possible that this effect may be attributable to inappropriate use of religious concepts by individuals with mental health problems.

Fear-of-Self

Another potential construct of interest to the experiences of LGBTQ+ people with OCD is fear-of-self, which describes a broad array of cognitive, emotional, and behavioral factors related to characteristics that an individual fears may be part of their identity (Aardema & Wong, 2020). For example, an individual may develop the concern that they might be a dangerous person and, consequently, may avoid engaging with items that could be used to harm others (e.g., weapons; Aardema & Wong, 2020). Research has demonstrated that individuals with OCD are more likely than individuals with anxiety disorders or non-anxious controls to make negative inferences about their identities based on their intrusive thoughts

($F_{(2,60)} = 28.88, p < .001$; Ferrier & Brewin, 2005). Moreover, whereas individuals with OCD tended to report the same level of discrepancy between their feared and actual selves as did individuals with anxiety disorders, their descriptions of their feared selves tended to center more on the concept of the self as being threatening, such as by being immoral ($F_{(2,60)} = 5.20, p < .01$; Ferrier & Brewin, 2005).

Aardema and O'Connor (2007) described a model detailing the role of fear-of-self within the context of OCD. In this model, individuals give inappropriate credibility to intrusive thoughts on the basis of an overreliance on fear of the potential self, or the self that might be, as opposed to the self as it currently is. The result is the experience of egodystonicity that follows from the discrepancy between a person and the content of their obsessions. The model is reminiscent of self-discrepancy theory, which stems from the social psychology literature. According to this theory, discrepancies between the actual self and the “ideal” (i.e., the self they wish to be) or “ought” (i.e., the self they feel they should be) selves result in emotional problems related to dejection (e.g., sadness) or agitation (e.g., fear), respectively (Higgins, 1987). Consistent with this model, then, a greater actual-ought self-discrepancy should be associated with increased anxiety (Mason et al., 2019). However, a meta-analysis of the extant research has demonstrated a stronger association between actual-ideal self-discrepancy and anxiety ($z = -3.16, p < .002$) than between actual-ought self-discrepancy and anxiety (Mason et al., 2019).

Feared selves have been studied previously in the context of this model. In one study, greater actual-feared self-discrepancy was associated with higher levels of anxiety ($r = 0.35, p < .01$), guilt ($r = 0.36, p < .01$), and depression ($r = 0.52, p < .001$; Carver, Lawrence, & Scheier, 1999). Moreover, there was an interaction effect such that when participants had relatively low actual-feared self-discrepancies, actual-ought self-discrepancies were no longer significantly related to guilt and anxiety (Carver et al., 1999).

The Fear-of-Self Questionnaire (FSQ) is a measure with 8- and 20-item forms developed to assess fear-of-self in clinical and research settings (Aardema et al., 2013). In the development and validation study of the FSQ, fear-of-self was particularly strongly associated with obsessions related to religion, sex, and aggression ($r = .59, p < .01$), indecisiveness ($r = .60, p < .01$), and not-just-right experiences ($r = .54, p < .01$) as measured by the Vancouver Obsessional Compulsive Inventory (VOCI; Thordarson et al., 2004; Aardema et al., 2013). Correlations between the FSQ and Contamination, Checking, and Hoarding subscales of the VOCI were significant ($p < .01$) but lower in magnitude ($r_s = .33 - .42$; Aardema et al., 2013). In a study of treatment-seeking individuals with OCD, reductions in FSQ scores as the result of engagement in one of four evidence-based psychotherapies for OCD were significantly predictive of decreases in repugnant obsessions ($b = .14, p < .007$) and contamination concerns ($b = .15, p < .007$) (Aardema et al., 2019). The consistency of significant associations between the FSQ and measures of OCD symptoms, coupled with the fact that the associations are low-to-moderate in magnitude, provides some confidence that fear-of-self, while relevant to OCD symptoms, represents a distinct construct.

Experimental research also has been utilized to examine the relationship between fear-of-self and OCD-relevant constructs. In two studies examining obsessional doubt in nonclinical samples, participants read vignettes (e.g., one about a potential car accident, one about a watch potentially being broken) and were asked to rate the likelihood of a number of possible outcomes (e.g., the likelihood that an accident had occurred) to the situations described (Jaeger et al., 2015; Nikodijevic et al., 2015). Jaeger et al. found that participants for whom the vignettes were made personally relevant (i.e., actions described in the vignette were implied to have been taken by the participant) reported higher levels of baseline doubt (e.g., greater likelihood that the accident had occurred). After being presented with a reality-based statement about the actual outcome of the scenario that was either congruent or incongruent with their beliefs, as well as another possibility-based statement that might or might not

negate the reality-based statement, higher levels of OCD symptoms were related to fluctuations in doubt (e.g., likelihood ratings that the accident had occurred) but experimental condition was not. Likewise, Nikodijevic and colleagues (2015) found that greater fear-of-self predicted higher levels of baseline doubt as well as more fluctuation in doubt in response to the information provided by vignettes describing contamination and checking situations, although fear-of-self was not predictive of these fluctuations over-and-above OCD symptoms. The authors of both studies concluded that their findings provided evidence for the role of fear-of-self in experiences of OCD symptoms. Further, in a study of individuals with OCD, participants completed a task designed to prime certain cognitions related to personally-relevant self-fears (Sauvageau et al., 2020). This task involved completion of a bogus personality test and presentation of bogus results that had been pre-determined to subtly prime participants' feared selves based on ratings given by their psychologists. The results indicated that this manipulation resulted in increases in obsessions ($z = 2.06, p = .04, r = -.73$) and urges to engage in compulsions ($z = 2.06, p = .04, r = -.81$; Sauvageau et al., 2020). The authors interpreted this finding as evidence that fear-of-self may have a causal role in experiences of OCD symptoms (Sauvageau et al., 2020).

Aardema and Wong (2020) have suggested a model by which fear-of-self may function in the context of OCD. According to this model, one manner by which fear-of-self arises is as the result of an unclear or unstable self-identity, which emerges due to problems in critical periods of identity resolution, such as early adulthood. Fear-of-self, in turn, results in hypervigilance to anxiety triggers and contributes to experiences of intrusive thoughts relevant to feared possible selves. It also results in misinterpretations about the importance of triggers and intrusions to the self. Compulsions emerge in order to decrease the negative emotions associated with fear-of-self and are maintained by temporary reductions in these emotions. Aardema and Wong (2020) acknowledge that this model is preliminary—in fact,

speculative—based on the early stage of the literature in question, and suggest that empirical research is the necessary next step to evaluate the role of self-perceptions.

The Role of the Family and Attachment

Research has demonstrated individuals with OCD demonstrate greater attachment insecurity in adulthood than do healthy controls ($F_{(2,72)} = 6.34, p = .003$; Myhr, Sookman, & Pinard, 2004). Attachment anxiety, or the insecurities that individuals experience in attachment style as the result of worrying that a partner will not be available when needed, has been shown to be greater in individuals with OCD as opposed to individuals with anxiety disorders and community controls, even when controlling for depression ($F_{(2,79)} = 8.96, p < .001$; Doron et al., 2011). Other research has demonstrated via structural equation modeling that OCD-related beliefs mediate the associations between greater adult attachment insecurities (i.e., attachment anxiety and attachment avoidance) and greater symptoms of OCD, even when controlling for depression ($\chi^2_{(111)} = 241.86, p < .001$, CFI = .972, RMSEA = .051, SRMR = .0496; Doron et al., 2009). In an experimental study, a priming task designed to enhance attachment security had differential effects on participants' washing behaviors depending on their attachment style (Doron et al., 2012). Participants who had greater attachment anxiety ($b = 0.59, p < .05$) and/or avoidance ($b = 1.02, p < .01$) less reported more OC-related washing following the task than did participants who had less baseline attachment anxiety and avoidance. However, there were significant interactions between security priming and both attachment anxiety ($b = -0.78, p < .05$) and avoidance ($b = -0.99, p < .05$), such that the priming attenuated washing behaviors in those with more anxious and avoidant attachments and increased these behaviors in those with more secure attachments.

A critical analysis of the extant literature has concluded that there are no differences in attachment between LGBTQ+ and non-LGBTQ+ individuals (Bailey, 2018). However, other factors related to family relationships play an important role in the well-being of this population. In a study of LGBTQ+ young adults, greater family acceptance was associated with higher levels of positive outcomes, including self-esteem ($\beta = .33, p < .001$), social support ($\beta = .44, p < .001$), and general health ($\beta = .21, p < .001$; Ryan et al., 2010). Family acceptance also predicted lower levels of negative outcomes, including depression ($\beta = -.29, p < .001$), substance abuse ($\beta = -.19, p < .01$), and suicidal ideation ($OR = 0.98, p < .05$) and attempts ($OR = 0.97, p < .01$; Ryan et al., 2010). Greene and Britton (2015) explored an association between emotional memories of warmth and safety from childhood and subjective reports of happiness in adulthood among LGBTQ+ adults. In this cross-sectional study, self-compassion and personal mastery (i.e., the extent to which participants held the belief that their own life circumstances are under their control) both mediated the link between these two variables, with self-compassion emerging as the strongest mediator and personal mastery ($b = .63, t = 9.72, p < .001$) emerging as the strongest predictor of happiness in adulthood.

Moreover, family support may be more important than other types of social support to the mental health outcomes of LGBTQ+ individuals. In one study, despite having generally high support from friends and romantic partners, LGBTQ+ individuals with non-family support (i.e., support from others such as friends but not from family) had worse outcomes (e.g., loneliness: $\beta = .72, t = 6.47, p < .001$) than those with high family support and did not differ on most outcomes from those with low family support (McConnell, Birkett, & Mustanski, 2015). LGBTQ+ youths with high family support report lower psychological distress across adolescence as compared to those with non-family ($\beta = .07, t = 1.13, p > .05$) or low family support ($\beta = .25, t = 3.22, p < .01$; McConnell, Birkett, & Mustanski, 2016). Further highlighting the importance of family support, individuals with non-family support

tend to gain family support over the course of adolescence and, concurrently, report declines in psychological distress, to the extent that they no longer differ in terms of psychological distress from individuals with high family support (McConnell et al., 2016).

The role of the family and the role of religion in an individual's well-being may not be easily separable concepts. As described, religion can impact family acceptance of LGBTQ+ family members, which in turn can have a significant impact on well-being (Roe, 2017). It has been suggested that future research should address the intersection of spirituality and attachment among LGBTQ+ individuals, especially as it is possible that being securely attached to God may be helpful for individuals who have experienced separation from their religious/spiritual communities (e.g., LGBTQ+ individuals who leave religion after facing discrimination; Bailey, 2018). It may also be of use to examine such intersections between spirituality and other aspects of family relationships, including acceptance of sexual and gender identity.

Research Methodology and LGBTQ+ Populations

As exemplified by the areas discussed above, there are many factors that must be taken into consideration for research conducted with marginalized populations. Among the specific issues related to research with LGBTQ+ populations is that of categorization. Research of this type faces questions of how groups should be defined for comparison, as well as how generalizable findings may be to broad categories of people representing many different experiences and backgrounds (Cimpian & Herrington, 2017). Goins and Pye (2013) studied the use of categorical responses to identify sexual orientation, gender identity, and relationships on intake forms in the healthcare field. Their results indicated that the heteronormative assumptions upon which such questions are built do not allow for adequate inclusion of the

range of experiences that might be contained under the LGBTQ+ umbrella and warn that this approach may lead to exclusionary practices in research. Unfortunately, there is not a clear solution for addressing this limitation. As Bettinger (2010) concluded, although there is no specific correct manner in which to label and define participants in LGBTQ+-related research, it is important for researchers in the social sciences to be aware of the complexities involved in LGBTQ+ terminology and responsive to concerns that arise surrounding the use of said terminology. Likewise, as there often is extreme within-group variation among each of the commonly operationalized LGBTQ+ categories, it is important for researchers to provide a strong conceptual basis for the definition of categories in their studies and to carefully consider potential effects of the chosen definitions (Bettinger, 2010). McInroy (2016) also stressed the importance of ensuring that terminology is used appropriately in order to ensure effective sample recruitment and minimize the risk of misunderstandings.

