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THE MEDIATING ROLE OF MENTAL HEALTH IN THE RELATIONSHIP BETWEEN DISCRIMINATION AND RISKY BEHAVIORS IN LGBT ADULTS IN LATIN AMERICA

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

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Abstract

THE MEDIATING ROLE OF MENTAL HEALTH IN THE RELATIONSHIP BETWEEN DISCRIMINATION AND RISKY BEHAVIORS IN LGBT ADULTS IN LATIN AMERICA

By Annie E. Rabinovitch, M.A., M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

Virginia Commonwealth University, 2017

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This study explored relationships among discrimination experiences, mental health (i.e., anxiety symptoms, depression symptoms), risky behaviors (i.e., suicidal ideation, illicit substance use use), religiosity, and social support in LGBT adults residing in Latin America. First, multiple regression analyses were conducted to identify patterns of connections among discrimination, mental health, suicidal ideation, and illicit substance use in sexual and gender minority adults from Latin America. Harassment/Rejection discrimination, but neither Work/School nor Other discrimination predicted suicidal ideation. None of the three discrimination subscales predicted illicit substance use. Work/School discrimination predicted mental health problems (Anxiety and Depression subscales of the HSCL-25 combined), while Harassment/Rejection and Other discrimination did not. Depression predicted suicidal ideation, but failed to predict illicit substance use, and anxiety symptoms alone neither uniquely predicted suicidal ideation nor illicit substance use. Subsequently, separate mediational models were conducted to examine whether depression mediated relationships between Work/School discrimination and suicidal ideation, as well as Harassment/Rejection discrimination and suicidal ideation. Depression was a significant mediator of both of these relationships.

To assess whether the relationships among discrimination, depression symptoms, and suicidal ideation varied as a function of religiosity and social support, the two mediation models

were expanded to six moderated mediations. Depression symptoms mediated the effects of Work/School and Harassment/Rejection discrimination on suicidal ideation when participants had low to moderate levels of social support, but not high social support. Depression symptoms also mediated the effects of Work/School discrimination on suicidal ideation when participants had low to moderate levels of both Interpersonal and Intrapersonal Religiosity, but not when participants had high levels. Finally, Depression symptoms mediated the effect of Harassment/Rejection discrimination on suicidal ideation when participants had low to moderate levels of Intrapersonal Religiosity, but not when participants had high levels; depression symptoms mediated the effect of Harassment/Rejection discrimination on suicidal ideation at all levels of Interpersonal Religiosity.

Limitations to the current study include a homogenous sample with respect to country of residence, education level, and socioeconomic status, with participants primarily residing in Mexico, having high levels of education, and being primarily middle class. These drawbacks limit generalizability of study findings to sociodemographically and demographically diverse samples of LGBT adults in Latin America. Nevertheless, results from this study indicate that high, but not low or moderate levels of social support and religiosity seem to buffer LGBT adults in Latin America against discrimination, specifically by weakening links among discrimination, depression symptoms, and suicidal ideation. Clinical intervention research with LGBT adults in Latin America should focus on increasing social support networks for this population and on helping LGBT adults reconcile conflicts between religious identities and sexual or gender minority identities, as religiosity may serve as a protective factor against mental health problems generally, and suicidal ideation specifically.

Chapter One

Considerable research from developed countries has documented that lesbian, gay, bisexual, and transgender (LGBT) adults are disproportionately impacted by mental health issues, including affective disorders (e.g., anxiety, depression), substance abuse, and suicidality (Benotsch, Martin, Koester, Cejka, & Luckman, 2011; Clements-Nolle, Marx, Guzman, & Katz, 2001; Cochran & Mays, 2000a; Kenagy, 2005; King et al., 2008; McCabe et al., 2009). In addition to experiencing mental health issues, LGBT adults also confront a variety of discrimination experiences ranging from verbal harassment to physical assault (Factor & Rothblum, 2007; Lombardi et al., 2002). A large body of research has documented that discrimination experiences are associated with elevated mental health issues among LGBT adults (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Mays & Cochran, 2001).

Despite the large and nuanced research body from developed countries documenting discrimination experiences, mental health issues, and relationships between discrimination and mental health problems for LGBT adults, there is a paucity of research in this area conducted in other parts of globe. The literature in this area is particularly scant in Latin America, where acceptance for sexual and gender minorities has been found to be especially low (Pew Research Center, 2014). Thus, a critical review was conducted to evaluate extant research on the experiences of sexual and gender minorities in Latin America, including discrimination experiences, mental health issues, and relationships between discrimination and mental health problems for this population. In general, the research findings from the critical review in this area seem to parallel findings from research conducted with LGBT adults in developed countries. In particular, high rates of mental health issues and high reports of discrimination experiences have been documented in the literature on LGBT adults from Latin America (Barrientos &

Bozon, 2014; Ortiz-Hernandez & Valencia-Valero, 2005; Ortiz-Hernandez & Granados-Cosme, 2006). Additionally, relationships between discrimination experiences and some mental health issues have also been reported (Ortiz-Hernandez & Torres, 2005).

Research in developed countries has examined how factors such as social support and religiosity relate to mental health problems for LGBT adults. The literature on social support generally supports the notion that higher levels of social support are tied to lower levels of mental health problems, including depression and anxiety symptoms, substance abuse, and suicidality (Budge, Adelson, and Howard, 2013; Lehavot & Simoni, 2011; Masini & Barrett, 2008). The research on religiosity has yielded mixed findings, with some studies indicating that religiosity protects LGBT adults against mental health issues (Dowshen et al., 2011; Rabinovitch, Perrin, Tabaac, & Brewster, 2015). Still other research has failed to find relationships between religiosity and mental health issues for LGBT adults (Barnes & Meyer, 2012).

The current study fills the literature gap on relationships between discrimination, mental health (anxiety symptoms, depression symptoms), and risky behaviors (suicidal ideation, illicit substance use) for LGBT adults from Latin America. Given the literature documenting links between social support and religiosity with mental health in samples of LGBT adults from developed countries, the present study also explored whether these variables moderated relationships among discrimination, mental health, and risky behaviors for sexual and gender minority adults in Latin America.

Chapter Two

Mental Health Disparities for LGBT Adults in Developed Countries

Affective Disorders. Several large-scale, population-based studies from the early 2000's have documented that sexual and gender minority individuals, relative cisgender heterosexual individuals, are disproportionately impacted by a range of anxiety and depressive disorders (Clements-Nolle, Marx, Guzman, & Katz, 2001; Cochran & Mays, 2000a; Cochran, Sullivan, & Mays, 2003; Gilman et al., 2001). For example, Cochran and Mays (2000a) examined the prevalence of psychiatric disorders over a one-year period in a nationally representative sample of over 9,000 U.S. adults. Sexual minority men (SMM) relative to heterosexual men, were nearly three times more likely to meet DSM diagnostic criteria for major depressive disorder (MDD; 13.3% v. 5.1%), approximately two times more likely to suffer from generalized anxiety disorder (GAD; 3.1% v. 1.6%), and over a three-fold risk for meeting criteria for agoraphobia (3.5% v. .9%), and panic disorder (6.4% v. 3.0%). Disparities in rates of depression and anxiety symptoms were generally less robust among women in the sample; however, sexual minority women (SMW) compared to heterosexual women, were also more likely to meet criteria for mental health conditions, including MDD (15.0% v. 8.4%), GAD (3.5% v. 2.6%), agoraphobia (3.4% v. 2.1%), and panic disorder (7.2% v. 3.8%).

A prominent limitation to Cochran and May's (2000a) study is that sexual orientation was measured by inquiring whether adult participants engaged in sexual activity with same-sex or opposite-sex partners. This method may not accurately capture adults that are not sexually active, those that engage in sexual behaviors with both sexes, or with individuals who do not identify as either sex, and fails to recognize the growing diversity in human sexual behaviors

regardless of the sexual orientation that an individual identifies with (e.g., engaging in sexual activity with same-sex partners and identifying as heterosexual; Diamond, 2003).

In a later population-based study, using data from the National Midlife Development in the United States Study, containing over 3,000 adult participants, Cochran, Mays, and Sullivan (2003) examined mental health disparities over a 12-month period by sexual orientation, and participants were asked to self-identify as lesbian, gay, or bisexual. Although research in human sexuality and related disciplines currently recognizes fluidity in individuals' sexual orientations, and has included additional sexual orientation categories (e.g., queer; Eliason, Radix, McElroy, Garbers, & Haynes, 2016), Cochran et al. (2003) represents an improvement from earlier population-based research with sexual minorities. Compared to heterosexual men, SMM (combining gay and bisexual men) were between two and three times more likely to meet criteria for MDD (31.0% v. 10.2%) and GAD (2.9 v. 1.8), and close to five times more likely to suffer from panic disorder (17.9% v. 3.8%). Among SMW (combining lesbian and bisexual women) compared to heterosexual women, a different pattern of disparities in affective disorders was documented. While SMW were approximately two times more likely to meet diagnostic criteria for MDD (33.5% v. 16.89%) and panic disorder (17.1% v. 8.6%), SMW were nearly four times more likely to have GAD. It is clear that with respect to stress-sensitive conditions such as anxiety and depression, disparities by sexual orientation exist, with sexual minorities evidencing significantly higher rates across types of affective disorders. Additionally, for some disorders such as panic disorder in SMM and GAD in SMW, a more self-defined index of sexual orientation significantly increases these mental health disparities.

Although the literature on affective disorders in transgender adults has received less focus relative to this domain of research in lesbian, gay, and bisexual (LGB) individuals, there is

research evidence that transgender adults may be at even greater risk for anxiety and depression (Clements-Nolle et al., 2001; Conron, Scott, Stowell, and Landers, 2012; Nuttbrock et al., 2010) relative to LGB individuals. For instance, in a convenience sample of 100 transgender adults residing in San Francisco, California, Clements-Nolle and colleagues (2001) found that 62% of male-to-female (MTF) transgender individuals and 55% of female-to-male (FTM) transgender individuals self-reported clinically significant levels of depressive symptoms over a six-month period. A later study conducted by Nuttbrock and colleagues (2010), measured current MDD among MTFs via semi-structured clinical interviews, and found that between 24.8% and 26.1% of participants met DSM diagnostic criteria, representing lower rates to those found among MTFs in Clements-Nolle and colleagues' (2001) study.

Considerably more research with transgender adults has focused on depression, perhaps because depressive symptoms are an exceptionally potent predictor of suicidality (Borges et al., 2010). However, in regards to anxiety symptoms, Budge and colleagues (2013), in a sample of 351 transgender individuals (n = 226 MTF and n = 125 FTM) found that 40.4% of MTF and 47.5% of FTM individuals self-reported generalized anxiety symptoms above the clinical cut-off. Additional research support for heightened anxiety symptoms in gender minorities comes from Reisner and colleagues' (2015) national cohort study comprised of close to 8,000 young adults. Among gender minorities (including transgender and gender nonconforming individuals), 38% reported clinically significant anxiety symptoms, compared to 30% of cisgender women, and 14% of cisgender men, over the past week. It is possible that the lower levels of anxiety symptoms in gender minorities (compared to the above prevalence estimates) are perhaps due to measuring anxiety symptoms over only one week's time versus longer intervals in the previous studies.

There is clear research support that LGBT individuals are disproportionately impacted by anxiety and depression, across research studies employing disparate methods of measurement. For example, face-to-face clinical interviews have documented that LGBT individuals meet diagnostic criteria for affective disorders at alarmingly high rates (Clements-Nolle et al., 2001; Nuttbrock et al., 2010). Likewise, in studies that use self-report instruments to measure anxiety and depressive symptomology, high rates of LGBT individuals endorse symptom levels above clinical thresholds (Reisner et al., 2015).

Illicit substance use. In addition to experiencing high rates of affective disorders, research has also documented high rates of illicit substance use and abuse among LGBT individuals (Benotsch et al., 2011, 2011; Benotsch et al., 2013; Drabble, Midanik, & Trocki, 2005; McCabe et al., 2009; Wilsnack et al., 2008). In substance research with general populations (Room, Janca, Bennett, Schmidt, & Sartorius, 1996) and LGBT individuals (Hughes & Eliason, 2002), a common methodological issue lies in operationalizing substance activity, and differentiating between illicit substance use and abuse. For example, some studies have defined use of any illegal substance as "abuse" (Hughes & Eliason, 2002), whereas others have utilized measures specifically designed to assess for substance abuse (Lehavot & Simoni, 2011). As a result, the following component of the literature review will just use the term "use."

Research has found that relative to their heterosexual counterparts, LGB individuals are at heightened risk for illicit substance use, including non-medical use of prescription drugs (Kelly & Parsons, 2010; Benotsch et al., 2011), alcohol (McCabe et al., 2009), tobacco (Hughes & Jacobson, 2003; Ryan, Wortley, Easton, Pederson, & Greenwood, 2001), and other drugs (e.g., marijuana, ecstasy, cocaine; McCabe et al., 2009). For example, McCabe and colleagues (2009) in a large-scale national sample of adults, found that among women, lesbians (20.1%) and

bisexual women (25%) were more likely than heterosexual women (8.4%) to engage in past-year heavy drinking (defined as consuming four/five or more drinks within a span of two hours or less, at least once over a 12-month period). Among women, similar trends were found for past-year marijuana (16.7% lesbians, 22.2% bisexual women, 2.6% heterosexual women) and other drug use (12.6% lesbians, 14.1% bisexual women, 3.1% heterosexual women). Among men in the sample, smaller differences in substance use existed between SMM and heterosexuals. In regards to alcohol use, past-year rates were 18.1% for gay men, 16.4% for bisexual men, and 13.7% for heterosexual men. Gay men (25.2%) had the highest rates of marijuana use, compared to 13.2% of bisexual men, and 6.2% of heterosexual men. Other drug use was highest in bisexual men (17.7%), followed by gay men (16.8%), and heterosexual men (4.2%). Thus, although gender differences in rates of substance use exist, LGB individuals report substantially higher rates across a range of substances, relative to their heterosexual counterparts.

Relative to the literature on illicit substance use in sexual minorities, there is a paucity of research in this area in gender minorities. However, existing research on illicit substance use in transgender adults has documented high rates (Benotsch et al., 2013; Herbst, Jacobs, Finlayson, McKleroy, & Neumann, 2008). Additionally, whereas studies of LGB individuals in this area often contain heterosexual control groups, studies on transgender individuals do not often contain cisgender control groups, precluding a comparison between transgender and cisgender individuals within samples, and in cases where cisgender subsamples are included, separate analyses by gender identity are often not conducted. For instance, among Latino gay and bisexual men, and transgender individuals residing in San Francisco and Chicago, Ramirez-Valles and colleagues (2008) documented high levels of lifetime illicit substance use in the overall sample. Among participants, 28.5% had used speed, 28.3% cocaine, 18.7% crack, 59.9%

marijuana, 34.4% poppers, 13% ecstasy, 7.4% GHB, 6.5% special K, 9.5% heroin, and 24.2% had used tranquilizers. In a more recent study of racially diverse transgender individuals conducted by Benotsch and colleagues (2013), 26.5% of participants reported lifetime use of non-prescription drug use, most commonly analgesics (23.9%), anxiolytics (17.4%), stimulants (13.5%), and sedatives (8.4%), and rates did not differ significantly between MFT and FTM persons. Thus, rates of illicit substance use measured over a month's period and over a lifetime for transgender individuals seem to be high, and in particular for non-prescription and other drugs.

Suicidality. Perhaps the most pernicious mental health issue disproportionately impacting LGBT individuals is suicidality, including both suicidal ideation and suicide attempts (Fergusson et al., 2005; Gilman et al., 2001; Herrell et al., 1999; King et al., 2008). In an early co-twin control study, Herrell and colleagues (1999) compared 120 heterosexual and gay or bisexual adult males drawn from a population-based Vietnam era twin registry, on several indices of suicidality. Relative to their heterosexual siblings, SMM were approximately four times more likely to report suicidal ideation and at approximately a five-fold risk for reporting past suicide attempts over a lifetime. A later meta-analysis conducted by King and colleagues (2008), found that compared to heterosexuals, LGB individuals were two times more likely to attempt suicide over a 12-month period and four times more likely to do so over a lifetime. Likewise, Fergusson and colleagues (2005), in a birth cohort study of 967 adults from New Zealand, found that over a four-year period, 71.4% of gay men (vs. 10.9% of heterosexual men) and 30% of lesbians (vs. 9.7% of heterosexual women) endorsed suicidal ideation.

With respect to transgender individuals, research on rates of suicidality for this population is mixed. Clements-Nolle and colleagues (2006) found that 32% of MTF and FTM

individuals respectively had attempted suicide at least once over their lifetime. Kenagy (2005), documented comparable rates of lifetime suicide attempts, with 26.2% of FTM and 32.4% of MTF individuals reporting having attempted suicide over their lifetime. Transgender individuals have also been found to report significant lifetime suicidal ideation, with rates as high as 65% in community-based U.S. samples (Kenagy, 2005), compared to 8.4% of adults from general U.S. populations (Baca-Garcia et al., 2010).

Clearly, the literature on rates of mental health issues for LGBT individuals in Western countries is large and nuanced. This body of work spans within (Clements-Nolle et al., 2001) and between-subject research designs (McCabe et al., 2009), utilizes a variety of sampling methods, including population-based (Cochran & Mays, 2000a), birth cohort (Fergusson et al., 2005), and cross-sectional convenience sampling (Kenagy, 2005), and employs multiple methods for measuring mental health constructs, such as face-to-face clinical interviews (Nuttbrock et al., 2010) and self-report rating scales (Reisner et al., 2015). Although prevalence rates for some mental health issues vary by study (e.g., affective disorders), findings from extant research bodies on the mental health of LGBT individuals seems to converge, indicating that LGBT individuals are disproportionately impacted by mental health problems relative to their cisgender heterosexual counterparts.

Discrimination against LGBT Adults in Developed Countries

Not only are LGBT individuals from developed countries heavily impacted by mental health issues, this population also experiences significant discrimination (Factor & Rothblum, 2007; Herek, 2009; Lombardi, Wilchins, Priesing, & Malouf, 2002; Mays & Cochran, 2001). Discrimination experiences for LGBT individuals include LGBT victimization, ranging from verbal harassment to physical violence and sexual assault (Balsam et al., 2005; Factor &

Rothblum, 2007; Herek, 2009; Lombardi et al., 2002), unfair or poor treatment by service workers, law enforcement officers, and healthcare professionals, as well as unfair treatment in the workplace (Irwin, 2002; Mays & Cochran, 2001; Pizer, Sears, Mallory, & Hunter, 2011).

Some research on discrimination experiences for LGB individuals specifically, has focused on hate crime victimization (Herek, Gillis, & Cogan, 1999; Herek, 2009; Huebner, Rebchook, & Kegeles, 2004). For instance, in a study conducted by Herek, Gillis, and Cogan (1999), comprised of over 2,000 LGB adults residing in the greater Sacramento, California area, 28% of gay men, 19% of lesbians, 27% of bisexual men, and 15% of bisexual women reported having been the target of a hate crime due to their sexual orientation. The most common forms of victimization included simple or aggravated assault (13% of gay men, 7% of lesbians, 11% of bisexual men, and 5% of bisexual women), and sexual assault (4% of gay men, 3% of lesbians, 7% of bisexual men, and 4% of bisexual women). In another study, Huebner and colleagues (2004), examined rates of physical violence victimization among over 1,000 SMM within the past six months of having taken the survey, and found that 5% of participants had experienced some form of physical violence due to their sexual orientation. In an attempt to determine prevalence estimates of hate crimes against LGB adults in the U.S., Herek (2009) surveyed a national probability sample of 662 LGB adults, and found that over a lifetime, 20% of participants reported being the victim of a personal (e.g., assault) or property (e.g., theft) crime. Across studies, while hate crime victimization appears high among LGB individuals, there also seem to be gender differences, with SMM reporting the highest rates.