Careful consideration also must be given to the general design of studies focused on the LGBTQ+ community. The mode by which a study is administered may influence the extent to which individuals belonging to underrepresented groups are able to participate. As an example, increased use of online and remote studies has increased researcher access to groups such as the LGBTQ+ community (McInroy, 2016). Additionally, qualitative research designs are considered to be appropriate for capturing the diversity of experiences of LGBTQ+ populations (Singh & Shelton, 2011). However, the methodologies employed must be scientifically rigorous, as inaccurate interpretations of the information yielded by such studies can contribute to further discrimination and oppression against the LGBTQ+ community (Singh & Shelton, 2011).

Further, according to Gahagan and Colpitts (2017), although much research on LGBTQ+ populations approaches questions from a deficit-based model, there is information to be gained from using strengths-based health promotion approaches. Namely, whereas deficit-based approaches provide useful information regarding existing problems in the health out-

comes of this population, strengths-based approaches are more likely to yield solutions for addressing these problems (Gahagan & Colpitts, 2017). One approach that has potential for use with LGBTQ+ samples is counterstorytelling, by which individuals belonging to marginalized groups have the opportunity to report on their lived experiences by retelling the narrative surrounding these groups (Wagman, Obejero, & Gregory, 2018).

It also is important to consider the identity of those involved in designing LGBTQ+-related research. Bettinger (2010) recommends that researchers who lack appropriate familiarity with LGBTQ+ culture should consult with LGBTQ+ colleagues in order to determine best practices for recruiting participants. Bettinger (2010) also raises the question of “inside versus outside” researchers and states that, although there are disadvantages associated with LGBTQ+ researchers performing LGBTQ+ research, there are also advantages in the sense that LGBTQ+ researchers may be better positioned to conduct studies in a culturally sensitive manner and with a greater understanding of participants’ viewpoints. Bettinger (2010) recommends collaboration between both LGBTQ+ and non-LGBTQ+ researchers in order to gain the most complete understanding of LGBTQ+ experiences. It is the view of the author that researchers, whether “inside” or “outside,” should be familiar with and sensitive to the perspectives of their populations of study, whatever the population in question.

The Current Study

The current study aimed to address a major limitation in the OCD literature by providing an investigation of constructs related to OCD in the LGBTQ+ community. In particular, the current study aimed to explore mechanisms that may underlie past findings that LGBTQ+ individuals experience the unacceptable thoughts symptom dimension of OCD (i.e., violent, sexual, or religious obsessions) at higher rates than non-LGBTQ+ individuals (Pinciotti &

Orcutt, 2020). Namely, this study examined factors that putatively contribute to scrupulosity symptoms in LGBTQ+ samples. These factors include the role of family relationships, self-concepts, and religion and spirituality.

Additionally, the current study allowed LGBTQ+ individuals an opportunity to report on their experiences with the methodology utilized in psychological research. It has been argued that when LGBTQ+-focused studies do not include thorough efforts to assess their own credibility with the LGBTQ+ community as a part of their design, there is a possibility that they may contribute unintentionally to the maintenance of oppressive symptoms that work against the welfare of this community (Singh & Shelton, 2011). Therefore, a goal of the current study was to solicit participant feedback on the perceived appropriateness of the current study's design and approach to assessing the unique lived experiences of the individuals who comprise the sample.

Notably, much of the research related to LGBTQ+ samples described above has been conducted via qualitative methodologies. Although these studies have produced valuable information, qualitative studies are limited for a number of reasons. For example, qualitative methods require that participants have the ability to accurately describe and explain their experiences (Riggle, Rotosky, & Reedy, 2005), such as outside the structure of standardized interview questions or questionnaire items. This may pose problems for members of the LGBTQ+ community, who often report having experiences such as same-sex attraction that take place before they have the language to describe these experiences (Riggle et al., 2005). Further, when interviews are the main mode of data collection, data quality is dependent on the skills of the interviewer for establishing rapport, listening effectively, and asking appropriate clarification questions (Partington, 2001). Bettinger (2010) has suggested that multiple methods of study—including both qualitative and quantitative components—should be included to gain a more complete understanding of LGBTQ+ issues. Although qualitative methodologies were outside the scope of the current study, the author aimed to heed this

call by approaching LGBTQ+ mental health issues in an explicitly quantitative design, but with an open-ended component.

Hypotheses

Hypothesis 1

Compared to non-LGBTQ+ individuals, it was hypothesized that LGBTQ+ individuals would report significantly ($p < .05$) higher levels of OCD symptoms related to unacceptable thoughts as measured by the Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010). This hypothesis was intended to provide a potential replication of results observed by Pinciotti and Orcutt (2020).

Hypothesis 2a

Compared to non-LGBTQ+ individuals, it was hypothesized that LGBTQ+ individuals would report significantly ($p < .05$) higher levels of scrupulosity symptoms as measured by the Penn Inventory of Scrupulosity-Revised (PIOS-R; Olatunji et al., 2007). Scrupulosity symptoms reflect content that is captured by the unacceptable thoughts symptom dimension (i.e., unacceptable religious obsessions). As such, it was predicted that, if LGBTQ+ individuals experienced higher levels of unacceptable thoughts than do non-LGBTQ+ individuals, they would also experience higher levels of scrupulosity symptoms. However, scores on the unacceptable thoughts symptom dimension are heterogeneous and may reflect elevations in sexual, violent, or other unacceptable obsessions—not scrupulosity per se. This necessitated that mean levels on scrupulosity per se be examined empirically.

Hypothesis 2b

It was hypothesized that identification as LGBTQ+ as opposed to non-LGBTQ+ would be significantly ($p < .05$) associated with higher levels of scrupulosity symptoms as measured by the PIOS-R when controlling for degree of religiosity as measured by the Santa Clara Strength of Religious Faith Questionnaire (SCSORF; Plante & Boccaccini, 1997). It is important to consider participants' degree of religiosity in examining this association, as research has demonstrated higher levels of OC-relevant constructs among the highly religious as opposed to more moderately religious or non-religious individuals (Abramowitz et al., 2004). Because past research has suggested that religion may be experienced differently by LGBTQ+ than non-LGBTQ+ individuals (e.g., Kolysh, 2017), the current study aimed to rule out the possibility that differential experiences of scrupulosity symptoms owe to differences in religiosity.

Hypothesis 3

In the LGBTQ+ sample, it was hypothesized that fear-of-self would partially mediate a significant ($p < .05$) negative association between family acceptance of one's LGBTQ+ identity and scrupulosity symptoms. This hypothesis related to the model proposed by Aardema and Wong (2020). Namely, they proposed that experiencing an interruption in identity resolution during a critical period of identity formation leads to problems with one's self-identity and experiences of feared possible selves, which then contribute to the development of obsessions and compulsions. Research has documented the importance of family support and acceptance to mental health outcomes for LGBTQ+ individuals (McConnell et al., 2015; McConnell et al., 2016; Ryan et al., 2010). Because of the specific role of the family

in multiple outcomes for this population, and because the current study hypothesized that family acceptance of one's identity may impact experiences of self-concept, it was expected that these associations would be particularly important to experiences of scrupulosity for LGBTQ+ individuals. Although the hypotheses proposed by the current study were too narrow to provide conclusive evidence regarding the utility of the model—that is, the current study did not aim to test the full Aardema and Wong (2020) model—it was proposed that positive findings would offer partial support for the model.

Hypothesis 4

In the LGBTQ+ sample, it was hypothesized that family acceptance of participants' LGBTQ+ identity would moderate (interaction term $p < .05$) a positive association between religiosity and scrupulosity symptoms. Specifically, when family acceptance is high, greater religiosity would be associated with decreased scrupulosity symptoms. However, when family acceptance is low, greater religiosity would be associated with increased scrupulosity symptoms. This analysis was intended to yield information that would begin addressing a gap in the literature identified by Bailey (2018) regarding the intersection among attachment theory, religion/spirituality, and sexual orientation. It followed research by Roe (2017), which has indicated that religion can serve as a barrier to LGBTQ+ individuals receiving family support.

Exploratory Aim

Whereas no specific hypothesis was made regarding LGBTQ+ individuals' experiences with the methodology of psychological research, participants were invited to provide feed-

back on the design of the current study to inform the degree to which conclusions drawn from the results could be considered to reflect the experiences of the LGBTQ+ community in a sensitive and accurate manner. This was also intended to inform design decisions for future studies. Toward this aim, participants were provided with a statement prior to debriefing that conveyed the researcher's interest in developing more sensitive and appropriate methods of working with the LGBTQ+ community, particularly with regard to quantitative psychological research. Participants were then given opportunities to provide open-ended feedback regarding the appropriateness of the current study design for measuring OCD symptoms and relevant constructs in an LGBTQ+ population. Additionally, participants rated several characteristics of the study with regard to its sensitivity to their experiences and their confidence in its potential conclusions. For example, participants were asked whether the use of questionnaire measures as opposed to the qualitative methods more commonly employed with this population allowed for an appropriately nuanced expression of their experiences.

CHAPTER 2

METHOD

Participants

Participants included 234 individuals recruited from Amazon Mechanical Turk (MTurk). Potential participants were invited to “answer a survey about [their] thoughts, feelings, and experiences” and were told the estimated completion time as well as the payment rate for completing the study, with no further information provided aside until the consent process was initiated. Participants were required to be at least 18 years old and to self-report sufficient proficiency (8th grade) in English to read and comprehend the questionnaires. Additionally, only individuals with at least a 95% rating on MTurk and who passed one CAPTCHA were allowed to participate (Peer, Vosgerau, & Acquisti, 2014). Participants received \$2.00 in exchange for their participation.

The target sample size was $N = 200$. G*Power was used to calculate a total sample size of 176, with 88 participants in each group. This calculation was based on an a priori power analysis for an independent samples t test with an effect size of $d = 0.425$, an alpha level of .05, and a power level of 0.80. This reflects the analysis that was used to test Hypothesis 1 (see below). The estimated effect size was selected in order to balance the need to detect potentially small effects with considerations regarding sample size. The target sample size reflected an approximately 10% increase from the calculated sample size in order to account for nominal problems with data collection (e.g., missing or invalid data).

Of the participants, 110 (47%) identified as non-LGBTQ+ and 107 (45.7%) identified as LGBTQ+. The remaining 17 (7.2%) participants either declined to identify as either

LGBTQ+ or non-LGBTQ+ or provided answers that could not be coded into either category. The mean age of the sample was 36.35 years ($SD = 10.40$). By race, the sample was 7.3% Black/African American, 9.0% Asian/Asian American, 75.6% White/European American, 7.3% Native American, and 0.9% Other. The sample was 23.1% Hispanic and 74.4% Non-Hispanic.

Many different response combinations were yielded for gender and sexual orientation; therefore, only data for more common combinations ($> 1\%$ of participants) and single-choice responses are reported here. With regard to gender, the sample was 47% male (with no other options specified) and 37.2% female (with no other options specified). An additional 1.7% specified that they were cisgender and female; 0.4% identified as cisgender and male. The sample was 1.3% transgender and 0.9% agender. 2.1% of participants selected the “custom gender category” option. With regard to sexual orientation, the sample was 65% straight, 4.7% gay/lesbian, 18.4% bisexual, 0.4% asexual, and 0.9% fluid. 0.4% of participants identified as queer with no further specification, and 4.3% selected the “custom orientation category” option.

When the target number of non-LGBTQ+ participants had been reached, a screening question was implemented prior to presentation of the full study. This question asked participants to identify as either LGBTQ+ or non-LGBTQ+. Participants were paid \$0.01 for completing the screening item. Of the 234 total participants, 137 completed the study prior to the implementation of the screening item. Of participants who completed the screener and were included in the study, 88 identified as LGBTQ+, 7 identified as non-LGBTQ+, and 2 declined to respond. There were an additional 16 LGBTQ+ participants and 58 non-LGBTQ+ participants who completed the screener but were either excluded from or elected not to complete the full study.

Measures

Demographics Questionnaire

Participants completed a questionnaire measuring demographic information including age, religious affiliation, race/ethnicity, sexual orientation, and gender identity. This demographic questionnaire also required that participants identify as either “LGBTQ+” or “not LGBTQ+.”

Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010)

The DOCS is a 20-item self-report questionnaire that measures obsessive-compulsive symptoms. It comprises four subscales, each measuring symptoms of a common symptom dimension of OCD. These include Contamination, Responsibility for Harm, Unacceptable Thoughts, and Symmetry. An additional, separate subscale has been developed to measure Scrupulous or Religious Thoughts (Wetterneck et al., 2021). Items are rated on a scale ranging from 0 to 4, with different anchors specified for each question. The DOCS and its main subscales have demonstrated good internal consistency, with a Cronbach’s coefficient alpha of .93 for the total score and .83 to .89 for the subscale scores in a student sample (Abramowitz et al., 2010). Also in the student sample, the DOCS demonstrated evidence of convergent and discriminant validity, with a higher correlation between the DOCS and the Obsessive-Compulsive Inventory-Revised (OCI-R; $r = .71$) than between the DOCS and the subscales of the Depression, Anxiety, and Stress Scale (DASS; $r_s = .37 - .52$) or the DOCS and the Social Interaction Anxiety Scale (SIAS; $r = .40$; Abramowitz et al., 2010). The total DOCS score also demonstrated a Cronbach’s alpha of .93 in an MTurk sample (Arditte et

al., 2016). In this MTurk sample, there was no difference between levels of OCD symptoms as measured by the DOCS and levels of OCD symptoms demonstrated in previous studies by nonclinical samples, although a larger portion of the sample obtained total DOCS scores above the clinical cutoff than was expected based on prior research. Sample items from the Contamination subscale of the DOCS include “About how much time have you spent each day thinking about contamination and engaging in washing or cleaning behaviors because of contamination?” and “To what extent have you avoided situations in order to prevent concerns with contamination or having to spend time washing, cleaning, or showering?” Each of the other subscales contains similarly worded items, tailored to the symptom dimension being assessed.

Penn Inventory of Scrupulosity-Revised (PIOS-R; Olatunji et al., 2007)

The PIOS-R is a 15-item self-report questionnaire that measures symptoms of scrupulosity. It comprises a Fear of God subscale (5 items) and a Fear of Sin subscale (10 items). Responses are given on a 5-point scale, which ranges from 0 (*never*) to 4 (*constantly*). In an undergraduate sample, the total PIOS-R and its subscales have been shown to have good internal consistency, with Cronbach’s coefficient alphas ranging from .91 to .94. Although not always the case, correlations as large as $r = .85$ have been demonstrated between the two subscales (Olatunji et al., 2007); however, this is not of concern to the present study as only total PIOS-R scores will be utilized in the analyses. Additionally, moderate correlations have been demonstrated between the PIOS-R and relevant measures, including the Obsessive Compulsive Inventory-Revised (OCI-R; $r = .43$), the State-Trait Anxiety Index (STAI) Trait subscale ($r = .38$), the Positive and Negative Affect Schedule (PANAS) Negative Affect subscale ($r = .30$), and the Disgust Emotion Scale (DES; $r = .27$; Olatunji et al., 2007).

Sample items from the PIOS-R include “I worry that I might have dishonest thoughts” and “I am afraid my behavior is unacceptable to God.”

Fear-of-Self Questionnaire-8 (FSQ-8; Aardema et al., 2013)

The FSQ-8 is an 8-item self-report questionnaire that measures the fear-of-self construct. Items are rated on a scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). This shorter version of the original, 20-item FSQ has demonstrated excellent internal consistency, as evidenced by a Cronbach’s alpha of .93. Additionally, the FSQ has been shown to have good convergent validity, as evidenced by correlations of $r = .67$ with the Self-Trust Questionnaire (STQ), $r = .68$ with the Self-Ambivalence Measure (SAM), and $r = .72$ with the Inferential Confusion Questionnaire-Expanded Version (ICQ-EV; Aardema et al., 2013). Additionally, the FSQ-8 demonstrated a significant negative correlation with the Experience of Close Relationship Scale-Short Form (ECRS) Anxiety subscale ($r = -.44$). Sample items from the FSQ-8 include “I often question my own character” and “I can easily imagine myself as the kind of person that should definitely feel guilty.”

CHAPTER 3

RESULTS

Data Cleaning

All data utilized in the primary analyses were assessed for patterns of missingness using Little's MCAR test. The results suggest that the data were missing completely at random, $\chi^2_{(9172)} = 9324.98$, $p = .13$ (Schafer, 1999). Because data were missing completely at random, missing data were addressed as follows. Participants missing 5% or more data from a given questionnaire were excluded from analyses using that questionnaire. The number of participants excluded from questionnaires for this reason ranged from five on the CRS Private Practice subscale to 15 on the SCSORF. The only measure included in analyses for the current study on which it was possible to be missing less than 5% of the data if even one question was unanswered was the list of methodology questions. Due to the descriptive, item-level nature of the planned analyses involving the methodology questions, missing values were not replaced for those questions.

The data were assessed for outliers using box-plots. It initially was proposed that absolute standardized values greater than 3.29 would be considered outliers (Field, 2005) and winsorized to 3.0 *SD* from the mean. Although a visual inspection of box-plots for each study measure indicated the presence of some discontinuity in the distribution, none of the identified values was greater than 3.29 standard deviations from the mean of their respective measures. Therefore, no values were adjusted. The means and standard deviations, skew and kurtosis values, and reliability statistics for each measure of interest are displayed in Table 1.

Table 1

Descriptive Statistics and Skew and Kurtosis Standardized Scores

Variable (items)	Valid N	Mean	SD	Skew	Kurtosis	Cronbach's Alpha	Average Inter-item Correlation
DOCS Unacceptable Thoughts (5)	225	8.76	4.81	-0.64	-1.00	.89	.63
DOCS Scrupulosity (5)	228	8.54	5.22	-1.12	-2.5	.90	.65
PIOS-R (15)	220	28.02	14.65	-1.20	-1.98	.96	.59
FSQ-8 (8)	225	30.23	9.15	-3.45	-0.28	.91	.55
SCSORF (10)	219	29.71	7.55	-8.02	3.70	.94	.63
CRS (15)	222	50.44	12.88	-6.25	2.83	.92	.45
CRS Intellect (3)	228	9.73	2.88	-2.96	-0.59	.76	.51
CRS Ideology (3)	228	10.51	2.97	-3.64	0.37	.80	.58
CRS Public Practice (3)	227	10.01	3.23	-5.15	0.16	.73	.48
CRS Private Practice (3)	229	10.57	3.09	-5.79	1.15	.71	.45
CRS Experience (3)	228	9.67	3.01	-3.69	-0.39	.80	.57
DHEQ Family of Origin (6)	223	12.13	9.02	-0.08	-3.52	.93	.70

Note : DOCS = Dimensional Obsessive-Compulsive Scale.

PIOS-R = Penn Inventory of Scrupulosity – Revised.

FSQ-8 = Fear-of-Self Questionnaire-8.

SCSORF = Santa Clara Strength of Religious Faith Questionnaire.

CRS = Centrality of Religiosity Scale.

DHEQ = Daily Heterosexist Experiences Questionnaire.

The variables utilized in the primary analyses were assessed for normality using the Kolmogorov-Smirnov and Shapiro-Wilk tests of normality. It initially was proposed that, in the event that these tests were significant ($p < .05$), or in the event that standardized scores for skew and kurtosis were greater than 2.58 (Field, 2005), the data would be considered non-normal, and this would be considered a limitation of the current study. It also was proposed that transformations would not be utilized unless the standardized values for skew and kurtosis exceeded 3.29 (Kim, 2013) or there was non-normality of residuals for variables used in the proposed regression analyses (Field, 2009). In this case, it was proposed that transformations may be utilized if doing so would correct the non-normality. Although all normality tests were significant and some standardized values for skew and kurtosis did exceed 3.29, there was normality of residuals for all measures. Therefore, no assumptions of the proposed analyses were violated, and no transformations to the data were made.

Primary Analyses

Hypothesis 1

In order to examine whether LGBTQ+ individuals—compared to non-LGBTQ+ individuals—experience greater levels of the unacceptable thoughts symptom dimension of OCD, an independent samples t test was conducted. This analysis used categorization as either LGBTQ+ or non-LGBTQ+ as the independent variable and the DOCS Unacceptable Thoughts subscale scores as the dependent variable. It was predicted that the LGBTQ+ group would show a significantly ($p < .05$) higher DOCS Unacceptable Thoughts mean score as compared to the non-LGBTQ+ group. As hypothesized, the LGBTQ+ group ($M = 10.32, SD = 4.42$) scored significantly higher on DOCS Unaccept-

able Thoughts ($t_{(207)} = 5.11, p < .001$, Cohen's $d = 0.71$) than did the non-LGBTQ+ group ($M = 7.10, SD = 4.65$).

Hypothesis 2a

An independent samples t test was used to examine whether LGBTQ+ individuals, as opposed to non-LGBTQ+ individuals, experience greater levels of scrupulosity symptoms. This analysis used categorization as either LGBTQ+ or non-LGBTQ+ as the independent variable and PIOS-R scores as the dependent variable. The analysis also was run using the DOCS Scrupulous or Religious Thoughts subscale in place of the PIOS-R. It was predicted that the LGBTQ+ group would show a significantly ($p < .05$) higher PIOS-R mean score as compared to the non-LGBTQ+ group. As hypothesized, the LGBTQ+ group ($M = 33.17, SD = 13.15$) scored significantly higher on the PIOS-R ($t_{(202)} = 5.74, p < .001$, Cohen's $d = 0.80$) than the non-LGBTQ+ group ($M = 22.12, SD = 14.28$). Additionally, the LGBTQ+ group ($M = 10.32, SD = 4.91$) scored significantly higher on the DOCS Scrupulous or Religious Thoughts subscale ($t_{(209)} = 5.57, p < .001$, Cohen's $d = 0.77$) than the non-LGBTQ+ group ($M = 6.52, SD = 4.99$).

Hypothesis 2b

A linear regression analysis was used to examine whether LGBTQ+ individuals experience greater levels of scrupulosity symptoms than do non-LGBTQ+ individuals when controlling for degree of religiosity. In the first step of this analysis, degree of religiosity as measured by the SCSORF was the predictor, and degree of scrupulosity symptoms as measured by the PIOS-R was the criterion variable. In the second step, both SCSORF scores

and categorization as LGBTQ+ or non-LGBTQ+ were used as predictors of PIOS-R total scores. The same analysis was run twice more, first with the CRS total score taking the place of the SCSORF and second with the CRS subscales taking the place of the SCSORF. Dummy codes were used to represent categorization as LGBTQ+ (assigned a value of 1) or non-LGBTQ+ (assigned a value of 0) in this analysis. It was predicted that categorization as LGBTQ+ or non-LGBTQ+ would be a significant ($p < .05$) predictor of PIOS-R total scores in the model that included SCSORF scores as a predictor.

Results were consistent with the hypothesis. In the analysis using SCSORF as a predictor, Model 1 was significant at $p < .001$, with SCSORF as a significant predictor of PIOS-R ($b = .98, \beta = .51$). Model 2 also was significant at $p < .001$, with SCSORF ($b = .85, \beta = .44$) and categorization as LGBTQ+ ($b = 8.07, \beta = .28$) as significant predictors of PIOS-R (see Table 2). A consistent pattern of results was observed in the analysis using CRS total score rather than SCSORF, as a predictor. Model 1 was significant at $p < .001$, with CRS as a significant predictor of PIOS-R ($b = .58, \beta = .50$). Model 2 also was significant at $p < .001$, with SCSORF ($b = .51, \beta = .44$) and categorization as LGBTQ+ ($b = 8.41, \beta = .28$) as significant predictors of PIOS-R (see Table 3).

In the third regression analysis with the CRS subscales as predictors rather than the SCSORF or the CRS total scores, Model 1 was significant at $p < .001$, but only the CRS Intellect subscale emerged as a significant predictor of PIOS-R ($b = 2.51, \beta = .48$). Model 2 also was significant at $p < .001$, with CRS Intellect ($b = 2.31, \beta = .44$) and categorization as LGBTQ+ ($b = 7.54, \beta = .25$) as the only significant predictors of PIOS-R (see Table 4).

In order to examine whether the other four subscales of the CRS (i.e., aside from CRS Intellect) collectively accounted for significant variance in PIOS-R squares, a final linear regression analysis was conducted. In this analysis, PIOS-R scores were the dependent variable. In Model 1, CRS Intellect was entered alone as a predictor. In Model 2, CRS Intellect was entered alongside the other CRS subscales as predictors. R square change

Table 2

Results of the Regression Analyses for SSCSORF and Identity as LGBTQ+ or non-LGBTQ+ Predicting PIOS-R

Variables	<i>t</i>	<i>p</i>	<i>b</i>	<i>F</i>	<i>p</i>	<i>R</i> ²
Model 1				66.32	< .001	.26
SCSORF	8.14	< .001	.98			
Model 2				46.76	< .001	.33
SCSORF	7.21	< .001	.85			
LGBTQ+	4.53	< .001	8.07			

Note. *N* = 195

SCSORF = Santa Clara Strength of Religious Faith Questionnaire.