Gender differences in other forms of sexual-orientation discrimination experiences, such as discrimination occurring in the workplace and from service workers also seem to exist (Mays & Cochran, 2001; Swank, Fahs, & Frost, 2013). Mays and Cochran (2001) examined prevalence

rates of various types of LGB discrimination experiences over a lifespan. In regards to workplace discrimination, 38.8% of SMW and 22.5% of SMM reported not being hired for a job, 33.7% of SMW and 16.9% of SMM reported being denied a promotion, and 17.2% of SMW versus 19.5% of SMM reported being fired from a job. With respect to discrimination by service workers (e.g., plumbers, mechanics), 14.4% of SMW versus 4.1% of SMM reported inferior service and attributed these experiences to service workers' perceptions of their sexual minority status. Although SMM consistently report higher levels of hate crime victimization, SMW have been found to report greater discrimination experiences in the workplace and with service workers (Mays & Cochran, 2001).

Discrimination experiences for LGB individuals have also been examined in healthcare settings (Durso & Meyer, 2013; Harrison & Silenzio, 1996), with much of research in this area focusing on health care providers' actual or anticipated reactions to LGB individuals disclosing their sexual orientation (Durso & Meyer, 2013; Harrison & Silenzio, 1996). Harrison and Silenzio (1996) documented that among LGB adults receiving treatment in primary care settings, 31% to 89% of LBG individuals reported negative reactions on the part of healthcare providers, with reactions ranging from embarrassment and anxiety to invasive questioning. Other studies have documented that LGB individuals fear mistreatment in healthcare settings, and therefore opt not to disclose their sexual orientation (Barbara et al. 2001; Boehmer & Case, 2004; St. Pierre, 2012). In a study of 296 racially and ethnically diverse LGB adults residing in New York City, Durso and Meyer (2013) found that 39.3 % of bisexual men, 32.6% of bisexual women, 10% of gay men, and 12.9% of lesbians had not disclosed their sexual orientation in healthcare settings, despite being "out" in other facets of their lives. Given that healthcare providers play an important role in conveying health-related information related to sexual behaviors in patients

(e.g., safe sex practices, timing of annual reproductive exams), facilitating sexual orientation disclosure among LGB individuals in healthcare settings and demonstrating provider sensitivity around such disclosures, is tantamount to culturally competent care (The Fenway Institute, 2012; The Joint Commission, 2011).

Literature has also documented high levels of discrimination against transgender individuals across a range of discrimination experiences (Clements-Nolle, Guzman, & Harris, 2008; Lombardi et al., 2002). For instance, Lombardi and colleagues (2002) found that among racially and socioeconomically diverse transgender adults, approximately 60% had experienced some form of harassment or violence (e.g., verbal abuse, property damage), and 26% had experienced a violent incident (e.g., rape). Clements-Nolle and colleagues (2008) documented slightly lower rates of verbal (24.1%) and slightly higher rates of physical (36%) lifetime violence in their sample of transgender adults.

Although cisgender comparison groups are often not included in research on discrimination experiences for transgender individuals, Factor and Rothblum (2007) examined discrimination experiences in 295 transgender adults and their cisgender siblings, and found that transgender adults were significantly more likely to experience discrimination experiences across healthcare environments (28% MTF, 50% FTM, 8% cisgender women, and 2.4% cisgender men), but not in workplace environments (42% FTM, 45% MTF, 45% cisgender women, 20.8% cisgender men). The latter finding may reflect various aspects of discrimination beyond one's gender identity. Transgender individuals in the study were more likely to be targets of verbal harassment (70% MTF, 86.5% FTM, 58% cisgender women, and 53.7% cisgender men) and vandalism (34.0% MTF, 34.6% FTM, 18.2% cisgender women, and 24.4% cisgender men).

As noted above, extant research has documented that LGBT individuals in developed countries are disproportionately impacted by mental health issues (Cochran et al., 2003; Clements-Nolle et al., 2001; Gilman et al., 2001; Reisner et al., 2015) and are also subject to high levels of discrimination experiences (Durso & Meyer, 2013; Herek, 2009; Swank et al., 2013). There is also significant literature documenting robust associations between discrimination experiences and a variety of mental health problems for this population, including anxiety and depression symptoms, illicit substance use, and suicidality (Balsam, Beadnell, & Molina, 2012; Clements-Nolle et al., 2006; Huebner et al., 2004; Mays & Cochran, 2001; McCabe et al., 2009; Nemoto, Operario, Keatley, Han, & Soma, 2004).

Research with LBG individuals has found discrimination experiences to be associated with both higher levels of anxiety and depressive symptoms, as well as higher odds of meeting diagnostic criteria for an anxiety or depressive disorder (Feinstein et al., 2012; Herek et al., 1999; Mays & Cochran, 2001). Herek and colleagues (1999) examined links between various forms of hate crime victimization (e.g., sexual assault, physical assault, attempted assaults, and property crimes) targeting LGB individuals and depression and anxiety symptoms. Those who had been the victim of a hate crime within the five years prior to participating in the study self-reported higher levels of depression symptoms, anxiety symptoms, and post-traumatic symptoms relative to non-victimized LGB individuals. Similarly, Mays and Cochran (2001) found that LGB adults reporting any lifetime discrimination experience, such as being denied a promotion or discouraged from pursuing continued education, were 1.6 times more likely to meet criteria for an anxiety or depression disorder. Among LGB adults reporting day-to-day discrimination experiences, such as being called anti-LGB epithets or insulted, threatened, or harassed, were 2.13 times more likely to suffer from an affective disorder. In another study of 467 lesbians and

gay men, Feinstein and colleagues (2012) found that experiences of discrimination were correlated with measures of self-reported depression and social anxiety symptoms, and significantly predicted depressive symptoms in the sample.

In regards to transgender individuals, much of the research has sought to provide descriptive information about the rates of different types of discrimination and the rates of mental health issues such as anxiety and depression (Bockting et al., 2013; Hoy-Ellis & Frederickson-Goldsen, 2017; Johnson, Mimiaga, & Bradford, 2008), while less research has examined relationships between the two. Nemoto and colleagues (2011) examined relationships between experiences of transphobia (e.g., having been ridiculed or humiliated due to one's transgender identity) and depression symptoms in 573 MFT transgender individuals with a history of sex work, residing in Oakland, California. Among participants, transphobic discrimination experiences significantly predicted self-reported depressive symptoms above the clinical cutoff. Balsam and colleagues (2012) examined relationships between a range of discrimination experiences (e.g., harassment, rejection, assault) and depression and anxiety symptoms in 1, 217 LGBT individuals (66 MTF and 37 FTM transgender persons). Discrimination experiences were associated with higher self-reported anxiety, depression, and PTSD symptoms in participants, though separate analyses were not conducted by sexual orientation or gender identity.

Research has also documented relationships between discrimination experiences and suicidality in LGBT individuals. For instance, Díaz and colleagues (2001) found that among 912 Latino gay and bisexual men residing in three major U.S. cities, lifetime experiences of verbal ridicule and physical violence, employment discrimination, and police harassment respectively were associated with past six-month suicidal ideation. In a later study, Huebner and colleagues

(2004) found that among gay and bisexual men, several discrimination experiences, occurring in the past six months, including verbal harassment, physical violence, and general discrimination (i.e., related to housing, insurance, and employment) were each predictive of higher odds of past two-month suicidal ideation in participants (verbal harassment OR = 1.17, physical violence OR = 2.13, general discrimination OR = 2.06), after controlling for key demographic variables, such as socioeconomic status, education level, and race.

Among transgender individuals, links between discrimination experiences and suicidality have also been documented. For instance, among 515 transgender individuals (329 MTF and 123 FTM), Clements-Nolle, Marx, and Katz (2006) found that having experienced forced sex or rape and having experienced any discrimination experiences related to one's transgender identity, were associated with higher odds of having attempted suicide (forced sex or rape OR = 1.73 and transgender discrimination OR = 2.39). Similarly, House and colleagues (2011) examined the impact of lifetime discrimination experiences and lifetime suicide attempts in LGBT adults. Among participants, lifetime discrimination predicted higher odds of having attempted suicide at least once over the course of one's life (OR = 1.62). Separate odds ratios were not calculated for LGB and transgender individuals respectively though rates of past suicide attempts were especially high in transgender individuals (34.8%).

Not only are discrimination experiences tied to affective symptoms and disorders, and suicidality among LGB individuals, there is research documenting associations between various discrimination experiences and illicit substance use for this population (Drabble, Trocki, Hughes, Korcha, & Lown, 2013; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Lehavot & Simoni, 2011; McCabe et al., 2009). A large portion of this research has focused on SMW (Drabble et al., 2013; Lehavot & Simoni, 2011). For instance, Lehavot and Simoni (2011) examined

relationships between victimization and illicit substance use among over 1,000 SWM, and found that victimization occurring in the past year predicted past year problematic alcohol use, pastyear problematic drug use (excluding alcohol and tobacco), and current cigarette smoking in participants. Likewise, Drabble and colleagues (2013), using data from the National Alcohol Survey, found that among SMW, lifetime history of victimization predicted higher odds of lifetime hazardous drinking (calculated by using five dichotomous variables: five or more drinks on one or more occasion in the past year, drinking an average of two or more drinks daily in the past year, drinking to intoxication in the past year, two or more lifetime dependence symptoms, and two or more lifetime negative consequences).

Among SMM, relationships between discrimination and illicit substance use also appear to be strong. Hatzenbuehler, Nolen-Hoeksema, and Erickson (2008) found that among 74 bereaved gay men impacted by HIV/AIDs, and residing in the San Francisco Bay Area, experiences, including being harassed or insulted due to participants' gay identity in the past 12 months, predicted illicit substance use issues, operationalized as functional impairment associated with drug or alcohol use (e.g., work-related issues, passing out or losing track of time, relationship difficulties). Including subsamples of both SMW and SMM, McCabe and colleagues (2009) measured relationships between a wide range of discrimination experiences (e.g., inferior healthcare treatment, workplace and educational discrimination, physical assaults, verbal harassment) and illicit substance use in 577 LGB adults. Individuals that reported LGB discrimination occurring in the past year were 1.72 times more likely to meet DSM criteria for a substance use disorder, and those that endorsed lifetime discrimination were 1.3 times more likely to meet criteria for a substance use disorder. Although links between discrimination experiences and illicit substance use in transgender adult populations have received relatively little research focus, there is some literature documenting predictive relationships between discrimination and illicit substance use for this population (Benotsch et al., 2013; Zimmerman et al., 2015). Benotsch and colleagues (2013) found that in 155 primarily African American MTF and FTM transgender individuals, gender identity-based discrimination marginally predicted non-medical use of prescription drugs. Likewise, in a sample of 117 racially diverse MTF transgender individuals recruited from health clinics in the Richmond, Virginia area, Zimmerman and colleagues (2015) found that perceived transgender-related discrimination predicted alcohol use and illicit drug use.

In summary, research from developed countries has not only documented high rates of mental health issues and high levels of a range of discrimination experiences for LGBT individuals, but there is also significant research linking discrimination experiences to a variety of mental health problems for this population. This research body has documented that discrimination experiences are associated with higher odds of suffering from mental health issues (e.g., Clements-Nolle, Marx, & Katz, 2006) as well as higher levels of mental health symptomatology (e.g., Herek et al., 1999), and spans the predominant mental health issues found to impact LGBT populations, including anxiety and depression (Balsam et al., 2012; Nemoto et al., 2011), suicidality (Diaz et al., 2001; House et al., 2011; Huebner et al., 2004), and substance use (Hatzenbuehler et al., 2008; McCabe et al., 2009; Zimmerman et al., 2015).

Systematic Review on LGBT Individuals in Latin America: Mental Health and

Discrimination Experiences

In developed countries, the research body on mental health issues, discrimination experiences, and relationships between the two is large and nuanced. In other parts of the globe,

and in Latin American specifically, there has been significantly less research conducted on the experiences of LGBT individuals, including rates of mental health issues, discrimination experiences, and ties between discrimination experiences and mental health problems. The vast majority of research with LGBT populations in Latin America has focused on rates of HIV/AIDS infection and transmission among men who have sex with men (Bastos, Cáceres, Galvão, Veras, & Castilho, 2008; Calleja, Walker, Cuchi, Lazzari, Ghys, & Zacarias, 2002). Furthermore, extant research to date, though scant, on mental health problems and discrimination experiences for LGBT individuals has neither been synthesized nor comprehensively reviewed. Thus, a critical review of the literature on mental health problems, discrimination experiences, and relationships between discrimination experiences and mental health issues for LGBT individuals in Latin America has been undertaken to evaluate the research in this area.

The overarching aim of the literature search was to identify all empirical research studies pertaining to LGBT adults that had been conducted in Latin America and pertained to discrimination experiences, mental health, or links between the two within this population. Specifically, search terms were selected by identifying common keywords of seminal published review articles on discrimination experiences and mental health problems in LGBT populations conducted in the U.S. and other developed countries (Hatzenbuehler, 2009; King et al., 2008; Plöderl & Tremblay, 2015). This process yielded 52 unique search terms and each search term was translated to Spanish prior to identifying studies for inclusion in the review to facilitate a bilingual (English-Spanish) approach. Of the 52 search terms, six related to sexual orientation or gender identity (e.g., "lesbian," "homosexual," "transgender"), 31 related to mental health problems (e.g., "depression," "suicide," "alcoholism"), and 15 related to discrimination

terms, the names of all countries in Latin America as well as the words "Latin America" were used to identify studies, totaling 73 search terms.

To identify studies for inclusion in this review, PsycInfo and Medline search engines were used. Combinations of search terms were entered into the search engines exhaustively such that each sexual orientation/gender identity term was entered simultaneously with each mental health problem, discrimination experience, and Latin America term respectively. These efforts produced 57 unique citations. Titles and abstracts of all 57 citations were reviewed to determine which studies met inclusion criteria. To be included, studies had to: (a) constitute an empirical article; (b) include a sexual and/or gender minority adult or young adult sample; (c) be conducted in Latin America; and (d) measure at least one of the following: mental health problem variable, discrimination experience variable. Studies were excluded if they examined solely physical health outcomes, eliminating a large number of studies, as the vast majority of research on sexual and gender minorities in Latin America has focused on HIV infection and transmission among cisgender men and transgender women that have sex with other cisgender men and/or transgender women. After applying the inclusion and exclusion criteria to the 57 retrieved articles, 11 studies were retained for the review. The full article could not be retrieved for one study. Thus, the critical review was comprised of 10 articles total. It should also be noted that two studies (Ortiz-Hernandez et al., 2009; Ortiz-Hernandez & Valencia-Valero, 2005) contained adolescent-young adult samples, and these studies were retained for the critical review given the dearth of research on LGBT populations in Latin America.

The foci of the 10 studies reviewed maps to three topic areas: (a) rates of mental health problems for LGB adults in Latin America (n = 3); (b) rates of discrimination experiences for LGBT adults in Latin America (n = 4); and (c) relationships between discrimination experiences

and mental health problems for LGB adults in Latin America (n = 3). With the exception of one, all studies were conducted in Chile and Mexico, and all studies but one (Barrientos et al., 2010), excluded transgender individuals in their samples. Much of the research in the critical review reported insufficient detail regarding study methodology and data analyses, and in general presented somewhat cursory study findings, at times failing to separate analyses by sex and/or by type of discrimination event.

Mental Health of LGB Adults in Latin America. Of the ten studies reviewed, three studies examined rates of mental health issues in LGB individuals (Mathy, 2002a; Ortiz-Hernandez et al., 2009; Ortiz-Hernandez & Valencia-Valero, 2005). Two studies (Ortiz-Hernandez et al., 2009; Ortiz-Hernandez & Valencia-Valero, 2005) included adolescent-young adult samples, as noted above. Using the same database from over 6,000 Mexican adolescents and young adults (49% men, 51% women), Ortiz-Hernandez and colleagues (2009) and Ortiz-Hernandez and Valencia-Valero (2005) examined mental health disparities by sexual orientation. The sample was largely heterosexual (96.1%), with .9% identifying as lesbian or gay, .7% identifying as bisexual, and 2.3% of participants refusing to self-identify.

Ortiz-Hernandez et al. (2009) examined disparities in substance abuse, including pastyear alcohol abuse, and current as well as lifetime "problematic" tobacco use. Alcohol abuse was defined as consuming greater than six alcoholic beverages per day at least once over the span of a year. Problematic tobacco use was defined as smoking greater than six cigarettes per day, most days (either currently or at an earlier point in one's life). Controlling for gender, socioeconomic status, and town size (i.e., rural, semi-urban, urban), odds ratios for mental health outcomes were computed by sexual orientation. Sexual minorities were at increased risk for both current (OR = 1.5) and lifetime (OR = 1.3) problematic tobacco use, and past year alcohol abuse (OR = 2.1).

Ortiz-Hernandez and Valencia-Valero (2005) examined disparities in current depression symptoms, self-esteem, lifetime suicidal ideation, and lifetime suicide attempts by sexual orientation. Sexual orientation predicted current depression symptoms, with sexual minorities experiencing higher levels relative to heterosexuals. Sexual orientation did not predict any of the other mental health problem indices. Mathy (2002a) examined disparities in lifetime suicidal ideation and lifetime suicide attempts by sexual orientation in 130 adults (82.9% men, 17.1% women) from South America. Participants were drawn from a larger cross-continental study on general mental health disparities in the population. Over 15% of the sample was comprised of LGB adults (95% SMM; 5% SMW), as efforts were made to oversample sexual minorities. Controlling for age and sex, odds ratios were computed for lifetime suicidal ideation and lifetime suicide attempts. LGB adults were at a six-fold risk compared to heterosexuals in regards to lifetime suicidal ideation and lifetime suicide attempts. Paralleling research from developed countries on mental health issues disproportionately impacting sexual minorities, the research in this area from Latin America indicates that sexual minorities (compared to heterosexuals) are at heightened risk for substance use, including alcohol abuse and heavy tobacco use, and are at substantially elevated risk for suicidal ideation and attempts. Unfortunately, the studies described above neither measured rates of other forms of substance use and abuse nor rates of anxiety, signifying a gap in this literature area to date.

Discrimination against LGBT Adults in Latin America. Four of the 10 studies reviewed examined rates of various discrimination experiences in LGBT adults from Latin America (Barrientos & Bozon, 2014; Barrientos, & Castro, 2014; Barrientos, Silva, Catalan, Gomez, & Longueira, 2010; Ortiz-Hernandez & Granados-Cosme, 2006). In addition to measuring types of discrimination experiences, several of these studies also examined

environments within which discrimination events took place. Barrientos and colleagues (2010), using non-probabilistic convenience sampling, examined rates of several forms of discrimination experiences in 488 LGBT adults (44% cisgender men; 46% cisgender women; 10% FTM or MTF transgender individuals) attending an annual LGBT pride parade in Santiago, Chile. Discrimination experiences spanned several domains, including religious, medical, school, family, friends, neighborhood, law enforcement, and public (e.g., entertainment venue) contexts. Percentages were calculated based upon participants' dichotomous (yes/no) responses to questions related to having experienced specific discrimination experiences, and percentages lumped gay, lesbian, bisexual, and transgender individuals together. Discrimination experiences occurred most often in school-based (35%), religious (35%), and neighborhood (35%) settings, and largely took the form of verbal ridicule (75%), and insults or threats (60%).

Collecting data from 103 LGB adults (54.2% men; 45.8% women) attending a different LGBT pride parade in Santiago, Chile, Barrientos and Bozon (2014), measured rates of discrimination experiences spanning the same domains as the prior study conducted by Barrientos et al. (2010), though tapping slightly different types of discrimination experiences (i.e., mockery, insult or threat, sexual harassment, sexual victimization). Participants replied dichotomously (yes/no) whether they had experienced a given discrimination event. Participants were also asked to indicate whether they had been discriminated against in a variety of environments. Overall, 79.6% of lesbians and 72.7% of gay men reported having been discriminated against in their lifetime. The authors reported that gay men and lesbians reported comparable rates of each type of victimization, with the exception of mockery, for which gay men reported greater levels, and separate percentages were not calculated for men and women or

for each type of discrimination experience separately. Discrimination experiences occurred most commonly in religious (36.9%), school (33.3%), and family (33.3%) environments.

Barrientos and Castro (2014) examined rates of discrimination experiences in 100 gay men residing in Antofogasta, Chile. Participants indicated on a five-point Likert-type scale from "not at all" to "very often" the frequency with which they had experienced specific instances of discrimination, spanning six subscales tapping general stigma and discrimination experiences, disadvantages in the presence of authorities, workplace discrimination, discrimination related to one's expression of sexual identity, institutional exclusion and rights denial discrimination, and religious discrimination. Additionally, the form of discrimination was measured (e.g., mockery, insults, physical violence, and sexual harassment). General discrimination and stigma experiences was highest (32.5%), followed by being poorly assisted by public officials (25.8%), and experiencing workplace discrimination (22.3%). In regards to form of discrimination, the most common were mockery (73.2%) and insults (55.8%).

Ortiz-Hernandez and Granados-Cosme (2006) similarly examined a range of discrimination experiences (e.g., verbal, physical, sexual harassment, sexual aggression, property damage or theft, and observed aggression) in over 3,000 LGB adults, and asked participants to report on the types of discrimination experiences they faced during three distinct time periods (ages 6-11, 12-17, and 18+) via a cross-sectional study design. In childhood and adolescence (ages 6-11 and ages 11-17), the most prominent forms of discrimination reported were humiliation/mockery (approximately 30%) and verbal insults (25%), with rates of each being slightly higher among SMM. In adulthood, discrimination experiences were largely sexual in nature, with close to 30% of the total sample reporting sexual assault, and just under 30% reporting sexual harassment. Rates of sexual assault were comparable for men and women, and

men experienced slightly more sexual harassment relative to women. In general, SMM reported higher rates of each type of discrimination experience.

Similar to research conducted in developed countries with LGBT adults, research from Latin America has documented that LGBT adults experience high levels of a range of discrimination experiences, most prominently in the form of verbal discrimination (e.g., mockery, insults). LGBT adults in Latin America also seem to experience discrimination across multiple domains, such a religious environments, school, workplace settings, public settings, and within families.

Links between Discrimination and Mental Health for LGB Individuals in Latin

America. Not only has research documented high rates of mental health problems and discrimination experiences in largely sexual minority (often excluding transgender) adults in Latin America, there is also research linking discrimination experiences to some of these mental health issues. Within the critical review, three out of 10 studies examined relationships between discrimination experiences and mental health issues for this population (i.e., Gomez & Delgado, 2012; Ortiz-Hernandez, 2005; Ortiz-Hernandez & Torres, 2005).

Using the same data from 506 LGB adults (62.8% men, 37.2% women) residing in Mexico City, Ortiz-Hernandez (2005) examined relationships between LGB adults' perceptions of sexual stigma and a variety of mental health problems, while Ortiz-Hernandez and Torres (2005) examined relationships between discrimination events and mental health issues. In regards to mental health issues, both of these studies (i.e., Ortiz-Hernandez 2005; Ortiz-Hernandez & Torres, 2005) examined mental health variables of depression symptoms, anxiety symptoms, suicidality, and alcohol abuse. Rates of mental health issues were high, with 40% reporting lifetime suicidal ideation, 15% reporting at least one lifetime suicide attempt, 14% of

the total sample (21% of SMW) meeting criteria for alcohol abuse, and 67% reporting clinical levels of depressive symptoms. Ortiz-Hernandez (2005) found that stigma experiences predicted suicidal ideation and were positively correlated with depression symptoms. Ortiz-Hernandez and Torres (2005) found that sexual victimization predicted lifetime suicidal ideation, lifetime suicide attempts, and alcohol abuse. Both employment and law enforcement discrimination were correlated with lifetime suicide attempts.

Gomez and Delgado (2012) examined relationships between discrimination experiences and self-reported symptoms of specific phobia, depression, and generalized anxiety, occurring in the past two weeks among 55 LGB adults (65.5% men, 34.5% women). Several forms of discrimination were measured, including physical assault, sexual assault, and verbal aggression (e.g., insults, threats). Bivariate correlations indicated that physical and sexual assault both positively related to depression and generalized anxiety symptoms. Likewise, verbal aggression was positively associated with symptoms of depression.

Among LGB adults residing in Latin America, research has documented relationships between a variety of discrimination experiences and several mental health problems for this population, including depression symptoms, anxiety symptoms, alcohol abuse, and suicidality.

Minority Stress Model

The predominant model that has been used to explain why sexual and gender minorities may be disproportionately impacted by mental health problems, as addressed so far in this literature review, is the minority stress model (Meyer, 1995; 2003), which has been cited in research with sexual and gender minorities conducted in developed countries and in Latin America. At the crux of this model is that individuals from oppressed social groups (e.g., racial/ethnic, sexual minorities, gender minorities) experience high levels of stress and negative

life events, such as discrimination experiences, due to their marginalized status within society, which in turn contributes to mental health problems for minority populations. Meyer's (2003) minority stress model has been well-supported by empirical research with sexual and gender minority populations in developed countries (Bockting et al., 2013; Hatzenbuehler, 2009; Kuyper & Fokkema, 2011; Lehavot & Simoni, 2011; Szymanski, 2005).

In addition to providing a grounding theoretical framework for linking minority stressors such as discrimination experiences to mental health issues for sexual and gender minorities, Meyer's (2003) model highlights factors that might strengthen or weaken these relationships. One such construct that has been examined in the literature on LGBT individuals in developed countries is social support (Beals, Peplau, & Gable, 2009; Nemoto et al., 2011; Sheets & Mohr, 2009). The literature on relationships between social support and mental health for LGBT individuals in developed countries will be discussed in further detail below; however, in general, higher levels of social support have been linked to better mental health for LGBT adults, while lower levels of social support have been tied to suboptimal mental health (Beals et al., 2009; Budge et al., 2013; Plöderl & Fartacek, 2005). What will follow is a brief overview of the literature on relationships between religiosity and social support, and the prominent mental health issues facing LGBT individuals. Unfortunately, literature from Latin America examining relationships among religiosity, social support, and mental health for LGBT individuals does not exist. Nor is there literature examining these constructs more generally with LGBT adults in Latin America. Therefore, the research reviewed will be from developed countries. However, cultural considerations that may be unique to Latin America (relative to developed countries) and are germane to social support and religiosity will be discussed.

Social Support in LGBT Individual from Developed Countries
A large proportion of the research on social support in LGBT adults has focused on relationships between various forms of social support and depression symptoms in this population. For instance, Sheets and Mohr (2009) examined the impact of general and sexualityspecific social support from both friends and family on the mental health of 210 bisexual young adult college students, and found that general support from friends and family inversely predicted self-reported depressive symptoms in participants. Similarly, Beals, Peplau, and Gable (2009) conducted a study in which 81 racially diverse gay and lesbian adults completed daily measures of a range of experiences, including receipt of general and sexual-specific social support for a period of two months. At baseline and two-month follow ups, sexuality-specific as well as general social support each significantly predicted lower levels of depressive symptoms. In examining an older age group of LGB adults (over 50-years-old), Masini and Barrett (2008) found that among 220 LGB adults, social support from friends, but not from family, predicted lower levels of self-reported depression and anxiety symptoms in participants. Thus, across disparate LGB populations, social support seems to serve as a protective function in regards to depression symptoms.

Among transgender individuals, there is some research documenting that social support may protect individuals against depression symptoms and substance use, though the research in this area is less prolific relative to the work conducted with LGB adults. Nemoto and colleagues (2011), found that among 573 MTF transgender women with a history of sex work, social support from family members, transgender friends, and nontransgender friends was negatively correlated with self-reported depressive symptoms. Likewise, in 351 transgender individuals (n =226 transgender women and n = 125 transgender men), Budge, Adelson, and Howard (2013) found that a latent variable of social support, comprised of social support from family, from

friends, and from a significant other, negatively predicted self-reported anxiety and depressive symptoms in participants. In regards to illicit substance use, Benotsch and colleagues (2015) found that in 104 transgender women residing in the Mid-Atlantic region of the U.S., social support from family members was associated with lower levels of non-medical prescription drug use.

There is also research linking social support to other mental health issues for LGB adult populations, with research documenting relationships between low levels of social support or social isolation (the inverse of a social support construct) and illicit substance use (Eisenberg & Wechsler, 2003; Lehavot & Simoni, 2011) as well as suicidality (Diaz et al., 2001; Plöderl & Fartacek, 2005; Tabaac, Perrin, & Rabinovitch, 2016). With respect to illicit substance use, in a national sample of 230 LGB college students, Eisenberg and Wechsler (2003) found that social support was inversely related to binge drinking and tobacco use among participants. In a later study, Lehavot and Simoni (2011) found that lower levels of social support predicted higher levels of drug, alcohol, and cigarette use in SMW.

In regards to suicidality, Plöderl and Fartacek (2005) examined the relationship between social support from family and suicidality in 358 LGB Australian adults, and found that lower levels of family support were associated with higher self-reported suicidal ideation. Diaz and colleagues (2001) measured links between social isolation (the inverse of social support) and suicidality in Latino SMM, and found that social isolation predicted suicidal ideation among participants. In a recent study, Tabaac and colleagues (2016) examined associations between social support and suicidality in 150 racially diverse SMW, and found that social support from women's families and significant others were both inversely associated with suicidal ideation, and social support from families was inversely related to lifetime suicide attempts. Research

from developed countries has consistently documented relationships between social support and a range of mental health issues, most prominently depression symptoms and suicidality in LGB adults. The literature on Latino LGBT adults residing in the U.S. (including immigrants and nonimmigrants), also highlights the importance of social support for the mental health of this population. Large-scale databases have provided recent estimates of the number of Hispanic LGBT adult immigrants residing in the U.S. Specifically, data from the Pew Research Hispanic Center, the Gallup Daily Tracking Survey, and the US Census Bureau's American Community Survey (2011) were analyzed to provide an estimate of the number of LGBT adult immigrants (both documented and un-documented), as well as demographic characteristics of this population (Gates, 2013). Results indicated that there are roughly 267,000 undocumented LGBT adult immigrants, which comprises approximately 2.7% of the overall number of undocumented adults in the U.S. Additionally, 71% of undocumented LGBT adult swere found to be Hispanic. There are approximately 637,000 documented LGBT adult immigrants in the U.S., comprising 2.4% of the overall documented immigrant population, with 30% being Hispanic.

Despite the high number of Hispanic LGBT adult immigrants in the U.S., there is a paucity of research on the mental health and well-being of this population. The bulk of the research on LGBT Latino populations focuses on sexual behavior, as well as HIV risk and transmission among Latino gay and bisexual men (Calabrese, Reisen, Zea, Poppen, & Bianchi, 2012; Bianchi, Reisen, Zea, Poppen, Shedlin, & Penha, 2007; Zea, Reisen, & Diaz, 2003; Zea, Reisen Poppen, & Bianchi, 2009). Despite having a primary focus on sexual behavior in SMM, this literature body highlights the importance of social support as a buffer in the relationship between minority stress (racism, heterosexism) and risky sexual behaviors among a subset of Latino LGBT individuals. Of note, constructs of social support within this literature, while similar to those described earlier (e.g., Beals et al., 2009), are generally related to ethnic and/or LGBT community connectedness.

For instance, Ramirez-Valles and colleagues (2010) examined relationships between various forms of stigma (racial, sexual), community involvement, and sexual risk-taking (unprotected anal intercourse, intercourse without knowledge of one's HIV status, sex under the influence of drugs and alcohol) in over 600 Latino SMM and transgender women in the U.S. Community involvement was measured by inquiring whether participants had volunteered for HIV/AIDs or LGBT causes and how often they had done so over their lifetime. Both racial and sexual stigma were associated with risky sex in participants. Moderation analyses revealed that these relationships held only for participants that did not report community involvement.

Likewise, O'Donnell and colleagues (2002) examined relationships between social support in sexual matters (e.g., having someone to share AIDS-related concerns with), attachments to both ethnic and gay communities, and unprotected anal intercourse among urban Latino SMM. Attachments to ethnic, but not to gay communities were found to protect SMM against risky sexual behavior. Specifically, men that reported being connected to their ethnic communities were 40% less likely to have unprotected anal intercourse over the past three months and 60% less likely to do so during their last sexual encounter with a non-primary partner.

Although research on sexual risk-taking in SMM highlights the importance of social support (i.e., community connectedness) in buffering individuals against sexual risk-taking behaviors, the preponderance of research on broader domains of mental health, and with more inclusive samples of Latino LGBT adults (Latino LGBT immigrants and SMW) is sorely needed. Latino LGBT immigrants are likely to contend with multiple stressors, such as those related to their racial/ethnic identity (racism; Alamilla, Kim, & Lam, 2010), immigration status (acculturative stress; Saldana, 1994; Smart & Smart, 1995; Szapocznik, Kurtines, & Fernandez,

1980), and sexual identity (heterosexism; Szymanski, 2005). There is significant research supporting that Latino immigrants (regardless of their sexual orientation or gender identity) face high levels of discrimination based on their race or ethnicity (Major, Quinton, & McCoy, 2002; Pew Hispanic Center/Kaiser Family Foundation, 2002; U.S. Department of Health and Human Services [USDHHS], 2001). Furthermore, racial/ethnic discrimination among Latinos has been documented across educational (Pizarro, 2005), employment (Mason, 2004), healthcare (Molina, 2006), and housing (Ross & Turner, 2005) domains, and is tied to a number of mental health issues, such as depression (Finch, Hummer, Kolody, & Vega, 2000) and anxiety (Hwang & Goto, 2008) symptoms. Likewise, acculturative stress among Latino immigrants has been linked to higher levels of anxiety and depression symptoms (Crockett et al., 2007).

Although very few studies have examined more broadly defined mental health constructs in Latino LGBT individuals (including subsamples of immigrants and non-immigrants), two out of three of these studies focused on social support (or lack thereof) in relation to the mental health of this population. For instance, Zea, Reisen and Poppen (1999) found that among 106 Latino gay and lesbian immigrant (66%) and non-immigrant (33%) adults, higher levels of perceived social support (received from others generally, and not specific to family, friends, or significant others) were associated with lower levels of depression symptoms, and higher levels of self-esteem. No differences were found in mental health when comparing immigrant to nonimmigrant participants. Findings from this study echo research findings from other studies conducted with general populations of LGBT adults in the U.S., supporting the notion that social support may buffer LGBT adults against mental health issues (Beals et al., 2009; Budge, Adelson, & Howard, 2013; <u>Plöderl</u> & Fartacek, 2005).

Diaz and colleagues (2001) examined relationships between racism, heterosexism, social isolation, and mental health issues (anxiety and depression symptoms, suicidal ideation) among 912 Latino gay and bisexual men residing in three metropolitan areas of the U.S. Both heterosexism and racism uniquely predicted mental health issues in participants. Additionally, social isolation (the inverse of social support) mediated the relationship between social discrimination (including racism and heterosexism) and psychological symptoms (a composite of anxiety and depression symptoms, and suicidal ideation). Immigration status was not measured in that study.

Cochran and colleagues (2007) analyzed data from the National Latino and Asian American Survey (NLAAS) comprised of 4,488 Latino (2,066) and Asian American (2,422) adults in the U.S., with 4.8% (N = 254) identifying as lesbian, gay, or bisexual. Among LGB men, 56.1% were non-U.S. born and among LGB women, 64.3% were not born in the U.S. LGB adults were compared to their heterosexual counterparts on indices of anxiety symptoms, depression symptoms, illicit substance use, and suicidality. Compared to heterosexual men, gay and bisexual men were nearly 3.5 times more likely to report a recent suicide attempt, and lesbian or bisexual women were approximately two times more likely than heterosexual women to meet criteria for a depressive disorder over the span of one year. Separate mental health analyses were not calculated by race/ethnicity or by immigration status (i.e., U.S. or non-U.S. born). In general, results from this study indicate that compared to other large-scale probability studies comparing heterosexual and LGB adults on indices of mental health, smaller mental health differences exist.

Significant gaps in and limitations to the literature on mental health in Latino LGBT immigrants exist, such as a primary focus on risky sexual behaviors in SMM, as well as failure to

sufficiently explore how factors related to immigration status (e.g., acculturative stress) might impact mental health for this population. Nevertheless, paralleling research from general samples of LGBT adults in the U.S., social support within this research body consistently seems be negatively associated with both mental health problems and risky behaviors for this population.

Religiosity in LGBT Individuals from Developed Countries

Although not directly addressed in Meyer's (2003) traditional minority stress conceptualization, a growing body research has examined relationships between religiosity and mental health in LGBT adults (Dahl & Galliher, 2010; Dowshen, Forke, Johnson, Kuhns, Rubin, & Garofalo, 2011; Rabinovitch et al., 2015; Rostosky, Danner, and Riggle 2007). In contrast to the literature on social support, extant research on how religiosity relates to mental health for LGBT adults in developed countries is mixed, with some research documenting that religiosity may serve as a risk factor for mental health problems (Gibbs & Goldbach, 2015; Rabinovitch et al., 2015). Other research indicates that religiosity may protect LGBT adults against mental health issues (Dowshen et al., 2011; Kralovec et al., 2014). Still other research in this area has found that religiosity is unrelated to mental health problems for this population (Barnes & Meyer, 2012).

Research has documented disparate findings in regards to the relationships between religiosity and suicidality for LGB adults. In particular, some studies have found that religiosity increases suicidality among LGB adults (Gibbs & Goldbach, 2015; Rabinovitch et al., 2015) while other studies have found that religiosity diminishes suicide risk for this population (Kravolec et al., 2014). Rabinovitch and colleagues (2015) examined various coping strategies and their relationships to suicidality in 150 racially diverse SMW, and found that religious coping was associated with a higher lifetime history of suicide attempts. Likewise, Gibbs and

Goldbach (2015), analyzing data from over 2,000 LGBT emerging adults (ages 18-24), examined relationships between religious and sexual orientation identity conflict and suicidality. Three indices of identity conflict were measured, including having left one's religion due to conflict, experiencing parental anti-LGBT religious beliefs, and self-reported conflict between an individual's sexual orientation and religious beliefs (participants answered the question: "Have your religious beliefs affected your acceptance of your sexual orientation?"). Experiencing anti-LGBT parental beliefs (OR = 1.57) and leaving one's religious due to identity conflict (OR = 1.34) were associated with higher odds of past-month suicidal ideation. Experiencing anti-LGBT parental beliefs was associated with a two-fold lifetime risk of having attempted suicide. In contrast to these two studies (i.e., Gibbs & Goldbach, 2015; Rabinovitch et al., 2015), Kravolec and colleagues (2014) measured associations between religiosity, internalized homophobia, and suicidality in 358 LGB adults. In this study, religiosity was associated with higher levels of internalized homophobia; however, religiosity was also linked to lower levels of lifetime suicide attempts.

Other research has examined relationships between religiosity and substance use in LGBT adults, and as with suicidality, findings are mixed. Dowshen and colleagues (2011) measured two facets of religiosity, including a God Consciousness subscale (prayers, thoughts about God) and a Formal Practices subscale (service attendance, reading/studying scripture) in 92 young adult transgender women residing in Chicago. While the Formal Practices subscale was associated with lower alcohol consumption and sexual risk-taking behaviors (e.g., sex without a condom), in turn, diminishing HIV risk; the God Consciousness subscale was unrelated to these outcomes. Thus, certain aspects of religion may be more or less impactful in regards to substance use for transgender women. Rostosky and colleagues (2007) examined

relationships between religiosity and illicit substance use in close to 14,000 young adults (heterosexual n = 13,572 and sexual minority n = 351) longitudinally over six years. Religiosity was measured via three questions inquiring about participants' attendance at religious services, their attendance at religious activities, and the importance of religion in their lives. While religiosity protected heterosexual young adults from substance use, including marijuana, binge drinking, and cigarette consumption, religiosity was unrelated to substance use outcomes among LGB young adults.