LGBTQ+ ID = Identification as either LGBTQ+ (valued at 1) or non-LGBTQ+ (valued at 0)

PIOS-R = Penn Inventory of Scrupulosity – Revised

Table 3

Results of the Regression Analyses for CRS Total Score and Identity as LGBTQ+ or non-LGBTQ+ Predicting PIOS-R

Variables	<i>t</i>	<i>p</i>	<i>b</i>	<i>F</i>	<i>p</i>	<i>R</i> ²
Model 1				65.58	< .001	.25
CRS	.10	< .001	.58			
Model 2				47.36	< .001	.33
CRS	7.27	< .001	.51			
LGBTQ+	4.70	< .001	8.41			

Note. *N* = 195

CRS = Centrality of Religiosity Scale.

LGBTQ+ ID = Identification as either LGBTQ+ (valued at 1) or non-LGBTQ+ (valued at 0)

PIOS-R = Penn Inventory of Scrupulosity – Revised

Table 4

Results of the Regression Analysis for CRS Subscales and Identity as LGBTQ+ or non-LGBTQ+ Predicting PIOS-R

Variables	<i>t</i>	<i>p</i>	<i>b</i>	<i>F</i>	<i>p</i>	<i>R</i> ²
Model 1				65.58	< .001	.25
CRS	.10	< .001	.58			
Model 1				119.60	< .001	.34
CRS Intellect	5.061	<.001	2.508			
CRS Ideology	-.177	.859	-.077			
CRS Public Practice	.922	.357	.400			
CRS Private Practice	-1.553	.122	-.694			
CRS Experience	1.677	.095	.854			
Model 2				21.05	< .001	.40
CRS Intellect	4.850	<.001	2.309			
CRS Ideology	.083	.934	.034			
CRS Public Practice	.861	.390	.357			
CRS Private Practice	-1.571	.118	-.671			
CRS Experience	1.326	.187	.649			
LGBTQ+ ID	4.368	<.001	7.541			

Note. *N* = 195

CRS = Centrality of Religiosity Scale.

LGBTQ+ ID = Identification as either LGBTQ+ (valued at 1) or non-LGBTQ+ (valued at 0)

PIOS-R = Penn Inventory of Scrupulosity – Revised

for Model 2 was not significant ($F_{\text{Change}} = 1.70, p = .15$). Therefore, CRS Intellect was considered to be the only CRS subscale that predicted PIOS-R scores.

Hypothesis 3

A mediation analysis was conducted using Model 4 of the PROCESS macro for SPSS. This analysis was conducted with only the LGBTQ+ sample. In this model, the independent variable was family acceptance as measured by DHEQ Family of Origin score, the mediator was fear-of-self as measured by FSQ total score, and the dependent variable was scrupulosity symptoms as measured by PIOS-R total score. It was predicted that the significance of the direct association between family acceptance and scrupulosity symptoms would be reduced but not $p > .05$ when fear-of-self was included as a mediator, consistent with partial mediation. The hypothesis was supported. Both the effect of DHEQ Family of Origin score on FSQ total score ($b = .73, p < .001$) and the effect of FSQ total score on PIOS-R score ($b = .57, p < .001$) were significant. Additionally, both the direct ($b = .86, p < .001$) and the indirect ($b = .42, SE = .11, CI_{95} = .20 \text{ to } .66$) effects were significant, consistent with partial mediation.

Hypothesis 4

A moderation analysis was conducted using Model 1 of the PROCESS macro for SPSS. This analysis was conducted with only the LGBTQ+ sample. In this model, the independent variable was degree of religiosity as measured by the SCSORF, the moderator was degree of family acceptance as measured by DHEQ Family of Origin score, and the dependent variable was scrupulosity symptoms as measured by PIOS-R total score. The same analysis also was

run using CRS Intellect as the independent variable in place of the SCSORF. It was predicted that the interaction term (SCSORF x DHEQ Family of Origin) in this analysis would be significant ($p < .05$).

Results supported the hypothesis. In the first analysis, using SCSORF as the independent variable, the model was significant at $p < .001$. Neither SCSORF ($b = .03$) nor DHEQ Family of Origin ($b = -.01$) was a significant predictor of PIOS-R, but the interaction term ($b = .04, p = .03$) was a significant predictor of PIOS-R. Plots of simple slopes are displayed in Figure 1.

However, this pattern of results was not observed when CRS Intellect was used as the independent variable in place of the SCSORF. In this analysis, the model was significant at $p < .001$, but only DHEQ Family of Origin emerged as a significant predictor of PIOS-R ($b = .85, p > .05$). Neither CRS Intellect ($b = .52$) nor the interaction term ($b = .03$) was a significant predictor of PIOS-R.

To further test this hypothesis, another moderation analysis was conducted with SCSORF scores as the independent variable and DHEQ Family of Origin scores as the moderator. Scores on the DOCS Scrupulous and Religious Thoughts (DOCS-SR) subscale were used as the outcome variable in place of PIOS-R scores. The model was significant at $p < .001$, and both SCSORF ($b = .17, p < .001$) and DHEQ Family of Origin ($b = .49, p < .001$) were significant predictors of DOCS-SR scores. However, in contrast with the analysis that used PIOS-R as the outcome variable, the interaction term was not significant. These results are inconsistent with the proposed moderation model.

Exploratory Aim

Because no specific hypothesis was made relative to the exploratory aim, descriptive statistics regarding responses to the study methodology questions were computed. Statistics were computed both for LGBTQ+ and non-LGBTQ+ individuals. These statistics included means and standard deviations as well as frequencies of each response for each item. The descriptive statistics are presented in Table 5. The anchors for responses to these questions were as follows: one (disagree completely), two (disagree somewhat), three (neither agree nor disagree), four (agree somewhat), and five (agree completely). Mean responses ranged from $M = 4.23, SD = 0.81$ (“Overall, my impression of this study is positive”) to $M = 2.99, SD = 1.39$ (“I feel anxious because I do not trust myself”). Notable observations related to mean item scores are discussed below.

Post-hoc Analysis

Because both Hypothesis 3 and Hypothesis 4 were supported, at the recommendation of a committee member, an integrated model was tested to examine potential associations among all relevant constructs. This analysis was conducted with only the LGBTQ+ sample. A moderated mediation analysis was conducted using Model 7 of the PROCESS macro for SPSS. In this model, the independent variable was degree of religiosity as measured by the SCSORF, the moderator was degree of family acceptance as measured by DHEQ Family of Origin score, the mediator was fear-of-self as measured by FSQ total score, and the dependent variable was scrupulosity symptoms as measured by PIOS-R total score. The bootstrapped confidence interval for the index of moderated mediation was 95% CI [-0.06, 0.01]. Therefore, the moderated mediation model was not significant.

Table 5

Descriptive Statistics and Frequencies for Methodology Questions

Item Number	Valid <i>N</i>	<i>M</i>	<i>SD</i>	Frequency of Response Options				
				Disagree Com- pletely	Disagree Some- what	Neither Agree nor Dis- agree	Agree Some- what	Agree Com- pletely
1	214	4.23	0.81	0	9	24	89	92
2	214	4.16	0.82	2	4	34	92	82
3	214	4.00	1.11	9	15	31	70	89
4	214	4.07	0.89	2	11	33	93	75
5	214	3.85	1.10	7	21	42	72	72
6	214	3.82	1.03	8	15	42	91	58
7	213	3.92	0.98	4	14	44	84	67
8	213	3.92	0.93	2	12	52	81	66
9	213	3.93	1.00	5	14	42	82	70
10	214	3.69	1.19	13	27	34	79	61
11	214	3.54	1.3	21	28	42	60	63
12	214	4.14	0.96	3	12	30	75	94
13	214	4.10	0.99	5	9	37	71	92
14	214	3.83	1.03	6	15	53	75	65
15	214	3.47	1.26	24	23	42	79	42
16	213	3.51	1.21	20	21	50	75	47
17	214	2.99	1.39	45	39	37	60	33
18	212	3.12	1.36	40	28	47	61	36
19	214	3.61	1.22	19	19	47	71	58
20	212	3.45	1.30	28	18	47	69	50
21	214	3.77	1.05	8	18	47	84	57

Additional Analyses

Group means, standard deviations, and t tests examining for potential differences in means between groups for each variable of interest are presented in Table 6. Full correlation matrices for the full sample, the LGBTQ+ group, and the non-LGBTQ+ group are presented in Table 7 and Table 8.

Table 6

Descriptive Statistics and t tests by Group

Variable (of items)	LGBTQ+			Non-LGBTQ+			<i>t</i> test	
	Valid <i>N</i>	Mean	SD	Valid <i>N</i>	Mean	SD	<i>t</i>	<i>p</i>
DOCS Unacceptable Thoughts (5)	101	10.32	4.42	108	7.10	4.65	5.11	<.001
DOCS Scrupulosity (5)	103	10.32	4.91	108	6.52	4.99	5.57	<.001
PIOS-R (15)	98	33.17	13.15	106	22.12	14.28	5.74	<.001
FSQ-8 (8)	102	33.19	7.98	107	26.88	9.31	5.27	<.001
CRS (15)	102	52.91	11.01	105	47.55	14.3	3.02	.003
CRS Intellect (3)	104	10.30	2.56	108	9.07	3.08	3.15	.002
CRS Ideology (3)	104	10.79	2.60	109	10.22	2.56	1.41	.161
CRS Public Practice (3)	104	10.53	2.80	107	9.33	3.62	2.70	.008
CRS Private Practice (3)	105	11.01	2.65	108	10.12	3.50	2.09	.038
CRS Experience (3)	103	10.31	2.80	109	9.00	3.14	3.20	.002
DHEQ Family of Origin (6)	103	16.01	7.91	105	7.78	8.03	7.44	.001

Note. DOCS = Dimensional Obsessive-Compulsive Scale.

PIOS-R = Penn Inventory of Scrupulosity – Revised.

FSQ-8 = Fear-of-Self Questionnaire-8.

SCSORF = Santa Clara Strength of Religious Faith Questionnaire.

CRS = Centrality of Religiosity Scale.

DHEQ = Daily Heterosexist Experiences Questionnaire.

Table 7

Bivariate Correlations Among Study Measures - Full Sample

Variables	Full Sample											
	1	2	3	4	5	6	7	8	9	10	11	
1. DOCS Unacceptable Thoughts	-											
2. DOCS Scrupulosity	.85	-										
3. PIOS-R	.74	.76	-									
4. FSQ-8	.71	.69	.74	-								
5. SCSORF	.39	.49	.51	.39	-							
6. CRS Total	.37	.47	.50	.41	.84	-						
7. CRS Intellect	.44	.51	.57	.47	.74	.86	-					
8. CRS Ideology	.15	.20	.33	.26	.63	.79	.63	-				
9. CRS Public Practice	.38	.51	.41	.35	.71	.83	.66	.44	-			
10. CRS Private Practice	.20	.29	.30	.23	.76	.86	.62	.62	.69	-		
11. CRS Experience	.39	.49	.47	.45	.73	.89	.74	.64	.69	.66	-	
12. DHEQ Family of Origin	.72	.74	.74	.71	.41	.45	.52	.22	.43	.24	.48	-

Note. $N = 195$

CRS = Centrality of Religiosity Scale.

LGBTQ+ ID = Identification as either LGBTQ+ (valued at 1) or non-LGBTQ+ (valued at 0)

PIOS-R = Penn Inventory of Scrupulosity – Revised

Table 8

Bivariate Correlations Among Study Measures - By Group

Variables	Non-LGBTQ+ Group										
	1	2	3	4	5	6	7	8	9	10	11
1. DOCS Unacceptable Thoughts	-										
2. DOCS Scrupulosity	.85	-									
3. PIOS-R	.69	.78	-								
4. FSQ-8	.71	.70	.73	-							
5. SCSORF	.34	.45	.47	.31	-						
6. CRS Total	.25	.39	.45	.33	.85	-					
7. CRS Intellect	.35	.48	.55	.39	.78	.89	-				
8. CRS Ideology	-.01	.07	.29	.16	.68	.80	.64	-			
9. CRS Public Practice	.33	.49	.42	.36	.69	.83	.73	.41	-		
10. CRS Private Practice	.10	.21	.27	.17	.79	.89	.72	.70	.68	-	
11. CRS Experience	.28	.42	.41	.36	.70	.88	.74	.65	.70	.71	-
12. DHEQ Family of Origin	.67	.73	.65	.61	.33	.36	.45	.07	.46	.17	.40

Variables	LGBTQ+ Group										
	1	2	3	4	5	6	7	8	9	10	11
1. DOCS Unacceptable Thoughts	-										
2. DOCS Scrupulosity	.81	-									
3. PIOS-R	.75	.69	-								
4. FSQ-8	.66	.57	.71	-							
5. SCSORF	.43	.53	.46	.46	-						
6. CRS Total	.50	.56	.49	.47	.81	-					
7. CRS Intellect	.51	.51	.51	.51	.65	.81	-				
8. CRS Ideology	.39	.36	.39	.42	.49	.78	.63	-			
9. CRS Public Practice	.41	.53	.32	.30	.69	.83	.53	.48	-		
10. CRS Private Practice	.33	.38	.31	.27	.71	.80	.48	.46	.72	-	
11. CRS Experience	.46	.53	.48	.47	.78	.90	.74	.64	.69	.61	-
12. DHEQ Family of Origin	.68	.68	.76	.73	.44	.53	.54	.45	.35	.34	.50

Note. N = 195

CRS = Centrality of Religiosity Scale.