Research has also examined relationships between religiosity and general mental health, including depression and anxiety symptoms, and overall psychological well-being (Barnes & Meyer, 2012; Dahl & Galliher, 2010; Porter, Ronnenberg, & Witten, 2013). Dahl and Galliher (2010) measured relationships between several facets of religiosity, including behavioral (e.g., attending religious services), affective (e.g., the feelings that one associates with religion and God), and cognitive (e.g., how one thinks about religion and God) religiosity and mental health in 106 LGB young adults. Behavioral religiosity was unrelated to the mental health of participants. Positive affective and cognitive religious experiences were associated with higher levels of self-esteem; while negative affective and cognitive religious experiences were linked to higher levels of sexual orientation conflict, higher levels of depression symptoms, and lower selfesteem. Barnes and Meyer (2012) examined the impact of non-LGBT affirming religious affiliation on self-esteem, general psychological well-being, and depressive symptom in 355 racially diverse LGB adults residing in New York City. Affiliation with a non-LGBT affirming religion was unrelated to mental health outcomes. Porter et al. (2013) examined associations between religious affiliation and successful aging in transgender older adults. Successful aging has been defined as an ability to accomplish physical, cognitive, emotional, social, and spiritual

fulfillment regardless of medical conditions one may face (Brummel-Smith, 2007). Religious affiliation was not associated with successful aging in transgender adults.

Additionally, there has been significant research conducted on the relationships between religiosity, and in particular religious coping, and mental health in general adult populations (Ano & Vasconcelles, 2005; Nooney & Woodrum, 2002; Witvliet, Phipps, Feldman, & Beckham, 2004). For instance, in a national sample of adults, religious coping was inversely associated with depressive symptoms (Nooney & Woodrum, 2002). Other research on religious coping has examined how different types of religious coping impact psychological adjustment to stress. For instance, Ano and Vasconelles (2005) found that positive religious coping, such as religious direction, support-seeking from clergy, and religious forgiveness were related to positive psychological adjustment (e.g., happiness, stress-related growth, and resilience). On the other hand, negative religious coping, such as re-appraisal of God's powers and passive religious deferral, was tied to poor adjustment to stress (e.g., depression symptoms, distress, suicidality). Religious coping has also been examine among military veterans, with results indicating that seeking spiritual support, "collaborating with God" in problem-solving, and making positive religious appraisals are associated with lower levels of post-traumatic stress symptoms (Witvliet et al., 2004).

In considering the research on relationships between religiosity and some of the key mental health issues impacting LGBT adults, it seems that religiosity serves as both a risk and protective factor for some mental issues such as suicidality (Kraveloc et al., 2014; Rabinovitch et al., 2015) and depression symptoms (Dahl & Galliher, 2010). Additionally, several studies across mental health issues found that religiosity was not directly related to mental health for LGBT adults (Barnes & Meyer, 2012; Porter et al., 2013), thus, it is possible that relationships between

religiosity and mental health are indirect, potentially interacting with other important variables such as discrimination experiences. However, no study to date has investigated relationships among discrimination experiences, religiosity, and mental health for LGBT adults.

Cultural Considerations Related to Social Support and Religiosity in Latin America

Although there is not yet literature on religiosity and social support among LGBT individuals from Latin America, there are important cultural considerations related to these constructs that may help guide predictions about how social support and religiosity might relate to mental health problems for LGBT individuals in Latin America.

A concept in Latin American cultures that may be especially relevant to social support is *familismo* (familism), defined as mutual support and obligation between family members (Baca-Zinn & Wells, 2000), and placing emphasis on family honor, interconnectedness, and reciprocity (Calzada, Huang, & Brotman, 2012). The notion of *familismo* is strongly tied to a collectivist orientation (also predominant in Latin America), which gives primacy to the family or group's goals and needs over those of the individual, and often shapes personal identities for individuals from collectivist cultures (Ting-Toomey et al., 2000). For LGBT individuals in Latin America, strong intra-familial connections may provide crucial social support to buffer this population against minority stressors such as discrimination experiences, in turn enhancing the mental health of LGBT individuals in this region. Given the hostile social climate towards LGBT individuals in Latin America, however, it is also possible that families of sexual and gender minorities may disconnect from or reject LGBT individuals, and this rejection within the context of collectivist values, may have especially pronounced and deleterious effects on the mental health of this population.

In regards to religiosity, a growing body of literature from several regions in Latin America and across multiple disciplines has documented a shift in religious affiliation from conservative Catholicism to conservative Protestantism (Cleary, 2004; Dixon, 1995; Gill, 2004; Pew Research Center, 2014), particularly in less economically developed regions of Latin America (Pew Research Center, 2014). Furthermore, research conducted across 18 economically diverse regions of Latin America shows that Protestants are significantly more likely to oppose legalization of same-sex marriage, a hallmark of sexual prejudice. Well-established links between religious conservatism and LGBT prejudice in developed countries (Whitley, 2009) and in Latin America (Pew Research Center, 2014), coupled with a rapid growth in traditional Protestantism (Cleary, 2004), suggests that religious conservatism may be particularly pronounced (especially in less economically developed regions of Latin America). In considering how religiosity in Latin America might impact mental health problems for LGBT individuals, it is possible that sexual and gender minorities might withdraw or disaffiliate from religious communities to protect against prejudice and discrimination. Disconnecting from religious communities could indeed protect LGBT individuals from mental health risks, but could also hinder LGBT individuals from accessing some of the mental health benefits that religiosity has been linked to for LGBT individuals in developed countries.

The Current Study

The current study will expand the literature on mental health and its correlates for LGBT individuals in Latin America in two specific ways. As reviewed above, there is a broad literature from developed countries documenting relationships among discrimination experiences, mental health (i.e., anxiety and depression symptoms) and risky behaviors (i.e., suicidal ideation and illicit substance use) in LGBT adults. There is also literature, though scant, exploring

connections between some of these constructs for LGBT individuals in Latin America, and with Latino LGBT individuals residing in the U.S. Within this literature, discrimination experiences have been found to be associated with higher levels of mental health problems (Clements-Nolle et al., 2006; Diaz and colleagues, 2001; Gomez and Delgado; 2012; McCabe and colleagues; 2009; Ortiz-Hernandez & Torres, 2005). Thus, the primary aim of this study is to examine the relationships among discrimination, mental health, suicidality, and illicit substance use in LGBT adults from Latin America. Given the literature linking religiosity and social support to mental health for LGBT adults in developed countries (Beals et al., 2009; Budge et al., 2013; Dahl & Galliher, 2010; Dowshen et al., 2011; Masini & Barrett, 2008; Rabinovitch et al., 2015), a secondary aim of the proposed study is to examine whether these relationships vary as a function of participants' social support or religiosity.

Aim 1

Hypothesis 1.1. Research from developed countries and from Latin America has linked discrimination experiences to mental health issues (i.e., anxiety and depression symptoms) for LGBT populations (Gomez & Delgado, 2012; Herek et al., 1999 Nemoto et al., 2011). Accordingly, it is hypothesized that greater discrimination experiences will be associated with higher levels of anxiety and depression symptoms.

Hypothesis 1.2. Research with LGBT populations in developed countries (but not specifically in Latin America) has found that anxiety and depression symptoms are associated with suicidal ideation (Hatzenbuehler et al., 2009; Mustanski, Newcomb, & Clerkin, 2011). Thus, it is hypothesized that higher levels of anxiety and depression symptoms will be associated with greater suicidal ideation.

Hypothesis 1.3. Research with LGBT adults from developed countries has documented relationships between mental health and illicit substance use (Hatzenbuehler et al., 2009; Lelutiu-Weinberger, Pachankis, Golub, Walker, Bamonte, & Parsons, 2013). Accordingly, it is hypothesized that higher levels of anxiety and depression symptoms will be associated with greater illicit substance use.

Hypothesis 1.4. There are research links between discrimination experiences and anxiety and depression symptoms in LGBT adults from developed countries and from Latin America (Gomez & Delgado, 2012; Mays & Cochran, 2001). There are also relationships between discrimination experiences and suicidality for LGBT adults, both in developed countries and from Latin America (Díaz et al., 2001; Clementes-Nolle et al., 2006; Ortiz-Hernandez & Torres, 2005). Finally, there are associations between anxiety and depression symptoms and suicidal ideation in LGBT adults from developed countries (Hatzenbuehler et al., 2009; Igartua, Gill, & Montoro, 2009). Given these relationships, it is hypothesized that mental health (i.e., anxiety and depression symptoms) will mediate the relationship between discrimination experiences and suicidal ideation.

Hypothesis 1.5. There is research from developed countries and from Latin America linking discrimination experiences to illicit substance use (Benotsch et al., 2013; McCabe et al., 2009; Ortiz-Hernandez & Torres, 2005). Additionally, research with LGBT adults in developed countries has linked anxiety and depression symptoms to illicit substance use (Hatzenbuehler et al., 2009; (Lelutiu-Weinberger et al., 2013). It is therefore hypothesized that mental health (i.e., anxiety and depression symptoms) will mediate the relationship between discrimination experiences and illicit substance use.

Aim 2

Hypothesis 2.1. Research from Latin America has not explored relationships between social support and mental health issues for LGBT individuals, nor has research from this region examined social support more generally for this population. However, research from developed countries, including the research conducted with Latino LGBT populations, has consistently documented that social support may protect against a variety of mental health problems for LGBT adults, including depression and anxiety symptoms (Beals et al., 2009; Masini & Barrett, 2008; Nemoto et al., 2011; Sheets & Mohr, 2009), illicit substance use (Benotsch et al., 2015), suicidality (Diaz et al., 2001; <u>Plöderl</u> & Fartacek, 2005; Tabaac et al., 2016), and other risky behaviors (e.g, risky sex; Ramirez-Valles, 2010). Based upon the literature from developed countries, it is hypothesized that social support will moderate relationships among discrimination experiences, mental health, and risky behaviors, such that higher levels of social support will weaken these relationships.

Hypothesis 2.2. Research from developed countries has linked religiosity to mental health issues for LGBT individuals, with some studies indicating that religiosity may place individuals at risk for suicidality (Gibbs & Goldbach, 2015; Rabinovitch et al., 2015), and does not serve a protective function in regards to substance use (Rostosky et al., 2007) and anxiety and depression symptoms (Barnes & Meyer, 2012) for this population. Other research indicates that religiosity may protect individuals against anxiety and depression symptoms (Dahl & Galliher, 2010) and risky behaviors (i.e., suicidality and substance use; Dowshen et al., 2011; Kravolec et al., 2014). Due to the high levels of religiosity and religious conservatism in Latin America (Pew Research Center, 2014), it is hypothesized that religiosity will moderate relationships among discrimination experiences, mental health, and risky behaviors (i.e.,

suicidality, illicit substance use), such that higher levels of religiosity will strengthen these relationships.

Method

Participants

Participants (N = 99) were self-identified gay, lesbian, bisexual, and transgender (LGBT) adults, who were over the age of 18, currently residing in Latin America, and were able to read Spanish. Although the survey was administered in Spanish, individuals from countries within Latin America that have a non-Spanish primary language (e.g., Brazil, Guyana, Suriname, Cayenne) were still allowed to participate as long as they were able to read Spanish. Participants were recruited as part of an online survey study of sexual and gender minority adults in Latin America. In general, participants from the current study tended to be younger (M age = 24.38, SD = 5.97), Upper (42.4%) and Lower (42.2%) Middle Class, residing in Mexico (92.9%), and having a Bachelor's degree (68.7). Additionally, the majority of participants identified as a cisgender man (51%) or cisgender woman (40%), and Gay/Lesbian (75.8%). With respect to relationship status, most participants were not currently in a relationship or dating (32.3%), with 23.2% in a new relationship (< 12 months) with one person, 25.3% in a long-term relationship (> 12 months) with one person, 25.3% in a long-term relationship (> 12 months) with one person, 25.3% in a long-term relationship (> 12 months) with one person, and 19.2% single/in a relationship with more than one person. See Table 1 for more detailed demographic information pertaining to the current sample.

Characteristics	N = 99
Age, M (SD, Range)	24.38 (5.97, 18-50)
Gender, n (%)	
Man	51 (51.5)
Woman	39 (39.4)
Intersex	5 (5.1)
Transman	1 (1.0)
Transwoman	2 (2.0)
Other	1 (1.0)

 Table 1. Sample Characteristics

Sexual Orientation, <i>n</i> (%)	
Bisexual	23 (23.2)
Gay/Lesbian	75 (75.8)
Heterosexual and transgender, intersex	1 (1.0)
or other gender identity	
Education	
Master's degree	5 (5.1)
Bachelor's degree	68 (68.7)
Technical career	13 (13.1)
High school	9 (9.1)
Junior high school	3 (3.0)
Elementary school	1 (1.0)
Country of residence	
Mexico	92 (92.9)
Ecuador	2 (2.0)
Colombia	1 (1.0)
Argentina	1 (1.0)
Paraguay	1 (1.0)
Dominican Republic	1 (1.0)
Relationship Status, <i>n</i> (%)	
Not currently in a relationship or dating	32 (32.3)
In a new relationship (< 12 mo) w/ 1 person	23 (23.2)
In a long-term relationship (> 12 mo) w/ 1 person	25 (25.3)
Single/in a relationship w/ more than 1 person	19 (19.2)
Social Class, <i>n</i> (%)	
Upper: CEOs, politicians	2 (2.0)
Upper Middle: professionals	42 (42.4)
Lower Middle: sales and technical support	42 (42.4)
Upper Lower: clerical, service	11 (11.1)
Lower Lower: part-time, unemployed	2.0 (2.0)

Measures

Consistent with Chapman and Carter's (1979) translating procedures for the crosscultural use of measures, all study measures were translated by a bilingual and bicultural researcher and then back-translated into English by another bilingual and bicultural researcher. If any discrepancies emerged between the back-translated version and original English version, they were addressed mutually. This process was completed by two faculty members at the University of Guadalajara. The only measure that had been validated in Spanish is the Multidimensional Scale of Perceived Social Support (MSPSS; Cobb & Xie, 2015; Edwards, 2004). Edwards (2004) validated this measure with a sample of Mexican adolescents, thus there were concerns that some of the items may not have been developmentally appropriate for use with Latin American adults. The current study was initiated in 2014, thus Cobb and Xie's (2015) version of the instrument, validated in Spanish, was not available. For these reasons, although validated Spanish translations for the MSPSS exist, they were not used in the current study.

Demographics. A demographic form designed by the research team was included in the list of measures administered. Demographic information that was collected, included participants' age, gender identity (man, woman, transgender man, transgender woman, intersex, other), sexual orientation (heterosexual [screen out criterion], "heterosexual AND transgender, intersex, or other gender identity," gay/lesbian, bisexual, other), education level (primary, secondary, preparatory, technical degree, bachelor's degree, master's degree, doctorate), family's social class (lower class [part-time or unemployed], upper lower class [clerical, service], lower middle class [professional support, technical, or sales], upper middle class [professional], lower upper class or upper class [CEO, politician], and country of residence.

LGBT Discrimination. Experiences with LGBT discrimination are were measured using the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006). The scale consists of 14 items, is comprised of three subscales, and measures the frequency of discriminatory experiences occurring within the past year. Participants respond to items on a sixpoint Likert scale ranging from 1 (the event has never happened to the individual) to 6 (the event has occurred almost all of the time [more than 70% of the time]). The Harassment/Rejection subscale taps rejection from friends and family members, as well as verbal insults and harassment due to an individual's sexual or gender minority status. A sample item from this subscale is: "How many times have you been made fun of, picked on, pushed, shoved, hit, or

threatened with harm because you are an LGBT individual?" The Work/school subscale taps discriminatory experiences occurring at work or school, such as unfair treatment by employers, supervisors, or by educators, due to an individual's sexual or gender minority status. A sample item from this subscale is: "How many times were you denied a raise, a promotion, tenure, a good assignment, a job, or other such things at work that you deserved because you are an LGBT individual?" The Other subscale assesses unfair treatment by individuals in helping professions (e.g., medical and mental health providers), in service jobs (e.g., waiters, bartenders, bank tellers), and by strangers, due to one's sexual or gender minority status. A sample item from this subscale is: "How many times have you been treated unfairly by strangers because you are an LGBT individual?" The HHRDS has demonstrated strong internal consistency in Szymanski's (2006) original study conducted with lesbian-identified women residing in the U.S. ($\alpha = .90$; Szymanski, 2006). The subscales in Szymanski's (2006) study also demonstrated acceptable internal consistency: Harassment/rejection ($\alpha = .89$), Work/school ($\alpha = .84$), and Other ($\alpha = .78$). In U.S. samples, this measure has also demonstrated full-scale internal consistency with gay and bisexual men ($\alpha = .91$; Szymanski, 2009) and SMW (lesbian, bisexual, queer, and other nonheterosexual identified women $\alpha = .87$; Friedman & Leaper, 2010). The HHRDS has also been used in studies with transgender adults (Sutter & Perrin, 2016), though internal consistency has not been reported with transgender populations. In the current study, internal consistency for the HHRDS was acceptably high overall ($\alpha = .89$) and across the three subscales: Harassment/rejection ($\alpha = .85$), Work/school ($\alpha = .77$), and Other ($\alpha = .66$). The Work/school

Suicidality. To assess suicidal ideation, the Suicidal Ideation subscale of the Suicide

lower α for each of those subscales.

and Other subscales contain 4 and 3 items, respectively, which likely accounts for the slightly

Behaviors Questionnaire (SBQ-14; Linehan, 1996) was administered to participants. This subscale contains five items and assesses the frequency of past and current suicidal ideation. Its scoring algorithm weights current suicidality more highly than past suicidality in order to more strongly tap the frequency of a respondent's current ideation. Thus the bulk of the score's index of suicidal ideation reflects ideation occurring sometime within the year during which participants complete the survey. A total score is calculated whereby higher scores indicate greater suicidal ideation. The SBQ-14 is one of the most common measures of suicidality and has demonstrated good internal consistency ($\alpha = .90$) in a primarily Caucasian sample of over 600 adults ages 18-24 (O'Riley & Fiske, 2012), as well as good internal consistency in its initial validation (r = .73-.92; Addis & Linehan, 1989). In the current sample, the SBQ had an acceptably high $\alpha = .87$.

Mental Health. The Hopkins Symptom Checklist-25 (HSCL-25; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) was used to assess the presence and severity of anxiety and depression symptoms. The HSCL-25 is a 25-item self-report questionnaire, comprised of a 15item Depression subscale and a 10-item Anxiety subscale. On this measure, individuals are asked to indicate how often each symptom has been bothersome or distressing over the past week. Responses range from 1 ("not at all") to 4 ("extremely"), with higher scores indicating more severe symptomatology. A sample item from the Anxiety subscale is: "Feeling tense or keyed up." An item from the Depression subscale is "Blaming yourself for things." In the current study, item 6 of the HSCL-25 was inadvertently omitted from the survey when putting the scale into the online survey software. Item 6 is part of the Anxiety Subscale and reads: "Trembling." To address this issue, linear interpolation was used, whereby the last value before the missing value and the first value following the missing value were averaged to provide an estimate of the

missing value for each participant's item score. Construct validity has been demonstrated by correlating the HSCL-25 with medical doctors' global assessment of psychological distress and other measures of emotional symptoms, and it has been used in a sample of same-sex couples. Given that the Depression subscale includes an item of suicidal ideation, which would significantly overlapped with the suicidal ideation outcome variable (r = .595, p < .001), this item was removed from the calculation of the subscales and total score, and this item was not used in calculating internal consistency of the total score or Depression subscale. Internal consistency was found to be good in the current sample across the total scale ($\alpha = .92$), as well as the Anxiety ($\alpha = .87$) and Depression ($\alpha = .90$) subscales.

Illicit substance use. To assess illicit substance use, the following researcher-created question was asked of participants: "Please check how much you have used the following in the past three months." Participants answered this question in regards to several illicit substances, including marijuana, poppers, ecstasy, methamphetamine, cocaine, ketamine, rohypnol, GHB, heroin, and "Any other recreational drug." Participants responded on a four-point scale ranging from 1 ("none") to 4 ("at least every week") how often they have used a substance in the past three months. The number of "yes" responses were summed to calculate an overall illicit substance use score. Because of this summation process, Cronbach's α was not deemed to be accurate and therefore not calculated.

Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is 12-item measure used in the current study to assess degree of social support across three dimensions, including Social Support from Family, Social Support from Friends, and Social Support from a Significant Other. Individuals were asked to indicate on a five-point scale ranging from 1 ("Strongly Agree") to 5 ("Strongly Disagree") the

extent to which they agree with each of several statements. Higher scores on each subscale indicate greater perceived social support. A sample item from the Social Support from Family dimension is: "My family tries to help me." An item from the Social Support from Friends subscale is: "I can talk about my problems with my friends," and a sample item from the Social Support from a Significant Other dimension is: "There is a special person with whom I can share my joys and sorrows." Prior research has shown the MSPSS to have strong internal consistency ($\alpha = .88$) for the overall scale and high subscale alphas (α 's = .85-.91), as well as good construct validity (Zimet, Dahlem, Zimet, & Farley, 1988). As noted above, the MSPSS has also been validated in Spanish, with a sample of undocumented Hispanic immigrants (Cobb & Xie, 2015), although this is a different version from that used in the current study. Internal consistency for the Spanish version was demonstrated by the authors across all three social support subscales (Friends $\alpha = .88$; Family $\alpha = .91$; Significant Other $\alpha = .88$). In the current sample, internal consistency was found to be strong across the total scale as well as subscales: Total scale $\alpha = .92$, Friends $\alpha = .95$, Family $\alpha = .91$, and Significant Other $\alpha = .96$.

Religiosity. The Religious Commitment Inventory-10 (RCI-10; Worthington et al., 2003) was used to assess level of religiosity in participants. The RCI-10 is comprised of 10 items, and maps to two subscales, including Intrapersonal and Interpersonal subscales. Individuals were asked to indicate the extent of their agreement with each of several statements on a five-point scale ranging from 1 ("not at all") to 4 ("totally"). A sample item from the Intrapersonal subscale is: "It is important to me to spend periods of time in private religious thought and reflection." A sample item from the Interpersonal subscale is: "I enjoy spending time with others of my religious affiliation." The overall scale has demonstrated construct, criterion, and concurrent validity with U.S. samples of adults with a variety of religious backgrounds. Additionally, the

RCI-10 has demonstrated strong internal consistency ($\alpha = .98$; Worthington et al., 2003). The current study also demonstrated acceptable internal consistency across the total score ($\alpha = .84$) as well as Interpersonal ($\alpha = .88$) and Intrapersonal ($\alpha = .70$) subscales.

Procedure

This study was fully completed online and is cross-sectional in nature. Given that sexual minorities generally, and those in some Latin American countries specifically, represent an extremely difficult-to-reach population, a chain-type online snowball sampling method was employed in order to recruit participants. Several measures were taken by the research team to facilitate recruitment, and weekly recruitment meetings were held to assess the effectiveness of recruitment efforts employed. Firstly, members of the research team traveled internationally within Latin America generally, and to metropolitan areas of Mexico and Colombia specifically, building partnerships with other professionals invested in improving the overall well-being of sexual minorities in Latin America. These individuals came from a variety of disciplines, including psychology, psychiatry, primary care medicine, and public health, and are stakeholders in the LGBT community in Latin America. In building working relationships with Latin American colleagues, the research team was also introduced to several other stakeholders in Latin America (e.g., directors of non-profit organizations aimed at stenting HIV transmission), and regularly communicated via email and Skype to build remote partnerships with individuals from these organizations, discuss study details, and invite these organizations to assist with recruitment for the study. If these organizations indicated interest in assisting with recruitment, the contact person from the organization was provided with a short description of the study, including topical information germane to the study as well as duration of the study survey, which

contains a link to the study's online survey. This description was approved Virginia Commonwealth University's (VCU) Institutional Review Board (IRB).

Secondly, the research team compiled a list of LGBT organizations largely procured from the internet (e.g., Asociación Hombres y Mujeres Nuevos de Panamá; Acción Gay), across disparate Latin American countries, with an attempt to oversample (i.e., compile greater resources) from less developed Latin American countries (e.g., Ecuador, Guatemala), in order to maximize the diversity of the sample with respect to country of residence. These organizations were contacted by the research team systematically via email, and information as to the outcome of these contact efforts were logged in a spreadsheet (i.e., date of first contact, outcome of contact). Emails sent to organizations were templated to ensure consistency across research team members, and likewise included the VCU IRB-approved research description. Although research team members used their individual VCU email accounts to contact organizations, any contact with a potential participant (e.g., if an individual learns of the study through an organization and contacted the research team member via their individual VCU email account), was done through a gmail account (<u>lgbtSalud@gmail.com</u>) created for the study, in an effort to ensure confidentiality of participants.

Thirdly, the research team compiled a list of social media resources across Latin American countries, again attempting to oversample less-developed countries in this region. These resources included social media outlets such as Facebook pages, online support groups, tourism websites, and internet forums, targeting LGBT adults in Latin America. A VCU IRBapproved study flyer, including a link to the study survey, was posted to each social media outlet. Within this description was an invitation to contact either the study team via the study's gmail

account or the principal investigator of the study, Dr. Paul Perrin, if potential participants or social media outlet moderators had questions or concerns.

The overall study was advertised as a project to empower and give voice to the LGBT community by completing a survey interested in the well-being of LGBT adults residing in Latin America. Once a potential participant opened the online survey study, a consent form detailing the study purpose, costs and benefits to participation, and confidentiality information, populated. Potential participants had to provide informed consent on this page before continuing on to the study survey. To protect the confidentiality of participants, each participant was automatically assigned a participant ID following informed consent. Additionally, only the PI (Dr. Paul Perrin) and the study coordinator had access to these ID numbers. No other identifying information was provided to the research team by study participants. The study survey took approximately 45 minutes to complete.

Data Analysis Plan

Preliminary Analyses. Prior to conducting the primary statistical analyses to assess the study's hypotheses, descriptive statistics (i.e., means, standard deviations, frequencies, and percentages) of participants' mental health, suicidality, level of social support, and level of religiosity were computed. Based on the clinical cutoff scores empirically derived by scale developers, the percentage of participants that report clinically significant scores on the HSCL-25 total scale as well as Anxiety and Depression subscales were reported.

Normality tests (i.e., skewness and kurtosis) were conducted to determine whether the scales and subscales are normally distributed. Critical values of 2.0 were used to identify variables that were skewed or kurtotic. Transformation of data were where appropriate to correct

abnormal distributions, and data were checked for multicollinearity via correlation coefficients among all independent variables (with a goal r < .70 among all predictors).

To examine bivariate correlations among discrimination experiences, depression symptoms, anxiety symptoms, suicidal ideation, illicit substance use (total number of substances used), social support, and religiosity, a correlation matrix were created.

Primary Analyses. In order to identify the patterns of connections among discrimination, mental health, suicidal ideation, and illicit substance use in sexual and gender minority adults from Latin America, a series of simultaneous multiple regressions were performed. The first and second regressions included the three subscales of the HHRDS (Harassment/Rejection, Work/School, and Other) as predictor variables and suicidal ideation and illicit substance use as separate criterion variables. The third regression included the three subscales of the HHRDS regressed onto the total score of the HSCL-25 (Anxiety and Depression subscales combined) as the criterion variable. The fourth and fifth regressions regressed the subscales of the HSCL-25 onto both suicidal ideation and illicit substance use.

Two meditational models were developed using the PROCESS macro, Version 2.13 (Hayes, 2014) to combine patterns of relationships that emerged among the primary variables under scrutiny in the prior series of regressions, whereby the strongest unique predictors from the regressions were chosen for the mediational models. Given the pattern of findings that emerged from the primary analyses, illicit substance use was not included in subsequent models, as neither mental health nor discrimination predicted this variable. Because only the Work/School subscale of the HHRDS uniquely predicted mental health, and only the Harassment/Rejection subscale of the HHRDS uniquely predicted suicidal ideation (see Results section), separate mediational models were run testing Work/School discrimination to suicidal ideation through

depression symptoms and Harassment/Rejection discrimination to suicidal ideation through depression symptoms (Figures 1-2).



Figure 2. Depression as a mediator of the relationship between Harassment/Rejection discrimination and suicidal ideation.

Subsequently, these two meditational models were each expanded to moderated mediations (producing six moderated mediation models) with the PROCESS macro. The two mediations (for Work/School discrimination and Harassment/Rejection discrimination as predictors and suicidal ideation as the criterion variable) were examined differentially as a function of participants' level of social support, as well as their level of Intrapersonal Religiosity

and Interpersonal Religiosity respectively (Figure 3-8).



Figure 3. Social support as a moderator of the relationships among Work/School discrimination depression and suicidal ideation.



Figure 4. Intrapersonal Religiosity as a moderator of the relationships among Work/School discrimination, depression, and suicidal ideation.



Figure 5. Interpersonal Religiosity as a moderator the relationships among Work/School discrimination, depression, and suicidal ideation.



Figure 6. Social support as a moderator of the relationships among Harassment/Rejection discrimination, depression, and suicidal ideation.



Figure 7. Intrapersonal Religiosity as a moderator of the relationships among Harassment/Rejection discrimination, depression, and suicidal ideation.



Figure 8. Interpersonal Religiosity as a moderator of the relationships among Harassment/Rejection discrimination, depression, and suicidal ideation.

Power analysis. A power analysis was performed using G*Power 3. An estimated medium effect size of Cohen's $f^2 = .15$ was used to determine the sample size needed for the largest power requirement in the Hayes PROCESS Macro (a moderated mediation, which contained three possible main effects and two interaction terms, with one dependent variable). With 80% power (1 - β), a sample size of 92 participants is needed in order to detect a medium-sized effect in this analysis. As a result, the current sample size of 99 has enough power to detect all medium-sized effects and some small-sized effects.

Results

Preliminary Analyses

Data cleaning. Prior to conducting preliminary and primary data analyses, a multi-step data checking and cleaning process was carried out. Given that the survey forced participants to provide responses to each question prior to continuing on to subsequent questions, there were no missing data. Data were checked for inaccurate responding to the qualitative attention-check item ("Write a brief description of what you think the purpose of this study is [one or two sentences]"). All participants had an intelligible answer to this question (e.g., did not have gibberish responses and either said what they thought about the study or what its purpose was). All participants' responses to survey questions were thoroughly screened to determine whether any participants had provided infeasible responses to questions throughout the survey (e.g., selecting the first response on every or most items) or appeared to respond at random. All participants' responses generally appeared to be free of questionable patterns.

Normality and multicollinearity assumptions. Normality tests (i.e., skewness and kurtosis) were conducted to determine whether the scales and subscales were normally distributed. Critical values of 2.0 were used to identify variables that were skewed or kurtotic (see Table 2).

Variables		
Variable	Skewness	Kurtosis
H/R Discrimination	.82	.28
W/S Discrimination	1.93	5.0
Other Discrimination	.01	.012
Suicidal Ideation	3.91	18.25
SS Family	71	0.12
SS Friends	-1.65	3.05
SS Significant Other	-1.42	1.26
Intra-religiosity	1.92	4.12
Inter-religiosity	3.18	9.65

Table 2. Skewness and Kurtosis Statistics for Study Variables

Depression	1.28	1.6
Anxiety	.85	.69
Substance Use	2.1	4.55

Note. H/R = harassment/rejection. W/S = work/school. SS = social support.

Although variables generally were either below or slightly above the 2.0 value cutoff in terms of skewness, three variables were very kurtotic: suicidal ideation, illicit substance use, and the Interpersonal Religiosity subscale of the RCI-10. Transformation of the data was considered to correct abnormal distributions, but was ultimately decided against for several reasons. Suicidal ideation, substance, and Interpersonal Religiosity were each dichotomized, and a correlation matrix was created with all variables, including both the dichotomized and non-dichotomized variables that had abnormal distributions (See Table 3).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Harassment/Rejection														
2. Work/School	.601**													
3. Other	.711**	.491**												
4. SS Family	211*	040	033											
5. SS Friends	.046	.019	.003	.434**										
6. SS Significant Other	.163	.106	.095	.430**	.582**									
7. Intra-religiosity	.087	.001	.030	.006	.040	.061								
8. Inter-religiosity	.018	.058	035	044	082	019	.669**							
9. Inter-Religiosity (D)	.042	016	005	018	056	069	.562**	.730**						
10. Suicidal Ideation	.295**	.286**	.090	267**	108	099	062	052	.013					
11. Suicidal ideation (D)	.308**	.224*	.223*	157	.097	067	.076	.009	066	.428**				
12. Substance Use	044	.043	.134	.071	.054	.058	117	143	148	-0.091	-0.133			
13. Substance Use (D)	069	.006	.119	.020	028	049	119	172	148	-0.098	-0.045	.756**		
14. Depression	.296**	.392**	.179	273**	070	.025	.055	.076	020	.540**	.283**	029	.011	
15. Anxiety	.291**	.332**	.144	237*	099	.061	.037	.133	.022	.221*	.119	056	.000	.586**

 Table 3. Overall Correlation Matrix

Note. Harassment/Rejection = harassment/rejection discrimination. Work/School = work/school discrimination. Other = other discrimination. SS = social support. Intra-Religiosity = intrapersonal religiosity. Inter-Religiosity = interpersonal religiosity. D = dichotomized. *p < .05. **p < .01.

Correlation coefficients of dichotomized and non-dichotomized variables were compared to assess whether dichotomization of the variables resulted in different relationships among variables. In regards to illicit substance use and Interpersonal Religiosity, neither the dichotomized nor the continuous illicit substance use variables was significantly correlated with mental health, suicidal ideation, or social support variables, and the magnitude of relationships (though all statistically insignificant at the p = .05 level) did not change substantially as a result of dichotomizing the illicit substance use variable. Within the current study's sample, 48% of participants reported not having SI, two participants reported very high levels of SI, and over 40% of the sample reported experiencing some SI to varying degrees of severity. Dichotomizing the suicidal ideation variable would have likely resulted in failure to capture the variability in levels of SI. Additionally, a correlation matrix to examine bivariate relationships between demographic variables (age, social class, education level) and discrimination, social support, religiosity, anxiety and depression symptoms, and suicidal ideation (See Table 4).

Table 4. Correlation Mainix with Demographic Variables						
Variable	Age	Social Class	Education			
Harassment Rejection						
Discrimination	-0.027	0.103	-0.118			
Work/School Discrimination	0.13	0.116	-0.026			
Other Discrimination	-0.011	0.068	-0.15			
Social Support	-0.181	.217*	-0.068			
Intrapersonal Religiosity	-0.005	0.021	-0.154			
Interpersonal Religiosity	-0.119	0.065	0.03			
Anxiety	-0.132	0.005	-0.023			
Depression	-0.004	-0.006	0.085			
Substance Use	.257*	0.057	0.138			
Suicidal Ideation	0.001	-0.054	0.075			

Table 4. Correlation Matrix with Demographic Variables

Note. **p* < .05.

Data were checked for multicollinearity via correlation coefficients among all independent variables (with a goal r < .70 among all predictors), and only the

Harassment/Rejection and Other subscales of the HHRDS were correlated above this threshold (r = .711, p < .01). The Work/School and Harassment/Rejection subscales of the HHRDS approached this threshold (r = .601, p < .01).

The Harassment/Rejection and Work/School subscales of the HHRDS were positively correlated with anxiety symptoms, depression symptoms, and suicidal ideation. The Other subscale of the HHRDS was not associated with anxiety or depression symptoms, although it was positively associated with suicidal ideation (when this variable was dichotomized). The Harassment/Rejection subscale was negatively correlated with social support from family. Social Support from Family was negatively associated with anxiety symptoms, depression symptoms, and suicidal ideation. Neither Social Support from Friends nor Social Support from a Significant Other was correlated with any mental health variable or discrimination subscale. Anxiety and depression symptoms were positively correlated, as were depression symptoms and suicidal ideation, and anxiety and suicidal ideation. Neither subscale of the RCI-10 was correlated with the mental health variables (anxiety and depression symptoms, suicidal ideation) or with discrimination subscales. Substance use was not correlated with any other variable examined.

Outliers. To further examine the data, the database was checked for univariate and multivariate outliers. To assess for univariate outliers, the total scale scores and subscales scores of the HSCL-25, HHRDS, SBQ-14, MSPSS, and RCI-10 were converted to *z*-scores, and a cutoff point of 3.0 was used to identify univariate outliers. Given that univariate outliers were few (approximately 1% or 2% of the total sample), and were not very extreme (nearly all below 5.0), consistent with Cohen et al. (2003), all data at this step were retained.

In order to identify multivariate outliers, Mahalanobis distance (D^2) , that is, the multivariate distance between each case and the group multivariate centroid (mean), was

computed. With twelve degrees of freedom and at $\alpha = .001$, the critical value for detecting multivariate outliers was \pm 32.91. Three multivariate outliers were identified, with the following critical values: 54.0, 39.7, and 36.4. The respective participants' responses to survey questions were comprehensively reviewed once more and were determined to be non-random and although extreme, generally consistent with expected patterns. For example, the participant with the largest Mahalanobis distance had an extremely high depression symptom score and also an extremely high suicidal ideation score, consistent with what would be an expected pattern. Because of these three multivariate outliers generally falling in line with expected patterns and appearing not to have random or problematic data, their scores were retained.

Descriptive statistics. The descriptive statistics (i.e., means, standard deviations) of participants' mental health, suicidal ideation, level of social support, level of religiosity, level of discrimination, and illicit substance use appear in Table 5.

Variable	Mean (SD)	Range
Work/School Discrimination	1.48 (.63)	1-4.5
Harassment/Rejection Discrimination	2.41 (.98)	1-5.29
Other Discrimination	1.82 (.78)	1-3.67
Social Support Family	14.56(4.43)	4-20
Social Support Friends	17.05 (3.64)	4-20
Social Support Significant Other	16.60 (4.39)	4-20
Intrapersonal Religiosity	8.75 (3.70)	6-24
Interpersonal Religiosity	4.91 (2.51)	0-16
Depression	.56 (.53)	0-2.43
Anxiety	.54 (.47)	0-2.25
Substance Use	.97 (1.60)	0-8.0
Suicidal Ideation	4.21 (9.60)	0-61

Table 5. Means and Standard Deviations for Study Variables.

Based on the subscale clinical cutoff item average of 1.75 for the HSCL-25 (Mollica, Wyshak, de Marneffe, Khuon, & Lavelle, 1987), 5% of the sample met or surpassed the threshold for clinically significant depression symptoms, and 3% for anxiety symptoms. In
regards to mental health, participants in the current study reported considerably lower rates of depression and anxiety symptoms relative to samples of LGBT adults from the U.S. (Depression M = .94, SD = .63; Anxiety M = .79, SD = .55; Sutter & Perrin, 2016). Additionally, participants from this study reported significantly lower levels of religiosity across the Interpersonal and Intrapersonal subscales relative to the means derived from adult populations in the U.S. (Worthington et al., 2012). In Worthington and colleagues' (2012) study sampling over 2,000 adults from various backgrounds and religious denominations, among the most nonreligious were university students (Intrapersonal subscale M = 14.4, SD = 6.7; Interpersonal subscale M = 8.8, SD = 4.3), while the most religious individuals were therapists of Christian agencies (Intrapersonal subscale M = 28.5, SD = 1.8; Interpersonal subscale M = 17.4, SD = 3.0). Thus, the present study's sample of LGBT adults from Latin America reported mean levels of religiosity substantially below nonreligious U.S. adults. Of note, no other study to the author's knowledge has administered the RCI-10 with LGBT populations.