LGBTQ+ ID = Identification as either LGBTQ+ (valued at 1) or non-LGBTQ+ (valued at 0)

PIOS-R = Penn Inventory of Scrupulosity – Revised

CHAPTER 4

DISCUSSION

Major Findings

The independent samples *t* test conducted to examine Hypothesis 1 demonstrated that the LGBTQ+ sample experienced greater levels of the unacceptable thoughts symptom dimension of OCD than did the non-LGBTQ+ sample. This finding supports Hypothesis 1 and represents a replication of results by Pinciotti and Orcutt (2020). Notably, the effect size detected in the current study was medium in size ($d = .71$), in contrast with the small effect of $p^2 = .02$ found by Pinciotti and Orcutt. One possible explanation for this divergence of findings may lie in the operationalization of the independent variable and the recruitment methods employed to obtain the sample. Pinciotti and Orcutt conducted their analyses using a sample of individuals identifying as sexual minorities (i.e., only individuals whose self-reported sexual orientation was something other than “straight/heterosexual”). The current study was less selective, with the LGBTQ+ sample consisting of anyone who self-identified as such, including individuals identifying as gender minorities and those identifying as LGBTQ+ without specifying membership in any of the LGBTQ+ subgroups listed on the demographics questionnaire. Moreover, a large majority (89.8%) of Pinciotti and Orcutt’s sample identified as straight; in the current study, targeted recruitment efforts were made in order to ensure equivalent sizes of the LGBTQ+ and non-LGBTQ+ samples. Because the nature of the statistical analyses used in the current study necessitated the use of targeted methods of recruitment and an inherently non-representative sample, it may have allowed for a more valid estimation of effects.

The independent samples t test conducted to examine Hypothesis 2a demonstrated that the LGBTQ+ sample experienced greater levels of scrupulosity symptoms than did the non-LGBTQ+ sample. This result was consistent across analyses using two different measures of scrupulosity symptoms (PIOS-R and DOCS Scrupulous or Religious Thoughts subscale). Further, the linear regression analysis conducted to examine Hypothesis 2b demonstrated that identification as LGBTQ+ was a significant predictor of scrupulosity symptom severity even when controlling for degree of religiosity as assessed by the SCSORF. Together, these findings support Hypothesis 2 and provide evidence that (1) members of the LGBTQ+ community experience more severe scrupulosity symptoms than do their non-LGBTQ+ counterparts, and (2) this difference in scrupulosity symptom severity cannot be attributed solely to group-level differences in religiosity.

It is important to note that, in the test of Hypothesis 2b, degree of religiosity did emerge as a significant predictor of scrupulosity symptom severity alongside identification as LGBTQ+. This is consistent with past research that has found significant positive associations between degree of religiosity and scrupulosity as measured by the original version of the PIOS (e.g., Abramowitz et al., 2002). Therefore, although the difference in scrupulosity symptoms between LGBTQ and non-LGBTQ+ participants cannot be attributed to degree of religiosity, the results of the current study serve as a replication for past findings indicating that religiosity plays a significant role in experiences of scrupulosity symptoms. However, other research has suggested that it may be specific religious beliefs—rather than “religiosity” as a broader concept—that are associated with elevated levels of OCD symptoms (Himle et al., 2011). For example, the belief that one is responsible for the content of their own thoughts is relevant both to OCD and to some religious traditions (Abramowitz et al., 2004). Therefore, it is plausible that the SCSORF, a measure that operationalizes religiosity as a single, non-denominational domain, may not be the most precise tool for assessing the specific domains of religion and/or spirituality that relate to scrupulosity. For this reason, the linear regression

analysis conducted to examine Hypothesis 2b was conducted three times: first using the SCSORF, second using the CRS, and third using the individual subscales of the CRS as predictors alongside identification as LGBTQ+. The CRS provides a different approach from the SCSORF to measuring religiosity as, unlike the unidimensional SCSORF, it comprises several subscales capturing different aspects of religion. Like the SCSORF, the CRS emerged as a significant predictor of scrupulosity symptoms in the second analysis. However, when the CRS subscales were considered separately, only the Intellect subscale was a significant predictor of scrupulosity symptoms. The Intellect subscale measures a dimension of religion that, from a sociological and personal standpoint, comprises themes related to knowledge and thought about religion and one's religious beliefs (Huber & Huber, 2012). It includes items such as "How often do you think about religious issues?" and "How interested are you in learning more about religious topics?" (Huber, 2003). The findings of the current study regarding this subscale may be consistent with previous findings which suggest that specific religious beliefs—rather than "religiosity" conceptualized as a unitary concept—may be responsible for the elevated levels of OCD symptoms sometimes observed in religious individuals (Himle et al., 2011). In particular, responsibility for and need for control of thoughts have been implicated as religious beliefs likely to contribute to OCD symptoms (Abramowitz et al., 2004). This is consistent with research that has shown that beliefs related to the need for control of thoughts are reliably and uniquely predictive of OCD symptoms (Myers et al., 2008). The frequency and interest in religious thoughts measured by the CRS Intellect subscale may be representative of tendencies to engage in these thinking patterns, which, at elevated levels, may be problematic.

In the test of mediation conducted to examine Hypothesis 3, both the direct and indirect effects were significant. These results support Hypothesis 3 and indicate that fear-of-self partially mediates a negative association between family acceptance of LGBTQ+ identity and scrupulosity symptoms. Although these findings are preliminary and do not establish

causality, they provide some support for the model proposed by Aardema and Wong (2020) to describe the path between fear-of-self and OCD symptoms. Specifically, a lack of acceptance from one's family of one's identity as a sexual or gender minority may result in difficulty successfully navigating critical periods of identity resolution, leading to an unclear or unstable sense of self. The fact that the analysis indicated partial rather than full mediation is consistent with past research, which has demonstrated that family acceptance of LGBTQ+ identity is associated with a range of positive outcomes (e.g., self-esteem; Ryan et al., 2010). The absence of such acceptance may be expected to relate to deficiencies in these positive experiences, which may also act as mediating factors in the association between family acceptance and scrupulosity symptoms.

In the test of moderation conducted to examine Hypothesis 4, the interaction term between family acceptance of LGBTQ+ identity and religiosity was the only significant predictor of scrupulosity symptoms. These results are consistent with Hypothesis 4 and suggest that family acceptance moderates a significant positive association between degree of religiosity and scrupulosity symptom severity. However, it should be noted that neither the main effect of family acceptance of identity nor the main effect of religiosity on scrupulosity symptoms was significant. These results indicate that neither family acceptance of identity nor religiosity contributed significantly to the variance in scrupulosity symptoms after controlling for one another, but the association between degree of religiosity and scrupulosity symptoms meaningfully increased as family acceptance of identity decreased, and this association did account for variance in scrupulosity symptoms. Interestingly, this result only held true when the SCSORF was used as the measure of religiosity; neither CRS Intellect nor the interaction between religion measured by CRS Intellect and family acceptance of LGBTQ+ identity was a significant predictor of scrupulosity symptoms. One possible explanation for this divergence of findings may lie in the apparent importance of the manner in which religion is operationalized. For example, although the results of the current study

suggest that the degree to which an individual thinks about religious issues is predictive of the severity of their scrupulosity symptoms, a social aspect of religiosity might be more important for explaining associations that involve other people (i.e., a family acceptance by religiosity interaction). Therefore, CRS Intellect may not be the most appropriate measure for capturing the aspect of religiosity that is most important to the role of family acceptance of identity in LGBTQ+ participants' scrupulosity symptoms.

Whereas the planned analyses provided support for Hypotheses 3 and 4, the post-hoc analysis designed to test a combined model representing both hypotheses in conjunction with one another was not significant. There are several possible explanations for this finding. Based on results supporting Hypotheses 3 and 4, it was decided that the strongest justification for a combined model would be represented by first stage moderated mediation. Of note, whereas this model was not statistically significant, it did approach the threshold for significance. It is possible that, with improvements to the validity of the study design in future research, statistical significance for this model would be achieved. However, due to the preliminary nature of the findings on which this decision was based, it also is possible that first stage moderated mediation of the chosen variables may not be the most accurate representation of the actual associations among the included constructs. A reexamination of the theoretical basis for such a model, including the findings of the current study, may be warranted in order to determine the best model for testing these associations in future studies. One possible explanation may lie with the choice of degree of religiosity as a variable of interest in the current study. A more specific component of religiosity, such as religious stigma, may more appropriately capture the association among the constructs underlying the variables represented in the current study. This possibility is discussed in greater detail below.

Due to the exploratory nature of the methodology questionnaire, no specific hypothesis was made regarding the content of these items. Responses were used instead to inform the

researcher's understanding of participants' subjective impressions of the study. However, the restricted range of mean ratings for these items poses a challenge to any meaningful interpretation of the results. Specifically, the item with the highest mean rating ($M = 4.23, SD = 0.81$), where higher ratings indicated stronger agreement, was the first item, which read "Overall, my impression of this study is positive." Conversely, the item with the lowest mean rating ($M = 2.99, SD = 1.39$) read "I feel anxious because I do not trust myself." Although this range of responses does allow for some comparisons across items, it is notable that the two items with scores most different from one another were unrelated in content. Items with related content, between which meaningful comparisons could be drawn, demonstrated little variability among responses.

Nonetheless, the inclusion of these questions allowed for a number of interesting observations. In a number of instances, mean responses to related items were highly similar. For example, responses to the first two items – "Overall, my impression of this study is positive" and "My impression of psychological research in general is positive" – were very similar ($M = 4.23, SD = 0.81$ and $M = 4.16, SD = 0.82$, respectively). The same was true for items asking whether participants felt adequately able to report on their sexual orientation ($M = 4.14, SD = 0.96$) and gender identity ($M = 4.10, SD = 0.99$) using the options listed on the Demographics questionnaire. Results also indicated that participants trusted LGBTQ+ ($M = 3.92, SD = 0.98$) and non-LGBTQ+ ($M = 3.92, SD = 0.93$) researchers equally "to conduct good studies and make appropriate conclusions about topics relevant to the LGBTQ+ community." Such results provide some basis for the conclusion that these participants held generally favorable views of psychological research, the methods used to measure identity in the current study, and the appropriateness of researchers with both LGBTQ+ and non-LGBTQ+ identities in investigating related phenomena.

Despite the limited usefulness of these results in drawing direct conclusions about the research questions posed by the current study, the observed pattern may be helpful for

improving the formulation of such methodology questions in future studies. In particular, it may be helpful to provide participants with a broader range of response options and to limit questions strictly to one aspect of participants' impressions of the study (i.e., either methodological issues or face validity of the hypotheses).

Limitations

There are several limitations associated with the design of the current study. Because the study was conducted via remote, online administration of self-report measures, it was not possible to monitor participants as they completed the survey. Past research has suggested that inattention to questionnaire items, as measured by invalid responses to bogus items, is a problem in online survey administration (Berry et al., 2019). In the current study, there was evidence to suggest that some participants may not have paid attention or put forth meaningful effort throughout the entirety of the questionnaire battery. For example, many participants did not provide usable responses to the open-ended questions (e.g., nearly a quarter of responses were left blank). Additionally, many participants in the non-LGBTQ+ sample provided patterns of responses suggesting inattention on the DHEQ (e.g., over half of the participants in this sample provided responses indicating that they had experienced "difficulty finding a partner because you are LGBTQ+"). Nonetheless, the use of an online survey platform was invaluable to the current study as access to an LGBTQ+ sample would have been significantly hindered by an in-person design. It also prevented potential interruptions to data collection as the study was designed and launched amid a surge in the infectiousness and mortality rate of the COVID-19 virus in January 2022.