In the current sample, the majority of participants (60.6%) reported not using any illicit substance within the past three months, while 39.4% had used at least one substance in that time frame. The most common substance that participants reported using was Marijuana (31.3%) followed by Poppers (13.1%), Other Recreational Drugs (6.1%), Ecstasy (5.1%), and Cocaine (4.0%). The research on illicit substance use among LGBT adult populations in the U.S. has typically examined the prevalence of substance use disorders (as opposed to substance use; McCabe et al., 2010), measured illicit drug use over the past year (Lehavot & Simoni, 2011), or solely examined the use of specific substances such as alcohol (Hatzenbuehler, Corbin, & Fromme, 2008). Thus, literature against which to compare the present study's findings is limited. However, Drazdowski and colleagues (2016) assessed illicit substance use over the past three

months in a sample of LGBTQ people of color in the U.S., and rates of illicit substance use in the previous sample tend to be higher than in the current sample, with 42% reporting Marijuana use, 11.5% Poppers, 11.5% Ecstasy, and 12.5% reporting Cocaine use over the past three months. Not only are rates of illicit substance use higher in the U.S. sample, but other substances appear to be prominent, as 7.5% of participants reported having used Methamphetamine and 4% reported using Heroin. Individuals in the present sample reported very low levels of suicidal ideation compared to other samples of sexual minority adults in the U.S. (M = 9.84, SD = 16.75; Trujillo, 2015; M = 8.91, SD = 15.39; Rabinovitch et al., 2015), with 51.5% of the sample reporting any lifetime suicidal ideation.

Participants in the current study reported levels of social support across the Significant Other (M = 17.05, SD = 3.64), Friends (M = 17.05, SD = 3.64), and Family (M = 14.56, SD = 4.43) subscales of the MSPSS that were comparable to those found among samples of SMW in the U.S. (Family M = 12.71, SD = 4.89; Friends M = 15.97, SD = 3.51; Significant Other M = 16, SD = 4.54; Tabaac et al., 2016). Likewise, the current study reported considerably lower levels of total social support (M = 48.20, SD = 10.08) relative to a sample of cisgender LGB adults in the U.S. (M for men = 60.14, SD = 14.01; M for women = 66.36, SD = 10.45; Potoczniak, Aldea, & DeBlaere, 2007).

Results appear to be mixed in comparing levels of discrimination reported by participants in the current study to samples of LGBT adults in the U.S. Rates of Other and Work/School discrimination in the current study were comparable on two types of discrimination reported in Szymanski's (2006) sample of predominantly White and well-educated lesbian adults residing in the U.S. (Other M = 1.82, SD = .85; Work/School M = 1.50, SD = .82), whereas rates of Harassment/Rejection discrimination reported in the current sample were higher relative to

Szymanski's (2006) sample (M = 1.64, SD = .89). In comparing levels of discrimination from the present study's sample to a sample of LGBT people of color in the U.S., rates of all three types of discrimination in the present study (Harassment/Rejection M = 2.60, SD = .94; Work/School M = 1.96, SD = .85; and Other M = 2.37, SD = 1.08; Sutter & Perrin, 2016) were lower.

Primary Analyses

Regressions. In order to identify the patterns of connections among discrimination, mental health, suicidal ideation, and illicit substance use in sexual and gender minority adults from Latin America, a series of simultaneous multiple regressions was performed using SPSS Software Package, Version 24. In the first multiple regression with all three HHRDS subscales entered as predictors and suicidal ideation entered as an outcome variable, the overall model was significant, and explained 37.5% of the variance in suicidal ideation [F(3, 95) = 5.18, p = .002]. When considering each subscale of the HHRDS separately, only the Harassment/Rejection subscale uniquely predicted suicidal ideation ($\beta = .367, p = .015$), while the Work/School ($\beta = .197, p = .103$), and Other ($\beta = -.267, p = .053$) subscales did not.

In the second multiple regression with all three of the HHRDS subscales entered as predictor variables, and illicit substance use entered as the outcome variable, the overall model was not significant but accounted for 6.1% of the variance in illicit substance use [F(3, 95) = 2.05, p = .112], and as a result the individual beta weights will not be interpreted.

In the third multiple regression analysis with the three HHRDS subscales as predictor variables, and the total score of the HSCL-25 (Anxiety and Depression subscales combined) entered as the outcome variable, the overall model was significant, accounting for 19.0% of the variance in mental health [F(3, 95) = 7.40, p < .001]. Within this model, only the Work/School

subscale uniquely predicted mental health problems ($\beta = .349, p = .003$), while the Harassment/Rejection ($\beta = .221, p = .129$) and Other ($\beta = -.144, p = .279$) subscales did not.

In the fourth and fifth multiple regressions, the Anxiety and Depression subscales of the HSCL-25 were entered as predictor variables, and suicidal ideation and illicit substance use were entered as separate criterion variables. The fourth model was significant, with anxiety and depression symptoms accounting for 30.6% of the variance in suicidal ideation, [F(2, 96) = 21.13, p < .001], and depression symptoms ($\beta = .625, p < .001$), but not anxiety symptoms ($\beta = .145, p = .170$), predicted suicidal ideation. The fifth model was not significant, as anxiety and depression symptoms failed to predict illicit substance use [F(2, 96) = .150, p = .861]. Accordingly, the beta weights for the fifth model will not be interpreted.

Mediations. Two meditational models were conducted using the Hayes PROCESS macro to examine patterns of relationships that emerged among the primary variables under scrutiny in the prior series of regressions, whereby the strongest unique predictor from the regressions was chosen for the mediational models. In these models, the most highly predictive index of discrimination was specified to lead to the most highly predictive index of symptoms of anxiety/depression, which was then specified to lead to suicidal ideation (Figure 1). Because discrimination and mental health were not significant predictors of illicit substance use in the regressions, no mediational (or moderated mediation) models were run for this outcome.

In the multiple regressions, the Harassment/Rejection subscale of discrimination was the strongest predictor of suicidal ideation and the Work/School subscale of discrimination was the strongest predictor of mental health problems (Anxiety and Depression subscales combined). Depression symptoms was the strongest predictor of suicidal ideation. Two mediation models were run to examine relationships among discrimination, depression symptoms, and suicidal

ideation. In the first simple mediation model (Figure 9), Work/School discrimination was specified to have a direct effect on suicidal ideation, as well as an indirect effect through depression symptoms (Figure 9), using 5000 bootstrap samples. The direct paths from Work/School discrimination to depression symptoms (b = .33, p < .001) and from depression symptoms to suicidal ideation (b = 9.21, p < .001) were both statistically significant. Further, the indirect effect of Work/School discrimination on suicidal ideation through depression symptoms was statistically significant (b = 3.04, 95% CI [.94, 7.33]), indicating a full mediation because the direct path from Work/School discrimination to suicidal ideation (c' path) was not statistically significant in the model (b = 1.36, p = .344).



Note. The c path represents the total effect of Work/School Discrimination on Suicidal Ideation. The c' path represents the effect of Work/School Discrimination on Suicidal Ideation after controlling for Depression.

Figure 9. Statistical representation of depression symptoms as a mediator of the relationship between Work/School discrimination and suicidal ideation.

In the second simple mediation model (Figure 10), Harassment/Rejection discrimination was specified to have a direct effect on suicidal ideation, as well as an indirect effect through depression symptoms, using 5000 bootstrap samples. The direct paths from Harassment/Rejection discrimination to depression symptoms (b = .16, p = .003) and from depression symptoms to suicidal ideation (b = 9.04, p < .001) were both statistically significant. Further, the indirect effect of Harassment/Rejection discrimination on suicidal ideation through depression symptoms was statistically significant (b = 1.46, 95% CI [.29, 3.90]), indicating a full mediation because the direct path from Harassment/Rejection discrimination to suicidal ideation (c' path) was not statistically significant in the model (b = 1.46, p = .098).



Note. The c path represents the total effect of Harassment/Rejection Discrimination on Suicidal Ideation. The c' path represents the effect of Harassment/Rejection Discrimination on Suicidal Ideation after controlling for Depression.

Figure 10. Statistical representation of depression as a mediator of the relationship between Harassment/Rejection discrimination and suicidal ideation.

Follow-up analyses were conducted to examine whether the two mediation models (for Work/School and Harassment/Rejection discrimination) presented above were moderated by participants' levels of social support, Interpersonal Religiosity and Intrapersonal Religiosity. Thus, the two meditational models were each expanded to moderated mediations (producing six moderated mediation models) with the PROCESS macro.

Moderated mediation: Work/School as predictor and social support as moderator.

In order to determine whether the mediational effect from Work/School discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of social support (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) = 11.43, p < .001, $R^2 = .38$. Table 6

presents the *b*-weights, standard errors, *p*-values and 95% bias-correct bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Work/School discrimination to depression (a path) when social support was included in the model (b = .35, p < .001). Social support was not associated with depression symptoms (b = -.01, p = .09). The Work/School discrimination x social support interaction with depression symptoms as the criterion variable was not significant (b = -.02, p =.057). There was also a direct effect of depression symptoms (b path), which positively associated with suicidal ideation (b = 7.68, p < .001) when social support was included in the model. Work/School discrimination was not significant (c' path) when social support was included in the model (b = 2.05, p = .146). The interaction between depression symptoms x social support was not significant (b = -.23, p = .189), while Work/School x social support was significant (b = -.39, p = .022).

 Table 6. Model Summary for the Association between Work/School Discrimination and Suicidal Ideation

 through Depression by Social Support (N = 99).

 0.52(Discrimination and Suicidal Ideation)

	Estimate (SE)	bootstrap confidence interval
	Social Support	
Model 1: DV = Depression		
Work/School (a path)	.35 (.08)**	.11 to .50
Social Support	01 (.00)	02 to .00
Work/School × Social Support	02 (0.01)+	04 to .00
R^2	0.21***	
Model 2: DV = Suicidal Ideation		
Depression (b path)	7.68 (1.68)**	4.35 to 11.01
Work/School (c' path)	2.05 (1.40)	72 to 4.82
Social Support	15 (0.08)	31 to 0.01
Depression × Social Support	23 (.17)	58 to .12
Work/School × Social Support R^2	39 (.17)* 0.38**	73 to06

Note. 5000 bootstrap samples. DV = dependent variable. Work/School = work/school discrimination. p < .05. p < .001. p < .10.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (social support). There were conditional direct effects of Work/School discrimination onto suicidal ideation by social support (Table 7). Specifically, experiences of Work/School discrimination led to suicidal ideation when social support was low $(10^{th} - 25^{th} \text{ percentile})$, but not when social support was moderate to high $(50^{th} - 90^{th} \text{ percentile})$. A conditional indirect effect of Work/School onto suicidal ideation through depression symptoms was also observed: depression symptoms was a significant mediator of Work/School discrimination in predicting suicidal ideation when social support was low to somewhat high $(10^{th} - 75^{th} \text{ percentile})$, but not when social support was high $(90^{th} \text{ percentile})$; Table 8).

Table 7. Conditional Direct Effects of Work/School Discrimination on Suicidal Ideation at Levels of Social Support (N = 99)

Social Support			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	7.61*	3.0	1.67 to 13.56
25 th	4.50*	1.90	.71 to 8.24
50 th	1.74	1.40	-1.0 to 4.5
75 th	-1.00	1.73	-4.44 to 2.42
90 th	-2.57	2.20	-6.95 to 1.80

Note. *Effects are considered statistically significant if the p value is < .05 and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

Table 8. Conditional Indirect Effects of Work/School Discrimination on Suicidal Ideation at Levels of Social Support (N = 99)

Social Support			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	6.76*	4.53	1.28 to 19.86
25 th	4.25*	2.38	1.16 to 10.62
50 th	2.51*	1.22	.78 to 5.79
75 th	1.19*	.83	.15 to 3.91
90 th	.63	.81	31 to 3.52

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

This pattern of findings is reflective of a moderated mediation. Specifically, depression symptoms mediated the effect of Work/School discrimination on suicidal ideation when participants had low to somewhat high levels of social support (10th - 75th percentile), but not when participants had high levels of social support (90th percentile). Further, this mediational effect decreased linearly as social support increased.

Moderated mediation: Work/School as predictor and Intrapersonal Religiosity as moderator. In order to determine whether the mediational effect from Work/School discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of Intrapersonal Religiosity (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) =8.34, p < .001, $R^2 = .31$. Table 9 presents the *b*-weights, standard errors, *p*-values and 95% biascorrect bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Work/School discrimination to depression symptoms (a path) when Intrapersonal Religiosity was included in the model (b = .32, p < .001). Intrapersonal Religiosity was not associated with depression symptoms (b = .01, p =.493). The Work/School discrimination x Intrapersonal Religiosity with depression symptoms as the criterion variable was not significant (b = -.03, p = .180). There was also a direct effect of depression symptoms (b path), which was positively associated with suicidal ideation (b = 9.48, p < .001) when Intrapersonal Religiosity was included in the model. Work/School discrimination was not significant (c' path) when Religiosity was included in the model (b = 1.10, p = .462). The interaction between depression symptoms x Intrapersonal Religiosity was not significant (b = -.21, p = .584), nor was Work/School x Intrapersonal Religiosity (b = -.13, p = .725).

	Estimate (SE)	95% Bias- corrected bootstrap confidence interval
Intra	personal Keligiosity	
Model 1: $DV = Depression$		
Work/School (a path)	.32 (.08)**	.16 to .48
Intrapersonal Religiosity	.01 (.01)	02 to .04
Work/School × Intrapersonal Religiosity	03 (0.02)	07 to .01
R^2	0.42**	
Model 2: DV = Suicidal Ideation		
Depression (b path)	9.48 (1.78)**	5.94 to 13.01
Work/School (c' path)	1.10 (1.48)	1.85 to 4.04
Intrapersonal Religiosity	21 (.23)	66 to .24
Depression × Intrapersonal Religiosity	21 (.38)	95 to .54
Work/School × Intrapersonal Religiosity	13 (.37)	86 to .60
R^2	0.31**	

Table 9. Model Summary for the Association between Work/School Discrimination and Suicidal Ideation through Depression by Intrapersonal Religiosity (N = 99).

Note. 5000 boostrap samples. DV = dependent variable. Work/School = work/school discrimination. **p < .001.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (Intrapersonal Religiosity). There were not conditional direct effects of Work/School discrimination onto suicidal ideation by Intrapersonal Religiosity (Table 10). Specifically, experiences of Work/School discrimination did not lead to suicidal ideation at any level of Intrapersonal Religiosity for participants. A conditional indirect effect of Work/School onto suicidal ideation through depression symptoms was observed: depression symptoms was a significant mediator of Work/School discrimination in predicting suicidal ideation when Intrapersonal Religiosity was low to somewhat high (10th – 75th percentile), but not when Intrapersonal Religiosity was high (90th percentile; Table 11).

Intrapersonal			
Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	1.45	1.73	-1.99 to 4.89
25^{th}	1.45	1.73	-1.99 to 4.89
50 th	1.32	1.57	-1.80 to 4.45
75 th	.93	1.59	-2.22 to 4.08
90 th	.67	1.97	-3.24 to 4.59

Table 10. Conditional Direct Effects of Work/School Discrimination on Suicidal Ideation at Levels of Intrapersonal Religiosity (N = 99)

Note. *Effects are considered statistically significant if the p value is < .05 and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

Table 11. Conditional Indirect Effects of Work/School Discrimination on Suicidal Ideation at Levels of Intrapersonal Religiosity (N = 99)

Intrapersonal Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	3.97*	1.57	1.63 to 8.39
25 th	3.97*	1.57	1.63 to 8.39
50 th	3.61*	1.53	1.36 to 7.76
75 th	2.57*	1.96	.34 to 8.60
90 th	1.94	2.51	48 to 11.38

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

This pattern of findings is reflective of a moderated mediation. Specifically, depression symptoms mediated the effect of Work/School discrimination on suicidal ideation when participants had low to somewhat high levels of Intrapersonal Religiosity (10th - 75th percentile), but not when participants had high levels of Intrapersonal Religiosity (90th percentile). Further, this mediational effect decreased linearly as Intrapersonal Religiosity increased.

Moderated mediation: Work/School as predictor and Interpersonal Religiosity as

moderator. In order to determine whether the mediational effect from Work/School discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of Interpersonal Religiosity (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) =

8.88, p < .001, $R^2 = .32$. Table 12 presents the *b*-weights, standard errors, *p*-values and 95% biascorrect bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Work/School discrimination to depression symptoms (a path) when Interpersonal Religiosity was included in the model (b = .32, p < .001). Interpersonal Religiosity was not associated with depression symptoms (b = .01, p = .723). The Work/School discrimination x Interpersonal Religiosity with depression symptoms as the criterion variable was not significant (b = .01, p = .560). There was also a direct effect of depression symptoms (b path), which positively associated with suicidal ideation (b = 9.62, p < .001) when Interpersonal Religiosity was included in the model. Work/School discrimination was not significant (c' path) when Interpersonal Religiosity was included in the model (b = 1.60, p = .268). The interaction between depression symptoms x Interpersonal Religiosity was not significant (b = -.24, p = .634), nor was Work/School x Interpersonal Religiosity (b = -.43, p = .312).

	Estimate (SE)	95% Bias- corrected bootstrap confidence interval
Interpe	rsonal Religiosity	
Model 1: DV = Depression	- ·	
Work/School (<i>a path</i>)	.32 (.08)*	.16 to .48
Interpersonal Religiosity	.01 (.02)	03 to .05
Work/School × Interpersonal Religiosity	.01 (0.02)	03 to .06
R^2	0.16*	
Model 2: DV = Suicidal Ideation		
Depression (b path)	9.62 (1.73)*	6.20 to 13.05
Work/School (c' path)	1.60 (1.43)	1.25 to 4.44
Interpersonal Religiosity	18 (.35)	88 to .52
Depression × Interpersonal Religiosity	24 (.51)	-1.26 to .77
Work/School × Interpersonal Religiosity	43 (.42)	-1.26 to .41

Table 12. Model Summary for the Association between Work/School Discrimination and Suicidal Ideation through Depression by Interpersonal Religiosity (N = 99).

Note. 5000 bootstrap samples. DV = dependent variable. Work/School = work/school discrimination. p < .001.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (Interpersonal Religiosity). There were not conditional direct effects of Work/School discrimination onto suicidal ideation by Interpersonal Religiosity (Table 13). Specifically, experiences of Work/School discrimination did not lead to suicidal ideation at any level of Interpersonal Religiosity for participants. A conditional indirect effect of Work/School onto suicidal ideation through depression symptoms was observed: depression symptoms was a significant mediator of Work/School discrimination in predicting suicidal ideation when Interpersonal Religiosity was low to somewhat high (10th – 75th percentile), but not when Interpersonal Religiosity was high (90th percentile; Table 14).

Interpersonal			
Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	1.99	1.52	-1.03 to 5.01
25^{th}	1.99	1.52	-1.03 to 5.01
50 th	1.99	1.52	-1.03 to 5.01
75 th	1.99	1.52	-1.03 to 5.01
90 th	1.14	1.46	-1.76 to 4.03

Table 13. Conditional Direct Effects of Work/School Discrimination on Suicidal Ideation at Levels of Interpersonal Religiosity (N = 99)

Note. *Effects are considered statistically significant if the p value is < .05 and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero. p < .05.

Table 14. Conditional Indirect Effects of Work/School Discrimination on Suicidal Ideation at Levels of Interpersonal Religiosity (N = 99)

Interpersonal Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	92*	3.04	.97 to 7.94
25 th	92*	3.04	.97 to 7.94

50 th	92*	3.04	.97 to 7.94
75 th	92*	3.04	.97 to 7.94
90 th	1.08	3.14	-1.20 to 19.36

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

This pattern of findings is reflective of a moderated mediation. Specifically, depression symptoms mediated the effect of Work/School discrimination on suicidal ideation when participants had low to somewhat high levels of Interpersonal Religiosity ($10^{th} - 75^{th}$ percentile), but not when participants had high levels of Interpersonal Religiosity (90^{th} percentile).

Moderated mediation: Harassment/Rejection as predictor and social support as

moderator. In order to determine whether the mediational effect from Harassment/Rejection discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of social support (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) = 10.74, p < .001, $R^2 = .37$. Table 15 presents the *b*-weights, standard errors, *p*-values and 95% bias-correct bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Harassment/Rejection discrimination to depression symptoms (a path) when social support was included in the model (b = .15, p = .004). Social support was not associated with depression symptoms (b = -.01, p = .071). The Harassment/Rejection discrimination x social support with depression symptoms as the criterion variable was significant (b = -.01, p = .018). There was also a direct effect of depression symptoms (b path), which positively associated with suicidal ideation (b = 7.85, p < .001) when social support was included in the model (b = 1.35, p = .124). The

interaction between depression symptoms x social support was not significant (b = -.21, p =

.249), nor was Harassment/Rejection x social support (b = -.15, p = .149).

Table 15. Model Summary for the Association between Harassment/Rejection Discrimination and Suicidal Ideation through Depression by Social Support (N = 99).

H	Estimate (SE)	95% Bias-corrected bootstrap confidence interval
	Social Support	
Model 1: DV = Depression		
Harassment/Rejection (a path)	.15 (.05)**	.05 to .25
Social Support	01 (.01)	02 to .00
Harassment/Rejection × Social Support	01 (.01)*	03 to00
R^2	0.16***	
Model 2: DV = Suicidal Ideation		
Depression (b path)	7.85 (1.64)***	4.59 to 11.10
Harassment/Rejection (c' path)	1.35 (.87)	37 to 3.07
Social Support	16 (.08)	32 to .00
Depression × Social Support	21 (.18)	58 to .15
Harassment/Rejection × Social Support R^2	15 (.11) 0.37***	36 to .06

Note. 5000 bootstrap samples. DV = dependent variable, Harassment/Rejection = harassment/rejection discrimination. *p < .05. **p < .01. $***p \le .001$.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (social support). There were conditional direct effects of Harassment/Rejection discrimination onto suicidal ideation by social support (Table 16). Specifically, experiences of Harassment/Rejection discrimination led to suicidal ideation when social support was low $(10^{th} - 25^{th}$ percentile, with the 10^{th} percentile being only marginally significant), but not when social support was moderate to high ($50^{th} - 90^{th}$ percentile). A conditional indirect effect of Harassment/Rejection onto suicidal ideation through depression symptoms was observed: depression symptoms was a significant mediator of

Harassment/Rejection discrimination in predicting suicidal ideation when social support was low

to moderate (10th - 50th percentile), but not when social support was somewhat high to high (75th

- 90th percentile; Table 17).

Table 16. Conditional Direct Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Social Support (N = 99)

Social Support			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	3.52*	1.78	02 to 7.05
25^{th}	2.29*	1.12	.06 to 4.52
50 th	1.22	.86	49 to 2.94
75 th	.15	1.15	-2.12 to 2.43
90 th	46	1.46	-3.35 to 2.43

Note. *Effects are considered statistically significant if the p value is $\leq .05$ and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

Table 17. Conditional Indirect Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Social Support (N = 99)

Social Support			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	3.87*	2.16	.79 to 9.75
25 th	2.21*	1.11	.56 to 4.94
50 th	1.08*	.62	.18 to 2.67
75 th	.25	.52	63 to 1.50
90 th	09	.56	-1.44 to .87

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

This pattern of findings is reflective of a moderated mediation. Specifically, depression symptoms mediated the effect of Harassment/Rejection discrimination on suicidal ideation when participants had low to moderate levels of social support ($10^{th} - 50^{th}$ percentile), but not when participants had somewhat high to high levels of social support ($75^{th} - 90^{th}$ percentile).

Moderated mediation: Harassment/Rejection as predictor and Intrapersonal

Religiosity as moderator. In order to determine whether the mediational effect from

Harassment/Rejection discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of Intrapersonal Religiosity (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) = 8.94, p < .001, $R^2 = .32$. Table 18 presents the *b*-weights, standard errors, *p*-values and 95% bias-correct bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Harassment/Rejection discrimination to depression symptoms (a path) when Intrapersonal Religiosity was included in the model (b = .18, p = .001). Intrapersonal Religiosity was not associated with depression symptoms (b = .01, p = .611). The Harassment/Rejection discrimination x Intrapersonal Religiosity with depression symptoms as the criterion variable was significant (b = -.02, p = .043). There was also a direct effect of depression symptoms (b path), which positively associated with suicidal ideation (b = 9.12, p < .001) when Intrapersonal Religiosity was included in the model. Harassment/Rejection discrimination was not significant (c' path) when Intrapersonal Religiosity was included in the model. Harassment/Rejection discrimination was not significant (c' path) when Intrapersonal Religiosity was included in the model (b = 1.54, p = .099). The interaction between depression symptoms x Intrapersonal Religiosity was not significant (b = -.08, p = .680).

Estim	(\mathbf{SE}) 1	95% Bias-corrected
Estina		interval
Intrapersona	al Religiosity	
Model 1: DV = Depression		
Harassment/Rejection (a path)	.18 (.05)	** .07 to .28
Intrapersonal Religiosity	.01 (.01	02 to .03
Harassment/Rejection × Intrapersonal Religiosity	02 (.01)*04 to00
R^2	0.13**	:
Model 2: DV = Suicidal Ideation		
Depression (<i>b path</i>)	9.12 (1.70))*** 5.75 to 12.49
Harassment/Rejection (c' path)	1.54 (.9	29 to 3.37
Intrapersonal Religiosity	24 (.23	3)69 to .21
Depression \times Intrapersonal Religiosity	16 (.3	7)89 to .58
Harassment/Rejection × Intrapersonal Religiosity	08 (.19	9)44 to .29

Table 18. Model Summary for the Association between Harassment/Rejection Discrimination and Suicidal Ideation through Depression by Intrapersonal Religiosity (N = 99).

 R^2

Note. 5000 bootstrap samples. DV = dependent variable. Harassment/Rejection = harassment/rejection discrimination. *p < 05. **p < .01. *** $p \leq .001$.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (Intrapersonal Religiosity). There were no conditional direct effects of Harassment/Rejection discrimination onto suicidal ideation by Intrapersonal Religiosity (Table 19). A conditional indirect effect of Harassment/Rejection onto suicidal ideation through depression was observed: Depression symptoms was a significant mediator of Harassment/Rejection discrimination in predicting suicidal ideation when Intrapersonal Religiosity was low to somewhat high (10th - 75th percentile), but not when Intrapersonal Religiosity was high (90th percentile; Table 20).

Levels of Intrapersonal Religiosity $(N = 99)$			
Intrapersonal			
Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	1.75	1.14	51 to 4.01
25^{th}	1.75	1.14	51 to 4.01
50^{th}	1.67	1.04	39 to 3.73
75^{th}	1.44	.90	35 to 3.24
90 th	1.29	.99	69 to 3.26

Table 19. Conditional Direct Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Intrapersonal Religiosity (N = 99)

Note. Effects are considered statistically significant if the p value is < .05 and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

Table 20. Conditional Indirect Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Intrapersonal Religiosity (N = 99)

Intrapersonal Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	2.29*	.10	.77 to 4.89
25 th	2.29*	.10	.77 to 4.99
50 th	2.04*	.94	.62 to 4.40
75 th	1.33*	.98	.12 to 4.07
90 th	.89	1.11	31 to 4.63

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

This pattern of findings is reflective of a moderated mediation. Specifically, depression symptoms mediated the effect of Harassment/Rejection discrimination on suicidal ideation when participants had low to somewhat high levels of Intrapersonal Religiosity ($10^{th} - 75^{th}$ percentile), but not when participants had high levels of Intrapersonal Religiosity (90^{th} percentile). Further, this mediational effect decreased linearly as Intrapersonal Religiosity increased.

Moderated mediation: Harassment/Rejection as predictor and Interpersonal **Religiosity as moderator.** In order to determine whether the mediational effect from Harassment/Rejection discrimination through depression symptoms to suicidal ideation differed as a function of participants' level of Interpersonal Religiosity (i.e., moderated mediation), a conditional process model was conducted. The overall model predicting suicidal ideation was significant, F(5, 93) = 9.50, p < .001, $R^2 = .34$. Table 21 presents the *b*-weights, standard errors, *p*-values and 95% bias-correct bootstrap confidence intervals for each of the paths included in the moderated-mediation model. There was a significant positive direct effect of Harassment/Rejection discrimination to depression symptoms (a path) when Interpersonal Religiosity was included in the model (b = .16, p = .004). Interpersonal Religiosity was not associated with depression symptoms (b = .02, p = .474). The Harassment/Rejection discrimination x Interpersonal Religiosity with depression symptoms as the criterion variable was not significant (b = -.00, p = .975). There was also a direct effect of depression symptoms (b path), which positively associated with suicidal ideation (b = 9.42, p < .001) when Interpersonal Religiosity was included in the model. Harassment/Rejection discrimination was not significant (c' path) when Interpersonal Religiosity was included in the model (b = 1.67, p = .063). The interaction between depression symptoms x Interpersonal Religiosity was not significant (b = -.32, p = .494), nor was Harassment/Rejection x Interpersonal Religiosity (b = -.30, p = .239).

	95% I	Bias-corrected
Estimate (SI	E) bootsta	rap confidence
		interval
Interpersonal	Religiosity	
Model 1: DV = Depression		
Harassment/Rejection (a path)	.16 (.05)**	.05 to .27
Interpersonal Religiosity	.02 (.02)	03 to .06
Harassment/Rejection × Interpersonal Religiosity	00 (.02)	03 to .03
R^2	.09*	
Model 2: DV = Suicidal Ideation		
Depression (b path)	9.4 (1.66)***	6.13 to 12.71
Harassment/Rejection (c' path)	1.67 (.89)	09 to 3.43
Interpersonal Religiosity	20 (.35)	88 to .49
Depression \times Interpersonal Religiosity	32 (.47)	-1.24 to .60
Harassment/Rejection × Interpersonal Religiosity	30 (.25)	80 to .20
R^2	.34***	

Table 21. Model Summary for the Association between Harassment/Rejection Discrimination and Suicidal Ideation through Depression by Interpersonal Religiosity (N = 99).

Note. 5000 bootstrap samples. DV = dependent variable. Harassment/Rejection = harassment/rejection discrimination. *p < 05. **p < .01. ***p < .001.

Follow-up analyses to the moderated-mediation analysis examined the conditional direct and indirect effects at different levels of the moderator (Interpersonal Religiosity). There were conditional direct effects of Harassment/Rejection discrimination onto suicidal ideation by Interpersonal Religiosity (Table 22). Specifically, experiences of Harassment/Rejection discrimination led to suicidal ideation when Interpersonal Religiosity was low to somewhat high (10th – 75th percentile), but not when Interpersonal Religiosity was high (90th percentile). There were no conditional indirect effects of Harassment/Rejection onto suicidal ideation through depression symptoms. Depression symptoms was a significant mediator of Harassment/Rejection discrimination in predicting suicidal ideation at all levels of Interpersonal Religiosity (10th -90th percentile; Table 23).

Interpersonal			
Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	1.95*	.963	.03 to 3.86
25^{th}	1.95*	.963	.03 to 3.86
50^{th}	1.95*	.963	.03 to 3.86
75 th	1.95*	.963	.03 to 3.86
90 th	1.34	.874	39 to 3.08

Table 22. Conditional Direct Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Interpersonal Religiosity (N = 99)

Note. Effects are considered statistically significant if the p value is < .05 and the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.

Table 23. Conditional Indirect Effects of Harassment/Rejection Discrimination on Suicidal Ideation at Levels of Interpersonal Religiosity (N = 99)

Interpersonal Religiosity			95% Bias-corrected bootstrap
Percentile Range	Effect	Estimate (SE)	confidence interval
10 th	92*	1.56	.27 to 4.25
25 th	92*	1.56	.27 to 4.25
50 th	92*	1.56	.27 to 4.25
75 th	92*	1.56	.27 to 4.25
90 th	1.08^{+}	1.44	.00 to 6.68

Note. *Effects are considered statistically significant if the 95% bias-corrected bootstrap confidence interval does not encapsulate zero.⁺ 95% bias-corrected bootstrap confidence interval only encapsulates zero upon rounding down.

This pattern of findings indicates that a moderated mediation was not found. Specifically, depression symptoms mediated the effect of Harassment/Rejection discrimination on suicidal ideation at all levels of Interpersonal Religiosity.

Discussion

The purpose of this study was to explore relationships among discrimination experiences,

mental health (i.e., anxiety symptoms, depression symptoms), risky behaviors (i.e., suicidality,

illicit substance use), religiosity, and social support in LGBT adults residing in Latin America.

Harassment/Rejection discrimination, but neither Work/School nor Other discrimination

predicted suicidal ideation. None of the three discrimination subscales predicted illicit substance

use. Work/School discrimination predicted mental health problems (anxiety and depression

symptoms combined), while Harassment/Rejection and Other discrimination did not. Depression symptoms predicted suicidal ideation, but failed to predict illicit substance use, and anxiety alone neither predicted suicidal ideation nor illicit substance use. Depression symptoms was a significant mediator of the effect of Work/School discrimination on suicidal ideation as well as the effect of Harassment/Rejection discrimination on suicidal ideation. Social support moderated both of these two mediational models, but only at higher levels of social support. Intrapersonal Religiosity moderated these mediational models as well, but only at higher levels of Intrapersonal Religiosity. Interpersonal Religiosity moderated the mediational relationship of Work/School discrimination on suicidal ideation through depression symptoms, but also only at higher levels of Interpersonal Religiosity, and did not moderate the mediational relationship of Harassment/Rejection discrimination on suicidal ideation through depression symptoms.

Descriptives

Depression and anxiety symptoms. In the current study, 5% of the sample reported clinically significant levels of depression symptoms and 3% reported clinically significant levels of anxiety symptoms. These percentages are considerably lower than those found in other samples of LGBT adults in the U.S. (Clements-Nolle et al., 2001; Cochran and Mays, 2000a; Cochran et al., 2003; Nuttbrock et al., 2010). Additionally, in studies utilizing the HSCL-25 to measure anxiety and depressive symptoms in LGBT adults from developed countries, mean levels of both anxiety and depression symptoms in the current study were also lower by comparison (Sutter & Perrin, 2016). One possible explanation for these findings is that within Latin American cultures, psychological distress may be expressed through psychosomatic rather than psychological complaints. Indeed, this notion is well-supported by research with Latino individuals residing in the U.S. (Chiriboga, Jang, Banks, & Kim, 2007; Villaseñor & Waitzkin,

1999). Thus, LGBT adults in Latin America may not be experiencing lower levels ofpsychological distress, but rather traditional measures of affective symptoms (such as the HSCL-25) may not capture culturally-bound idioms of distress for Latin Americans.

Religiosity. Participants from this study reported significantly lower levels of religiosity across the Interpersonal and Intrapersonal subscales of the RCI-10 relative to the means derived from adult populations in the U.S. (Worthington et al., 2012), and in fact these rates were substantially below means reported by nonreligious U.S. adults in Worthington et al.'s (2012) sample. Although Latin America as a region is heavily influenced by religion (Pew Research Center, 2014), it is possible that because the traditional tenets of predominant religions in Latin America (Catholicism, Protestantism) condemn same-sex attraction, identity, and behavior (Davidson, 2000; Sherkat, 2002), LGBT adults in Latin America may pull away from religious communities to avoid discrimination and rejection. Although there is a paucity of research examining religiosity among LGBT adults residing in Latin America, research conducted with general LGBT adult populations and with LGBT Latino populations in the U.S. seems to support this notion (Garcia, Gray-Stanley, & Ramirez-Valles, 2008; Hansen & Lambert, 2011; Rodriguez & Ouellette, 2000). Garcia and colleagues (2008) examined religious trajectories from childhood through adulthood in a sample of Latino gay men residing in the U.S. and found that while most participants identified as either Catholic or Protestant in childhood, less than half of the sample maintained a religious affiliation in adulthood. Furthermore, reasons provided for disconnecting from religious affiliations often related to condemnation of homosexuality within religious communities and doctrines. Although the current study did not measure individuals' religious affiliation in childhood or adolescence, it is very plausible that participants were raised

in religious households and communities, and perhaps were religiously affiliated in their earlier years, becoming significantly less religious after coming out as LGBT.

Another possible reason why levels of religiosity were very low in the current sample compared to U.S. samples may relate to differences in cross-cultural constructs of religiosity. That is, religiosity may "look different" among Latino/a or Latin American individuals. Indeed, in a sample of Mexican immigrant adults, Finch and Vega (2003) measured religiosity as a component of social support, and in particular religious support-seeking, and found that levels of religious support-seeking were high, and also protected individuals against acculturative stress. Thus, it may not be that LGBT adults from Latin America have low levels of religiosity, but rather that the current study's measure of religiosity does not accurately capture religious manifestations within Latin American cultures.

Illicit substance use. In the current sample, the majority of participants (60.6%) reported not having used any illicit substance within the past three months, while 39.4% had used at least one substance in that time frame. The most common substances that participants reported using were marijuana (31.3%), poppers (13.1%), other recreational drugs (6.1%), ecstasy (5.1%), and cocaine (4.0%). As noted above, the research on illicit substance use among LGBT adult populations in the U.S. has generally examined the prevalence rates of illicit substance use disorders as opposed to illicit substance use (McCabe et al., 2010). This research has also tended to measure illicit substance use over the past year (Lehavot & Simoni, 2011), and has focused on specific substances, such as alcohol (Hatzenbuehler, Corbin, & Fromme, 2008). For these reasons, there is limited research against which to compare the current study's findings.

Drazdowski and colleagues (2016), however, documented higher rates of illicit substance use over a three-month time span in a U.S. sample of LGBTQ adults than in the current study. A

plausible explanation for the discrepancy in rates of illicit substance use may relate to participant demographics. Specifically, in the current study, individuals tended to be middle-class (84.8%) and also tended to be better educated relative to the sample included in Drazdowski et al.'s (2016) study. Indeed, research conducted with LGBT (Skinner, 1994) and general (Macleod et al., 2004) adult populations from the U.S. has found that higher levels of education protect individuals against illicit substance use. Thus, it makes sense that this sample would report lower levels of illicit substance use relative to less educated samples. Additionally, it is possible that the high levels of social support reported by participants in the current sample buffered individuals against illicit substance use, as research with LGBT populations from the U.S. has documented both a protective function of social support on illicit substance use (Benotsch et al., 2015), as well as links between social isolation (the inverse of social support) and illicit substance use in sexual minority adults (Lehavot & Simoni, 2011). Another explanation for the lower levels of illicit substance use in the current study may relate to translation of specific illicit substances. Is it possible that the types of substances used in Latin America or the names used in the translations were not perfectly tapped, contributing to underreporting of certain illicit substances.

Suicidal ideation. LGBT adults in the present sample reported very low levels of suicidal ideation compared to other samples of sexual minority adults in the U.S. (Rabinovitch et al., 2015; Tabaac et al., 2016; Trujillo, 2015). As mentioned previously, the concept of *familismo* is highly interwoven in Latin American culture (Calzada, Huang, & Brotman, 2012), and emphasizes subjugation of an individuals' desires and goals to those of the family, as well as family honor, respect, and cooperation among family members. *Familismo* may be reflected in concepts such a responsibility to one's family and moral objection to suicide. For instance,

individuals may believe that contemplating and/or attempting suicide would harm the family, undercutting specific values inherent in *familismo*. Research with Latino adults from the U.S. has found responsibility to one's family and moral objection to suicide to be protective against suicidal ideation (Malone, Oquendo, Haas, Ellis, Li, & Mann, 2000; Oquendo et al., 2005). It is possible that among LGBT adults in Latin America, *familismo* (though not directly measured in the current study) was high, and mitigated levels of suicidal ideation.