Moreover, the design of the current study was cross-sectional in nature, and the data collected did not allow for examinations of causality among the variables of interest. How-

ever, the constructs considered in the current study are not immediately amenable to control through experimental manipulation for practical (e.g., cannot modify demographic variables such as whether one identifies as LGBTQ+) or ethical (e.g., cannot randomly assign some participants to experience rejection by family members) reasons. A longitudinal design may provide a more suitable basis for establishing the direction of causality of the observed associations. Under this design method, participants would be followed over a period of several years; this would allow for significantly increased conclusiveness regarding the temporal order in which each construct of interest becomes relevant.

The use of Amazon Mechanical Turk as a survey platform also may pose a limitation to the generalizability of findings from this study. In one study conducted via MTurk (Arditte et al., 2016), participants were significantly more likely to report clinical levels of symptoms of psychological disorders; specifically, participants reported clinical levels of OCD symptoms at 19x the estimated 12-month prevalence rate. Given the emphasis of the current study on examining OCD-relevant constructs, this may have proved useful for ensuring that the questions posed were of relevance to participants. However, other explanations are possible. Such an inflated rate of clinically significant OCD symptoms may be an indicator of invalid data. Alternatively, it may suggest that the sample differed in meaningful ways from the general population, including in their experiences of symptomatology and relevant life factors. Therefore, it is possible that observed associations among these phenomena also may differ between participants in the current study and the general population. One possible explanation may lie with the aforementioned study's finding that 49% of their MTurk sample reported social anxiety symptoms at clinically significant levels, whereas the 12-month prevalence rate for social anxiety disorder is 7% (Arditte et al., 2016). If participants in the current study experienced similar levels of social anxiety as did those recruited by Arditte and colleagues (2016), it may be expected that would be more avoidant of and less skilled

in social interactions than the general population. Therefore, their social support systems might be underdeveloped or underutilized as compared with the general population.

Perhaps the most significant limitation of the current study lies in the complexities associated with self-categorization as LGBTQ+ or non-LGBTQ+. Past research has suggested that questions requiring categorization of gender and sexual orientation are based on heteronormative standards that do not allow for accurate expression of identity for members of the LGBTQ+ community (Goins & Pye, 2013). The current study attempted to address this concern by allowing participants to self-identify as LGBTQ+ regardless of the sexual orientation and/or gender identity that they reported. However, this approach is associated with a number of its own limitations. As previously noted, once collection of the non-LGBTQ+ sample was complete, participants were presented with a one-question screening measure prior to beginning the study to ensure that they identified as LGBTQ+. Because Amazon MTurk studies often are discussed on online forums, it is possible that some participants may have been informed of the change in inclusion criteria prior to completing the screening measure. This could have resulted in individuals falsely identifying themselves as LGBTQ+. Individuals who identified as LGBTQ+ on the screening measure but not on the demographics survey were excluded from analyses; however, a number of participants who identified as LGBTQ+ also identified as straight/heterosexual and not with any specific gender minority group. Although there are reasonable explanations for this pattern (e.g., participants genuinely do identify as LGBTQ+ but not with any of the identity categories offered as options on the demographics survey), it cannot be ruled out that the apparent mismatch in responses may be due to inaccurate reporting.

Assuming that participants did self-identify appropriately and that the study groups reflect genuine affiliation with the LGBTQ+ community, another potential limitation lies with the possibility that the LGBTQ+ group experiences elevations across all measured domains of OCD symptoms, rather than only those hypothesized to be particularly relevant

to LGBTQ+ populations. Evidence for this concern arose through a post-hoc examination of group-level differences in scores on the remaining three subscales of the DOCS (i.e., aside from the Unacceptable Thoughts and Scrupulous and Religious Thoughts subscales). On DOCS subscales measuring OCD symptoms related to contamination concerns, responsibility for harm, and concerns related to symmetry and organization, the LGBTQ+ group in this study scored significantly higher than did the non-LGBTQ+ group. This contrasts with findings by Pinciotti and Orcutt (2020), who observed that sexual minorities reported significantly less contamination concerns and no differences in concerns about responsibility for harm than did straight individuals. Although Pinciotti and Orcutt (2020) interpreted their results as being consistent with a minority stress framework of psychopathology, whereby sexual minorities would be expected to experience elevations in OCD symptoms related to commonly held social stigmas against the LGBTQ+ population, the results of the current study are more suggestive of a general pattern of elevated negative affect among this group. However, especially given the concerns about grouping in the current study, more research is needed to explore this question and potential explanation.

There also exists a possibility that reading the study description in the consent form may have increased the salience of participants' gender identity and sexual orientation prior to their completing the study measures. This sequencing was deemed necessary in order to warn participants of possible distress due to the inclusion of potentially upsetting questions about discrimination against the LGBTQ+ community. It also may have resulted in participants reflecting more deeply on personal issues relevant to the study questions, which might have been expected to contribute to more accurate responses. However, it also may have led LGBTQ+ participants to experience stereotype threat, a phenomenon by which members of minoritized groups, when primed to increase the salience of their group membership, feel added pressure to perform on tasks in such a manner that avoids confirmation of stereotypes about said group (Spencer et al., 2016). Therefore, it is impossible to rule out the possibility

that LGBTQ+ participants may have felt compelled to provide responses that they perceived as giving a positive impression of the LGBTQ+ community.

Although most of the measures utilized in the current study demonstrated suitable psychometric properties, a few notable exceptions emerged that may limit the conclusiveness of the findings. First, whereas the CRS as a whole demonstrated good internal consistency (Cronbach's $\alpha = .92$), the internal consistency of the CRS Intellect subscale was lower (Cronbach's $\alpha = .76$). Although the CRS was not the primary measure of religiosity selected for the current study, findings indicating a specific interaction between CRS Intellect and identification as LGBTQ+ on scrupulosity symptom severity provide initial evidence regarding the specific religious beliefs that might increase one's susceptibility to experiencing scrupulosity symptoms. Given the relatively lower internal consistency demonstrated by the CRS Intellect subscale, these findings should be interpreted with caution. Second, the average inter-item correlation on the DHEQ Family of Origin was high at $r = .70$ (Clark & Watson, 2019). The questions on this scale assess rejection by different family members due to LGBTQ+ identity (e.g., three consecutive items on this measure read, "Being rejected by your mother for being LGBTQ+," "Being rejected by your father for being LGBTQ+," and "Being rejected by a sibling or siblings because you are LGBT"). It is possible that family acceptance of LGBTQ+ identity tends to be a more unitary construct, such that questions assessing rejection by specific family members are redundant. Therefore, results yielded by analyses using the DHEQ Family of Origin scale also may need to be interpreted with some caution.

The study also is limited by challenges associated with the assessment of religiosity and related concepts. The measures of religiosity used in the current study were selected with the goal of capturing strength of religiosity as a broad, nondenominational concept. However, this precluded an investigation of the specific facets of one's religion that might be of relevance to the development of psychopathology. Although such an investigation was

outside the scope of this study, suggestions for further examination on this subject are offered below. The current study also lacked a direct measure of religious stigma. Although the findings established preliminary evidence for an interaction between religiosity and family acceptance of identity in LGBTQ+ individuals' experiences of scrupulosity symptoms, it does not provide an explanation of the mechanism by which these factors may interact. The extent to which LGBTQ+ identities are stigmatized within the religion practiced by a given family may well be expected to play an important role in determining the reaction an individual receives from family members upon disclosing their LGBTQ+ identity.

Finally, the sample size of the current study was not sufficient for comparisons to be made across religious groups or subgroups of the LGBTQ+ community. Therefore, it is not possible to determine whether the findings of this study are applicable to all or only some of the groups represented. Reasons for this speculation, as well as suggestions for addressing the issue in future research, are provided in detail below.

Future Directions

The current study may provide some basis for a more thorough understanding of issues related to OCD in the LGBTQ+ community. However, the results of the current study are preliminary in nature. Noting the current study limitations, future research should examine whether these findings can be replicated in other samples; specifically, these samples should include improved representation of religious and LGBTQ+ subgroups and participants recruited through means other than MTurk. Additionally, future research should attempt to further elucidate the mechanism by which the constructs of interest to the current study are related to one another. Although each of the primary analyses was supported by the data, the post-hoc model, which was intended to represent a combination of Hypotheses 3 and 4,

was not significant. This may suggest that important factors linking these hypotheses were not included in the model as defined by the current study. As mentioned above, factors such as religious stigma and self-esteem should be taken into account by future research in order to best explain these associations. Other potential variables of interest may include personality traits (e.g., agreeableness), minority stress factors (e.g., heterosexism, internalized stigma, community acceptance), and factors related to social functioning (e.g., social support, social anxiety).

If the results of the current study can be replicated and expanded upon, future research also should explore their possible clinical implications. Specifically, having a more complete understanding of the factors affecting scrupulosity symptoms in LGBTQ+ patients may enable clinicians to make more informed decisions about treatment with this population. It will be important for future research to explore the precise pieces of the model that can be targeted in treatment. For example, is it helpful to attempt to engage family members in a way that promotes acceptance of LGBTQ+ identities? Or might a more productive course of action be to focus on mitigating the negative impact of lack of acceptance, such as by helping to promote stability of patients' self-concepts? Efforts to more clearly define the mechanism by which LGBTQ+ individuals may come to experience elevated scrupulosity symptoms may, in turn, inform such clinically relevant questions.

The current study aimed to study LGBTQ+ individuals' experience of unacceptable thoughts and scrupulosity, specifically; an investigation of other symptom dimensions of OCD was not attempted. Scrupulosity was targeted due to previous research linking religion to mental health in the LGBTQ+ community. However, it is possible that unacceptable thoughts, including scrupulosity, may not represent the only form of OCD with specific considerations in the LGBTQ+ community. As previously discussed, Williams and colleagues (2008) have suggested that minorities may experience OCD symptoms that are relevant to widely-held stereotypes about their group, and this conclusion informed the focus of

the current study on scrupulosity (i.e., due to the prevalence of religious-based discrimination against the LGBTQ+ community). By this reasoning, it also may be expected that LGBTQ+ individuals would experience elevated symptoms of contamination-based OCD, as past research has indicated that negative attitudes toward LGBTQ+ individuals are associated with elevated levels of disgust sensitivity specific to sexual themes (Chamorro Coneo et al., 2022). However, Pinciotti and Orcutt (2020) found that sexual minority participants were less likely than their straight counterparts to report elevations in contamination symptoms. Future research should explore possible explanations for this apparent inconsistency.

As discussed, it was both a strength and a limitation of the current study that the LGBTQ+ sample included anyone who self-reported belonging to one of the subgroups usually considered to fall under the larger LGBTQ+ umbrella. Although there may be some experiences that are universal to this population, the LGBTQ+ community is an extremely heterogeneous group. In any such group of people, there are undoubtedly differences in experiences that may be reflected in differing experiences of symptomatology, including of OCD. Even with each commonly defined subgroup, a certain degree of heterogeneity can be expected. However, it still may be useful to explore whether the mechanisms proposed by the current study differ between groups (e.g., in gay versus transgender individuals) as some evidence exists to suggest that there may be important differences in the relevance variables related to the current study across these groups. For example, one study found an association between social support from parents and higher self-esteem in gay and bisexual but not lesbian youths (Watson et al., 2019). Given that family support of identity may be conceptualized as one aspect of family support and self-esteem may be considered one component of mental health at large, it may be expected that symptoms of psychological distress would be differentially impacted by family acceptance of identity in lesbian participants than in other sexual minorities.

Another direction for future research may include a more thorough investigation of the relevance of age and other temporal constructs to the mechanisms proposed by the current study. As previously described, Aardema and Wong (2020) suggested in their model of fear-of-self in OCD that fear-of-self may arise during critical periods of identity resolution, such as early adulthood. Of note, the mean age of participants in the current study was 36.35 years, which, for many, may be well past the age at which identity resolution processes take place. However, it may be expected that sexual orientation and gender identity issues may be resolved at different stages of life than other identity-related issues. For example, it would not be out of the ordinary for an LGBTQ+ person to report that they had some sense of their sexual orientation or gender identity early in life, but that they did not fully process or acknowledge this aspect of themselves until much later. Further, the point at which an LGBTQ+ person might choose to share their identity with others may again differ from the time that they themselves resolve this identity, and “coming out” may occur at different times in one’s various relationships. Given the focus of the current study on family acceptance of LGBTQ+ identities, it may be expected that the time at which one chooses to “come out” to their family – or, perhaps equally relevant, chooses not to do so – may be an important consideration in determining the associations among the current study’s variables.

Finally, future research should examine the associations among religiosity, family acceptance, fear-of-self, and scrupulosity symptoms in the LGBTQ+ community across individuals of different religious beliefs. The current study operationalized religiosity as a nondenominational experience and, accordingly, utilized measures intended to capture degree of religiosity without regard to an individual’s religious identification. However, it may be expected that one’s specific religious identification is an important factor to the mechanism examined in the current study, as different religious traditions include different views of the acceptability of sexual and gender diversity. Additionally, different religions may differentially subscribe

to beliefs that are particularly implicated in experiences of OCD symptoms. For example, research has suggested that Protestant Christians endorse higher levels of belief in the moral equivalence of one's thoughts and one's actions than do Catholics and atheists (Rassin & Koster, 2003). Future research should include an examination of potential cross-religious differences in the associations found in the current study. Future research also may benefit from assessing the degree to which one's religious group is accepting versus non-accepting of LGBTQ+ identities, rather than assessing the degree of one's religiosity, as a more structural rather than idiosyncratic conceptualization of religious beliefs may represent a more direct operationalization of the constructs in question. Further, future research should examine the effect of discrepancies between one's current religious beliefs and the beliefs held by their family of origin, as the latter may be expected to be of greater relevance to other study variables, particularly family acceptance, when such a discrepancy exists.

Conclusion

The current study sought to bridge several bodies of literature in order to examine and provide a possible explanation for the observed link between LGBTQ+ identity and elevated symptoms of the "unacceptable thoughts" dimension of OCD. Although the results of this study are preliminary in nature, they provide support for the importance of religion, family acceptance, and fear-of-self to experiences of scrupulosity symptoms in the LGBTQ+ community. Future research should continue to examine the mechanism by which these factors, as well as others, are uniquely associated in LGBTQ+ individuals. Additionally, future research should explore the potential implications of these findings for clinical practice.

REFERENCES

- Aardema, F., & Wong, S. F. (2020). Feared possible selves in cognitive-behavioral theory: An analysis of its historical and empirical context, and introduction of a working model. *Journal of Obsessive-Compulsive and Related Disorders, 24*, 100479. <https://doi.org/10.1016/j.jocrd.2019.100479>
- Aardema, F., Wong, S. F., Audet, J. S., Melli, G., & Baraby, L. P. (2019). Reduced fear-of-self is associated with improvement in concerns related to repugnant obsessions in obsessive-compulsive disorder. *British Journal of Clinical Psychology, 58*(3), 327-341. <https://doi.org/10.1111/bjc.12214>
- Aardema, F., Moulding, R., Radomsky, A. S., Doron, G., Allamby, J., & Souki, E. (2013). Fear of self and obsessionality: Development and validation of the Fear of Self Questionnaire. *Journal of Obsessive-Compulsive and Related Disorders, 2*(3), 306-315. <https://doi.org/10.1016/j.jocrd.2013.05.005>
- Aardema, F., & O'Connor, K. (2007). The menace within: Obsessions and the self. *Journal of Cognitive Psychotherapy, 21*(3), 182-197. <https://doi.org/10.1891/088983907781494573>
- Abramowitz, J. S., & Jacoby, R. J. (2014). Scrupulosity: A cognitive-behavioral analysis and implications for treatment. *Journal of Obsessive-Compulsive and Related Disorders, 3*, 140-149. <https://doi.org/10.1016/j.jocrd.2013.12.007>
- Abramowitz, J. S., Deacon, B. J., Olatunji, B. O., Wheaton, M. G., Berman, N. C., Losardo, D., ... & Hale, L. R. (2010). Assessment of obsessive-compulsive symptom dimensions: development and evaluation of the Dimensional Obsessive-Compulsive Scale. *Psychological Assessment, 22*(1), 180-198. <https://doi.org/10.1037/a0018260>
- Abramowitz, J. S., Taylor, S., McKay, D. (2009). Obsessive-compulsive disorder. *The Lancet, 374*(9688), 491-499. [http://dx.doi.org/10.1016/S0140-6736\(09\)60240-3](http://dx.doi.org/10.1016/S0140-6736(09)60240-3)

- Abramowitz, J. S., Deacon, B. J., Woods, C. M., & Tolin, D. F. (2004). Association between Protestant religiosity and obsessive-compulsive symptoms and cognitions. *Depression and Anxiety, 20*(2), 70-76. <https://doi.org/10.1002/da.20021>
- Abramowitz, J. S., Huppert, J. D., Cohen, A. B., Tolin, D. F., & Cahill, S. P. (2002). Religious obsessions and compulsions in a non-clinical sample: The Penn Inventory of Scrupulosity (PIOS). *Behaviour Research and Therapy, 40*(7), 825-838. [https://doi.org/10.1016/S0005-7967\(01\)00070-5](https://doi.org/10.1016/S0005-7967(01)00070-5)
- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Arditte, K.A., Çek, D., Shaw, A. M., & Timpano, K. R. (2016). The importance of assessing clinical phenomena in Mechanical Turk research. *Psychological Assessment 28*(6), 684-691.
- Bailey, A. D. (2014). *Where These Intersect: A Critical Analysis of the Literature on Attachment, Spirituality and the LGBTQ+ Community* (Publication No. 3642704). [Doctoral dissertation, Fuller Theological Seminary]. ProQuest Dissertations Publishing.
- Balsam, K. F., Beadnell, B., & Molina, Y. (2013). The Daily Heterosexist Experiences Questionnaire: Measuring minority stress among lesbian, gay, bisexual, and transgender adults. *Measurement and Evaluation in Counseling and Development, 46*, 3-25. <https://doi.org/10.1177/0748175612449743>
- Beagan, B. L., & Hattie, B. (2015). Religion, spirituality, and LGBTQ+ identity integration. *Journal of LGBT Issues in Counseling, 9*(2), 92-117. <https://doi.org/10.1080/15538605.2015.1029204>
- Berry, K., Rana, R., Lockwood, A., Fletcher, L., & Pratt, D. (2019). Factors associated with inattentive responding in online survey research. *Personality and Individual Differences, 149*, 157-159. <https://doi.org/10.1016/j.paid.2019.05.043>
- Bettinger, T. V. (2010). Ethical and methodological complexities in research involving sexual minorities. *New Horizons in Adult Education and Human Resource Development, 24*(1), 43-58. <https://doi.org/10.1002/nha3.10372>

- Carver, C. S., Lawrence, J. W., & Scheier, M. F. (1999). Self-discrepancies and affect: Incorporating the role of feared selves. *Personality and Social Psychology Bulletin*, 25(7), 783-792. <https://doi.org/10.1177/0146167299025007002>
- Chamorro Coneo, A. M., Navarro, M. C., & Quiroz Molinares, N. (2022). Sexual-specific disgust sensitivity mechanisms in homonegativity and transnegativity; the mediating role of right-wing authoritarianism (RWA). *Psychology & Sexuality*, 1-16. <https://doi.org/10.1080/19419899.2022.2100270>
- Cimpian, J. R., & Herrington, C. D. (2017). Editors' introduction: Introducing a methodological research collection on pressing issues for LGBTQ+ students. *Educational Researcher*. <https://doi.org/10.3102/0013189X17745500>
- Clark, L. A., & Watson, D. (2019). Constructing validity: New developments in creating objective measuring instruments. *Psychological Assessment*, 31, 1412-1427. <https://doi.org/10.1037/pas0000626>
- Coley, J. S. (2020). Reframing, reconciling, and individualizing: How LGBTQ+ activist groups shape approaches to religion and sexuality. *Sociology of Religion*, 81(1), 45-67. <https://doi.org/10.1093/socrel/srz023>
- Dahl, A. L., & Galliher, R. V. (2012). LGBTQ+ adolescents and young adults raised within a Christian religious context: Positive and negative outcomes. *Journal of Adolescence*, 35(6), 1611-1618. <https://doi.org/10.1016/j.adolescence.2012.07.003>
- Doron, G., Sar-El, D., Mikulincer, M., & Talmor, D. (2012). Experimentally-enhanced attachment security influences obsessive compulsive related washing tendencies in a non-clinical sample. *E-Journal of Applied Psychology*, 8(1). <https://doi.org/10.7790/ejap.v8i1.287>
- Doron, G., Moulding, R., Nedeljkovic, M., Kyrios, M., Mikulincer, M., & Sar-El, D. (2011). Adult attachment insecurities are associated with obsessive compulsive disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 85(2), 163-178. <https://doi.org/10.1111/j.2044-8341.2011.02028.x>
- Doron, G., Moulding, R., Kyrios, M., Nedeljkovic, M., & Mikulincer, M. (2009). Adult attachment insecurities are related to obsessive compulsive phenomena. *Journal of Social and Clinical Psychology*, 28(8), 1022-1049. <https://doi.org/10.1521/jscp.2009.28.8.1022>

- Ferrier, S., & Brewin, C. R. (2005). Feared identity and obsessive-compulsive disorder. *Behaviour Research and Therapy, 43*(10), 1363-1374.
<https://doi.org/10.1016/j.brat.2004.10.005>
- Field, A. (2005). *Exploring data. In Discovering Statistics Using SPSS* (2nd ed., pp. 63-105). London, UK: Sage.
- Field, A. (2009). *Discovering Statistics Using SPSS* (3rd ed.). London, UK: Sage.
- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive-Compulsive Inventory: development and validation of a short version. *Psychological Assessment, 14*(4), 485.
<https://doi.org/10.1037/1040-3590.14.4.485>
- Gahagan, J., & Colpitts, E. (2017). Understanding and measuring LGBTQ+ pathways to health: A scoping review of strengths-based health promotion approaches in LGBTQ+ health research. *Journal of Homosexuality, 64*(1), 95-121.
<https://doi.org/10.1080/00918369.2016.1172893>
- Gibbs, J. J., & Goldbach, J. (2015). Religious conflict, sexual identity, and suicidal behaviors among LGBT young adults. *Archives of Suicide Research, 19*(4), 472-488. <https://doi.org/10.1080/13811118.2015.1004476>
- Gnan, G. H., Rahman, Q., Ussher, G., Baker, D., West, E., & Rimes, K. A. (2019). General and LGBTQ+-specific factors associated with mental health and suicide risk among LGBTQ+ students. *Journal of Youth Studies, 22*(10), 1393-1408.
<https://doi.org/10.1080/13676261.2019.1581361>
- Goins, E. S., & Pye, D. (2013). Check the box that best describes you: reflexively managing theory and praxis in LGBTQ+ health communication research. *Health Communication, 28*(4), 397-407. <https://doi.org/10.1080/10410236.2012.690505>
- Golriz, G. (2020). Does Religion Prevent LGBTQ+ Acceptance? A Case Study with Queer and Trans Muslims in Toronto, Canada. *Journal of Homosexuality*. Advance online publication. <https://doi.org/10.1080/00918369.2020.1809888>
- Greene, D. C., & Britton, P. J. (2015). Predicting adult LGBTQ+ happiness: Impact of childhood affirmation, self-compassion, and personal mastery. *Journal of LGBT Issues in Counseling, 9*(3), 158-179.
<https://doi.org/10.1080/15538605.2015.1068143>

- Hafeez, H., Zeshan, M., Tahir, M. A., Jahan, N., & Naveed, S. (2017). Health care disparities among lesbian, gay, bisexual, and transgender youth: a literature review. *Cureus*, *9*(4). <https://doi.org/10.7759/cureus.1184>
- Higa, D., Hoppe, M. J., Lindhorst, T., Mincer, S., Beadnell, B., Morrison, D. M., ... & Mountz, S. (2014). Negative and positive factors associated with the well-being of lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ+) youth. *Youth & Society*, *46*(5), 663-687. <https://doi.org/10.1177/0044118X12449630>
- Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological Review*, *94*(3), 319-340.
- Himle, J. A., Chatters, L. M., Taylor, R. J., & Nguyen, A. (2011). The relationship between obsessive-compulsive disorder and religious faith: Clinical characteristics and implications for treatment. *Psychology of Religion and Spirituality*, *3*(4), 241. <https://doi.org/10.1037/a0023478>
- Huber, S., & Huber, O. W. (2012). The centrality of religiosity scale (CRS). *Religions*, *3*(3), 710-724. <https://doi.org/10.3390/rel3030710>
- Huber, S., & Krech, V. (2008). The religious field between globalization and regionalization: Comparative perspectives. *What the world believes: Analyses and commentary on the religion monitor*, 53-93.
- Huber, S. (2003). *Zentralität und Inhalt: ein neues multidimensionales Messmodell der Religiosität*. Leske and Budrich.
- Jaeger, T., Moulding, R., Anglim, J., Aardema, F., & Nedeljkovic, M. (2015). The role of fear of self and responsibility in obsessional doubt processes: A Bayesian hierarchical model. *Journal of Social and Clinical Psychology*, *34*(10), 839-858. <https://doi.org/10.1521/jscp.2015.34.10.839>
- Jones, J. M. (2021, February 24). *LGBT Identification Rises to 5.6% in Latest U.S. Estimate*. Gallup. <https://news.gallup.com/poll/329708/lgbt-identification-rises-latest-estimate.aspx>
- Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, *38*(1), 52-54. <https://doi.org/10.5395/rde.2013.38.1.52>

- Koenig, H. G., & Larson, D. B. (2001). Religion and mental health: Evidence for an association. *International Review of Psychiatry*, *13*(2), 67-78.
<https://doi.org/10.1080/09540260124661>
- Kolysh, S. (2017). Straight gods, white devils: Exploring paths to non-religion in the lives of black LGBTQ+ people. *Secularism and Nonreligion*, *6*, 2.
<http://doi.org/10.5334/snr.83>
- Lomash, E. F., Brown, T. D., & Galupo, M. P. (2018). “A Whole Bunch of Love the Sinner Hate the Sin”: LGBTQ+ Microaggressions Experienced in Religious and Spiritual Context. *Journal of Homosexuality*, *66*(10), 1495-1511.
<https://doi.org/10.1080/00918369.2018.1542204>
- Mason, T. B., Smith, K. E., Engwall, A., Lass, A., Mead, M., Sorby, M., ... & Wonderlich, S. (2019). Self-discrepancy theory as a transdiagnostic framework: A meta-analysis of self-discrepancy and psychopathology. *Psychological Bulletin*, *145*(4), 372-389. <https://doi.org/10.1037/bul0000186>
- McConnell, E. A., Birkett, M., & Mustanski, B. (2016). Families matter: Social support and mental health trajectories among lesbian, gay, bisexual, and transgender youth. *Journal of Adolescent Health*, *59*(6), 674-680.
<https://doi.org/10.1016/j.jadohealth.2016.07.026>
- McConnell, E. A., Birkett, M. A., & Mustanski, B. (2015). Typologies of social support and associations with mental health outcomes among LGBT youth. *LGBT Health*, *2*(1), 55-61. <https://doi.org/10.1089/lgbt.2014.0051>
- McInroy, L. B. (2016). Pitfalls, potentials, and ethics of online survey research: LGBTQ+ and other marginalized and hard-to-access youths. *Social Work Research*, *40*(2), 83-94. <https://doi.org/10.1093/swr/svw005>
- Millet, N., Longworth, J., & Arcelus, J. (2017). Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *International Journal of Transgenderism*, *18*(1), 27-38.
<https://doi.org/10.1080/15532739.2016.1258353>
- Myers, S. G., Fisher, P. L., & Wells, A. (2008). Belief domains of the Obsessive Beliefs Questionnaire-44 (OBQ-44) and their specific relationship with obsessive-compulsive symptoms. *Journal of Anxiety Disorders*, *22*(3), 475-484.
<https://doi.org/10.1016/j.janxdis.2007.03.012>

- Myhr, G., Sookman, D., & Pinard, G. (2004). Attachment security and parental bonding in adults with obsessive-compulsive disorder: a comparison with depressed out-patients and healthy controls. *Acta Psychiatrica Scandinavica*, *109*(6), 447-456. <https://doi.org/10.1111/j.1600-0047.2004.00271.x>
- Nelson, E. A., Abramowitz, J. S., Whiteside, S. P., & Deacon, B. J. (2006). Scrupulosity in patients with obsessive-compulsive disorder: Relationship to clinical and cognitive phenomena. *Journal of Anxiety Disorders*, *20*(8), 1071-1086. <https://doi.org/10.1016/j.janxdis.2006.02.001>
- Nikodijevic, A., Moulding, R., Anglim, J., Aardema, F., & Nedeljkovic, M. (2015). Fear of self, doubt and obsessive compulsive symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, *49*, 164-172. <https://doi.org/10.1016/j.jbtep.2015.02.005>
- Olatunji, B. O., Abramowitz, J. S., Williams, N. L., Connolly, K. M., & Lohr, J. M. (2007). Scrupulosity and obsessive-compulsive symptoms: Confirmatory factor analysis and validity of the Penn Inventory of Scrupulosity. *Journal of Anxiety Disorders*, *21*(6), 771-787. <https://doi.org/10.1016/j.janxdis.2006.12.002>
- Partington, G. (2001). Qualitative research interviews: identifying problems in technique. *Issues in Educational Research*, *11*(2) 32-44.
- Peer, E., Vosgerau, J., & Acquisti, A. (2014). Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods*, *46*(4), 1023-1031. <https://doi.org/10.3758/s13428-013-0434-y>
- Pinciotti, C. M., & Orcutt, H. K. (2020). Obsessive-compulsive symptoms in sexual minorities. *Psychology of Sexual Orientation and Gender Diversity*. Advance online publication. <https://doi.org/10.1037/sgd0000437>
- Plante, T. G., & Boccaccini, M. T. (1997). The Santa Clara Strength of Religious Faith Questionnaire. *Pastoral Psychology*, *45*(5), 375-387. <https://doi.org/10.1007/BF02230993>
- Plante, T. G., & Boccaccini, M. (1997). Reliability and validity of the Santa Clara strength of religious faith questionnaire. *Pastoral Psychology*, *45*(6), 429-437. <https://doi.org/10.1007/BF02310643>

- Rassin, E., & Koster, E. (2003). The correlation between thought–action fusion and religiosity in a normal sample. *Behaviour Research and Therapy*, *41*(3), 361-368. [https://doi.org/10.1016/S0005-7967\(02\)00096-7](https://doi.org/10.1016/S0005-7967(02)00096-7)
- Riggle, E. D., Rostosky, S. S., & Reedy, C. S. (2005). Online surveys for BGLT research: Issues and techniques. *Journal of Homosexuality*, *49*(2), 1-21. https://doi.org/10.1300/J082v49n02_01
- Roberts, A. L., Austin, S. B., Corliss, H. L., Vandermorris, A. K., & Koenen, K. C. (2010). Pervasive trauma exposure among U.S. sexual orientation minority adults and risk of posttraumatic stress disorder. *American Journal of Public Health*, *100*, 2433-2441. <http://dx.doi.org/10.2105/AJPH.2009.168971>
- Roe, S. (2017). “Family support would have been like amazing”: LGBTQ+ youth experiences with parental and family support. *The Family Journal*, *25*(1), 55-62. <https://doi.org/10.1177/1066480716679651>
- Rosenkrantz, D. E., Rostosky, S. S., Riggle, E. D., & Cook, J. R. (2016). The positive aspects of intersecting religious/spiritual and LGBTQ+ identities. *Spirituality in Clinical Practice*, *3*(2), 127-138. <https://doi.org/10.1037/scp0000095>
- Rubin, D. B. (1987). *Multiple Imputation for Nonresponse in Surveys*. New York: John Wiley & Sons.
- Russell, S. T., & Fish, J. N. (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*, *12*, 465-487. <https://doi.org/10.1146/annurev-clinpsy-021815-093153>
- Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, *23*(4), 205-213. <https://doi.org/10.1111/j.1744-6171.2010.00246.x>
- Sanavio, E. (1988). Obsessions and compulsions: the Padua Inventory. *Behaviour Research and Therapy*, *26*(2), 169-177. [https://doi.org/10.1016/0005-7967\(88\)90116-7](https://doi.org/10.1016/0005-7967(88)90116-7)
- Sauvageau, J., O'Connor, K., Dupuis, G., & Aardema, F. (2020). Experimental priming of feared self-perceptions increases obsessive-compulsive symptoms in a clinical OCD sample. *Journal of Obsessive-Compulsive and Related Disorders*, *27*, 100577. <https://doi.org/10.1016/j.jocrd.2020.100577>

- Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, 8, 3-15. doi:10.1191/096228099671525676
- Schafer, J. L. and Olsen, M. K. (1998) Multiple Imputation for Multivariate Missing Data Problems: A Data Analyst's Perspective. *Multivariate Behavioral Research*, 33, 545-571. http://dx.doi.org/10.1207/s15327906mbr3304_5
- Schmitz, R. M., & Woodell, B. (2018). Complex processes of religion and spirituality among Midwestern LGBTQ+ homeless young adults. *Sexuality & Culture*, 22(3), 980-999. <https://doi.org/10.1007/s12119-018-9504-8>
- Seelman, K. L., Woodford, M. R., & Nicolazzo, Z. (2017). Victimization and microaggressions targeting LGBTQ+ college students: Gender identity as a moderator of psychological distress. *Journal of Ethnic & Cultural Diversity in Social Work*, 26(1-2), 112-125. <https://doi.org/10.1080/15313204.2016.1263816>
- Singh, A. A., & Shelton, K. (2011). A content analysis of LGBTQ+ qualitative research in counseling: A ten-year review. *Journal of Counseling & Development*, 89(2), 217-226. <https://doi.org/10.1002/j.1556-6678.2011.tb00080.x>
- Spencer, S. J., Logel, C., & Davies, P. G. (2016). Stereotype threat. *Annual Review of Psychology*, 67(1), 415-437. <https://doi.org/10.1146/annurev-psych-073115-103235>
- Suen, L. W., Lunn, M. R., Katuzny, K., Finn, S., Duncan, L., Sevelius, J., ... & Obedin-Maliver, J. (2020). What sexual and gender minority people want researchers to know about sexual orientation and gender identity questions: A qualitative study. *Archives of Sexual Behavior*, 49(7), 2301-2318. <https://doi.org/10.1007/s10508-020-01810-y>
- Thordarson, D. S., Radomsky, A. S. Rachman, S., Shafran, R., Sawchuk, C. N., & Hakstian, A. R. (2004). The Vancouver Obsessional Compulsive Inventory (VOCI). *Behaviour Research and Therapy*, 42(11), 1289-1314. doi: 10.1016/j.brat.2003.08.007
- Toscano, M. E. (2017). Intersectionality of religion/spirituality and sexual and gender identity. *Psychology of Religion and Spirituality*, 9(4), 399. <http://dx.doi.org/10.1037/rel0000151>

- VanderWaal, C. J., Sedlacek, D., & Lane, L. (2017). The Impact of Family Rejection or Acceptance among LGBT+ Millennials in the Seventh-day Adventist Church. *Social Work & Christianity, 44*(1-2), 72–95.
- Wagaman, M. A., Obejero, R. C., & Gregory, J. S. (2018). Countering the norm,(re) authoring our lives: The promise counterstorytelling holds as a research methodology with LGBTQ+ youth and beyond. *International Journal of Qualitative Methods, 17*. <https://doi.org/10.1177/1609406918800646>
- Watson, R. J., Grossman, A. H., & Russell, S. T. (2019). Sources of social support and mental health among LGB youth. *Youth & Society, 51*(1), 30-48. <https://doi.org/10.1177/0044118X16660110>
- Wetterneck, C. T., Rouleau, T. M., Williams, M. T., Vallely, A., La Torre, J. T., & Björgvinsson, T. (2021). A new scrupulosity scale for the Dimensional Obsessive-Compulsive Scale (DOCS): Validation with clinical and nonclinical samples. *Behavior Therapy, 52*(6), 1449-1463. <https://doi.org/10.1016/j.beth.2021.04.001>
- Williams, M. T., Turkheimer, E., Magee, E., & Guterbock, T. (2008). The effects of race and racial priming on self-report of contamination anxiety. *Personality and Individual Differences, 44*(3), 746-757. <https://doi.org/10.1016/j.paid.2007.10.009>
- White, A. E., Moeller, J., Ivcevic, Z., Brackett, M. A., & Stern, R. (2018). LGBTQ+ adolescents' positive and negative emotions and experiences in US high schools. *Sex Roles, 79*(9), 594-608. <https://doi.org/10.1007/s11199-017-0885-1>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30-41. https://doi.org/10.1207/s15327752jpa5201_2