Social support. Participants in the current study reported comparable levels of social support across the Significant Other, Friends, and Family subscales relative to a U.S. sample of cisgender SMW (Tabaac et al., 2016), and reported slightly higher levels of total social support compared to a sample of transgender adults (Budge, Adelson, & Howard, 2013). These comparisons make sense in light of research documenting that women in general adult populations tend to report higher levels of social support than men across subscales of the MSPSS (Zimet et al., 1988), as well as the research documenting lower levels of social support among transgender compared to cisgender individuals (Factor & Rothblum, 2007). The current study's participants reported considerably lower levels of total social support relative to a sample of cisgender LGB adults (Potoczniak, Aldea, & DeBlaere, 2007). Because Potocniak and colleagues (2007) did not calculate rates of social support across MSPSS subscales, it is unclear whether their sample skewed especially high on a particular subscale, yielding a higher total social support score. Thus, rates of social support on specific subscales of the MSPSS in the current sample may have in fact been comparable to rates reported by Potocniak et al. (2007).

Discrimination. Results were mixed in comparing levels of discrimination reported by participants in the current study to samples of LGBT adults in the U.S. Specifically, rates of Other and Work/School discrimination in the current study were comparable to rates reported in

Szymanski's (2006) sample of predominantly White and well-educated lesbian adults residing in the U.S., whereas rates of Harassment/Rejection discrimination reported in the current sample were higher relative to Szymanski's (2006) sample. Compared to a sample of LGBT people of color in the U.S., rates of all three types of discrimination were lower (Sutter & Perrin, 2016).

It is possible that degree of outness in specific domains of participants' lives may be accounting for the discrepant levels of discrimination reported by the present study's participants relative to Szymanksi's (2006) sample. Neither the present study nor Szymanski's (2006) study controlled for outness in statistical analyses. It may be that participants in the current sample were more likely to have disclosed their sexual or gender minority status to persons in their lives (family, friends, work colleagues), contributing to higher levels of harassment/rejection discrimination from such individuals. Indeed, there is research from the U.S. linking outness to greater experiences of discrimination (D'Augelli, Hershberger, & Pilkington, 1998; Ragins, Singh, Cornwell, 2007).

One plausible explanation for the lower levels of discrimination reported in the current sample relative to Sutter and Perrin's (2016) sample may relate to the impact of multiple minority identities on discrimination. Specifically, research from the U.S. has documented that compared to White LGB individuals, sexual minority people of color experience higher levels of heterosexist discrimination (Moradi et al., 2010). It therefore makes sense that Latin American LGBT individuals, who are generally homogenous with respect to race, would not experience the same degree of discrimination relative to a sample of LGBT people of color. Or perhaps when they do, it might be specifically in terms of harassment or rejection, as that was the form of discrimination more common in the current sample than in a U.S. sample of White sexual minority women (Szymanski, 2006).

Correlations. Harassment/Rejection discrimination was positively associated with anxiety and depression symptoms, and Work/School was linked to anxiety symptoms, depression symptoms, and suicidal ideation in the current sample. The Other subscale of the HHRDS, which assesses unfair treatment by individuals in helping professions, in service jobs, and by strangers, due to one's sexual or gender minority status, was not correlated with any mental health variable. This overall pattern is mostly consistent with other studies that have utilized the HHRDS to measure discrimination. Sutter and Perrin (2016), using a sample of LGBTQ people of color, found that all three subscales of the HHRDS were positively associated with anxiety and depression symptoms, and that the Harassment/Rejection subscale was also positively correlated with past-week suicidal ideation. Similarly, using a sample of SMM from the U.S., Simpson and colleagues (2016) found that all three subscales of the HHRDS were positively associated with anxiety and depression symptoms. Breslow and colleagues (2015), with a sample of transgender adults in the U.S., found that discrimination, measured via a modified version of the HHRDS specifically designed to tap transgender discrimination, was associated with psychological distress, a proxy for mental health. This same finding was documented among Latino sexual minority adults in the U.S. (Velez, Moradi, & DeBlaere, 2015).

There are a couple of factors that may help to explain why the Other subscale of the HHRDS was not associated with mental health in the current study. First of all, because sexual and gender minority statuses may reflect "hidden" or invisible minority identities (Fassinger, 1991), it is possible that individuals in service jobs, those in helping professions, and strangers, may not be aware of others' sexual or gender minority status, and therefore may be less prone to enact this type of discrimination. Additionally, relative to Harassment/Rejection and Work/School discrimination, the type of discrimination tapped by the Other subscale of the

HHRDS arguably represents discrimination that does not occur regularly or for prolonged periods of time, but rather through isolated encounters. Thus, the transient nature of this form of discrimination may not exert the same deleterious effects on LGBT individuals' mental health. On the other hand, discrimination within work or school environments or in the form of harassment and rejection (e.g., by family members and friends) may occur consistently, over a lengthy period of time, and by individuals with whom LGBT persons may have close relationships. From this perspective, it is plausible that Harassment/Rejection and Work/School discrimination would be tied to higher levels of anxiety, depression symptoms, and suicidality for LGBT adults.

Social Support from Family was negatively correlated with anxiety and depression symptoms, while Social Support from Friends and from a Significant Other subscales were not associated with mental health problems. This finding is not surprising in light of high levels of *familismo* (familism) within Latin American cultures. As noted above, *familismo* is a concept defined by mutual support and obligation between family members (Baca-Zinn & Wells, 2000), and places emphasis on family honor, reciprocity, and interconnectedness (Calzada, Huang, Anicama, Fernandez, & Brotman, 2012). There is some research among LGBT youth supporting the notion that social support from family may promote outness, specifically among LGBT Latino/a youth in the U.S. Indeed, Pastrana (2015) found that family support was the strongest predictor of LGBT Latino/a youth disclosing their sexual orientation to others. There is some research suggesting that outness (via involvement in school-based gay-straight alliances) is associated with better mental health outcomes for sexual minority youth (Heck, Flentje, & Cochran, 2011). In the current study, participants with high levels of social support from family may benefit from greater family connectedness, buffering them against mental health issues,

such as anxiety and depression symptoms. Additionally, social support from family may facilitate greater outness to others in the individual's life, which may in turn serve a protective function against mental health issues for LGBT adults in Latin America. Unfortunately, as noted above, participants' level of outness was not controlled for in the current study.

Bivariate correlations revealed that neither subscale of the RCI-10 were connected to mental health variables in the current study. First of all, as discussed above, the research on religiosity and mental health among LGBT adults in developed countries is mixed in regards to whether religiosity confers risk for or protects this population against mental health issues. Some research has found religiosity to be associated with mental health issues, such as suicidal ideation (Gibbs & Goldbach, 2015; Rabinovitch et al., 2015). Other research has documented a protective function of religiosity on mental health problems (Dowshen et al., 2011; Kravolec et al., 2014), and other work in this area has failed to find significant relationships between religiosity and mental health problems (Barnes & Meyer, 2012; Rostosky et al., 2007). The current study's failure to document a significant relationship between religiosity and mental health issues may in part reflect inconsistent findings in this research area. Additionally, mean levels of religiosity among participants in the current study were extremely low relative to adults from general populations in the U.S. (Worthington et al., 2003). Thus, the overall very low levels of religiosity among LGBT adults in the current study may have washed out relationships between religiosity and mental health for LGBT adults in Latin America.

Illicit substance use was unrelated to discrimination and to mental health in the present study. This finding contradicts a relatively large body of research documenting positive associations between discrimination and illicit substance use (Benotsch et al., 2013; Hatzenbuehler et al., 2008; McCabe et al., 2009; Zimmerman et al., 2015), mental health

problems and substance use (Lehavot & Simoni, 2011; Needham, 2012), as well as interrelationships among discrimination, mental health problems, and substance use for this population (Lehavot & Simoni, 2011; Mereish, O'Cleirigh, & Bradford, 2012).

In examining the types of substances used by participants in the present study compared to LGBT adults in studies from the U.S., somewhat different patterns emerge. Specifically, among LGBT adults in Latin America, the most common substances that participants reported using were Marijuana (31.3%), Poppers (13.1%), Other Recreational Drugs (6.1%), and Ecstasy (5.1%). In other studies of illicit substance use in LGBT adult populations from developed countries, these same drugs appear to be prominent, however, Cocaine 12.5%, Methamphetamine 7.5%, and Heroin (4%; Drazdowski et al., 2016) also appear to be somewhat common. It is possible that LGBT adults in Latin America may not be using substances to dampen the negative effects of discrimination or to address mental health issues. Indeed, the types of substances most commonly reported by LGBT adults in the Latin America have typically been classified as "club drugs" within the research on illicit substance use (Leung & Cottler, 2008; Mayer, Colfax & Guzman, 2006).

Furthermore, some research has examined motivations for club drug use among SMM specifically (Ross, Mattison, & Franklin, 2003; Halkitis, Fischgrund, & Parsons, 2005). For instance, Ross and colleagues (2003) documented two dimensions of motivation to engage in club drug use: a social or celebratory dimension (e.g., dancing, spending time with friends), and a sensation-seeking dimension (e.g., having sex on drugs). A separate study conducted by Jerome and colleagues (2009) found that among racially diverse SMM, prominent motivations for engaging in illicit substance use pertained to socialization and sexual-enhancement. It is possible that illicit substance use among LGBT adults in Latin American may serve to enhance

pleasure in recreational (e.g., parties, raves) and sexual activities rather than to cope with discrimination or mental health problems.

Regressions analyses. As hypothesized, discrimination significantly predicted suicidal ideation in the first multiple regression model. Within this model, only the Harassment/Rejection subscale of the HHRDS uniquely predicted suicidal ideation, while the Work/School and Other subscales did not. This finding is consistent with results from studies using samples of LGBT adults from the U.S. (Sutter & Perrin, 2016; Trujillo et al., 2016). For instance, Sutter and Perrin (2016) used structural equation modeling to examine relationships between discrimination, mental health issues, and suicidal ideation in LGBT people of color, and found that discrimination (a latent variable comprised of the three HHRDS subscales) significantly predicted suicidal ideation. Similarly, Trujillo and colleagues (2016) found that among transgender adults in the U.S., Harassment/Rejection discrimination significantly predicted suicidal ideation. Thus, relationships between discrimination and suicidal ideation among LGBT adults in Latin America from the current study seem to mirror relationships between these variables documented with past samples of LGBT adults in the U.S.

Contrary to what was hypothesized, in the second multiple regression, discrimination did not predict illicit substance use. This is not surprising given the lack of significant bivariate correlations between discrimination and illicit substance use. It is possible that LGBT adults in Latin America do not engage in illicit substance use to quell psychological distress (e.g., anxiety symptoms, depression symptoms) or to cope with discrimination, but do so to enhance social or sexual experiences. As noted above, there is some research from the U.S. examining motivations to engage in club drugs specifically, and among sexual minority men in particular, that has

highlighted social, sexual, and sensation-seeking motivations for illicit substance use engagement (Ross et al., 2003; Halkitis et al., 2005; Jerome, Halkitis, & Siconolfi, 2009).

Consistent with what was hypothesized, in the third multiple regression, discrimination predicted mental health (a composite of Anxiety and Depression subscales). This overall finding is in line with prior research conducted with LGBT populations from the U.S. that has similarly used the HHRDS to measure discrimination, though most of these studies have combined subscales of the HHRDS in their measurement of discrimination. For instance, Feinstein and colleagues (2012) found that among gay and lesbian adults, discrimination significantly predicted depressive symptoms. Similarly, Breslow and colleagues (2015) found that discrimination significantly predicted anxiety symptoms and depressive symptoms in transgender adults. Szymanski (2006) examined relationships between discrimination and psychological distress (a composite of anxiety and depressive symptoms) in SMW, and found that each of the three HHRDS subscales uniquely predicted psychological distress.

Within this regression model, only the Work/School subscale of the HHRDS uniquely predicted mental health, while the Harassment/Rejection and Other subscales did not. This is surprising, given that participants in the current sample reported the highest mean levels of Harassment/Rejection discrimination (relative to Work/School and Other discrimination). It is possible that relationships between participants and their family members and friends are not uniformly negative. That is, participants may have experienced some discrimination and rejection at the hands of family and friends, but may have also received support from these individuals. For example, participants may have initially faced discrimination and rejection by family members and friends upon disclosing their sexual or gender minority status, but perhaps some friends and family were able to reconcile participants' stigmatized sexual or gender

identities, and maintain connected and supportive relationships with participants. Research on parents' reactions to sexual minority youths' disclosures of their sexual orientation has found that parents may progress through multiple stages, initially experiencing shock, denial, shame, guilt, anger, and rejection, and over time, moving towards acknowledgement and acceptance of their youths' identities (Ben-Ari, 1995; Savin-Williams & Dube, 1998). This same process may have occurred in families of LGBT adults in Latin America.

In the fourth multiple regression model, mental health (with the Anxiety and Depression subscales as separate predictors) significantly predicted suicidal ideation, and while both anxiety and depression symptoms uniquely predicted suicidal ideation, depression symptoms was the strongest predictor of suicidal ideation in the model. There is some research linking anxiety symptoms to suicidal ideation (Eisenberg, Gollust, Golberstein, & Hefner, 2007). However, there is a much larger body of research documenting positive relationships between depression symptoms and suicidal ideation across a variety of populations, including Latin American immigrants (Finch, Kolody, & Vega, 2000), LGBT adults (Meyer, 2003), and general samples of adults from the U.S. (Nock, Hwang, Sampson, & Kessler, 2010). For this reason, it is not surprising that depression symptoms was a more powerful predictor of suicidal ideation in the current study than anxiety symptoms.

In the fifth multiple regression model, which was not significant, neither aspect of mental health (Anxiety or Depression subscales) predicted illicit substance use. This finding runs contrary to the literature with LGBT adult populations from the U.S., documenting relationships between both depression symptoms and anxiety symptoms, and illicit substance use (Hatzenbuehler et al., 2009; Lehavot & Simoni, 2011). As discussed above, mental health problems may be unrelated to illicit substance use due to individuals' motivations for using

substances. Given that the most common substances that participants reported using were club drugs, taken together with research documenting social or celebratory, sensation-seeking, and sexual-enhancement motivations for engaging specifically in these types of drugs (Ross et al., 2003, Halkitis et al., 2005; Jerome et al., 2009), it is possible that LGBT adults in the current sample used substances for recreational or sexual purposes, rather than to self-medicate for mental health problems such as anxiety and depression symptoms.

Mediational analyses. Depression symptoms fully mediated the relationship between Work/School discrimination and suicidal ideation. Depression symptoms also fully mediated the relationship between Harassment/Rejection discrimination and suicidal ideation. These findings are consistent with prior research with LGBT adult samples in the U.S. documenting that mental health problems mediate the relationship between discrimination and suicidal ideation (Sutter & Perrin, 2016; Trujillo et al., 2016). Sutter and Perrin (2016) found that mental health (a latent variable comprised of anxiety symptoms, depression symptoms, and satisfaction with life) mediated the relationship between LGBT discrimination (comprised of the three subscales of the HHRDS) and suicidal ideation in LGBTQ people of color. Additionally, in a sample of transgender adults in the U.S., Trujillo and colleagues (2016) found that depression symptoms mediated the relationship between Harassment/Rejection discrimination and suicidal ideation. Although LGBT participants in the current Latin American sample reported lower levels of depression symptoms and suicidality relative to U.S. LGBT samples, harassment and rejection (Harassment/Rejection subscale), as well as unfair treatment by employers, supervisors, or by educators (Work/School subscale) still negatively impacted participants' mental health, predicting suicidal ideation through depression symptoms.

Moderated Mediation Analyses

Social support as a moderator of discrimination, depression symptoms, and suicidal ideation. Consistent with study hypotheses, the present study documented a moderating effect of social support on the relationships among Work/School discrimination, depression symptoms, and suicidal ideation. Specifically, Work/School discrimination led to depression symptoms, which led to suicidal ideation when participants had low to somewhat high levels of social support (10th -75th percentile). When participants had the highest levels of social support (90th percentile), depression symptoms no longer mediated the effect of Work/School onto suicidal ideation. Social support also moderated relationships among Harassment/Rejection discrimination, depression symptoms, and suicidality. In particular, Harassment/Rejection discrimination led to depression symptoms, which led to suicidal ideation, but only when participants had low to moderate levels of social support (10th - 50th percentile). When participants had higher levels of social support (75-90th percentile), depression symptoms no longer mediated the effect of Harassment/Rejection discrimination onto suicidal ideation. From a theoretical standpoint, these findings are in line with Meyer's (2003) minority stress conceptualization, which posits that distal minority stressors such as discrimination are associated with mental health problems in LGBT individuals, and furthermore that protective factors such as social support may mitigate the impact of distal stressors on mental health.

These findings are also consistent with research from developed countries documenting the buffering effect of social support on the relationship between discrimination and mental health for transgender individuals (Bockting et al., 2013;Trujillo et al., 2016), and with literature documenting inverse relationships between social support and depression symptoms and suicidal ideation among LGBT individuals (Irwin & Austin, 2013; Masini & Barrett, 2008; Sheets & Mohr, 2009). Bockting and colleagues (2013) found that among transgender adults, social
support specifically from other transgender individuals moderated the relationship between enacted transgender stigma (including unfair treatment or discriminatory practices in the employment domain and verbal abuse) and psychological distress (a composite of depression and anxiety symptoms and somatization). The current study's findings that only at high levels of social support did depression symptoms fail to mediate the relationships between Work/School and Harassment/Rejection discrimination and suicidal ideation is somewhat in line with current research. Specifically, Trujillo and colleagues (2016) found that among transgender adults, discrimination led to suicidal ideation only for individuals with low social support, but failed to do so for individuals with moderate to high social support. Thus, social support has been found to serve as a buffer in the relationship between discrimination and mental health problems in prior samples of transgender adults from the U.S. and in the current sample of LGBT adults from Latin America, though it seems that this buffering effect may only be apparent at high levels of social support.

Intrapersonal and interpersonal religiosity as moderators of Work/School discrimination, depression symptoms, and suicidal ideation. Contrary to study hypotheses, in the current study, Work/School discrimination led to depression symptoms, which led to suicidal ideation, but only when participants had low to moderate levels of Intrapersonal or Interpersonal Religiosity (10th – 75th percentile). When participants had high levels of Intrapersonal Religiosity and Interpersonal Religiosity (90th percentile), depression symptoms no longer mediated the effect of Work/School discrimination onto suicidal ideation.

In general, the research examining links between religiosity and mental health for LGBT individuals has only recently burgeoned, thus there is limited research against which to compare the current study's findings. However, these findings are line with some research conducted with

samples of LGBT adults from developed countries that have documented a protective function of religiosity on suicidality (Kralovec et al., 2014) and risky behaviors (Dowshen et al., 2011) for this population. However, these findings are inconsistent with research that has either found no relationship between religiosity and mental health problems for LGBT individuals (Barnes & Meyer, 2012), or the literature documenting that religiosity may confer risk for mental health problems in this population, and in particular suicidality (Gibbs & Goldbach, 2015; Rabinovitch et al., 2015). Likewise, these findings contradict the research documenting positive relationships between religiosity and internalized heterosexism (Barnes & Meyer, 2012, Kralovec et al., 2012; Shilo & Savaya, 2012), a strong predictor of mental health issues for sexual minorities (Kuyper & Fokkema, 2011).

In understanding the current study's findings, it may be helpful to consider whether relationships between religiosity and mental health problems for this population vary as a function of the facet of religiosity measured in a particular study. For instance, the research that has documented protective relationships between religiosity and mental health problems has tended tap interpersonal aspects of religiosity (Kralovec et al., 2014; Dowshen et al., 2011). For instance, Kralovec et al. (2014) assessed religiosity by inquiring of participants to what extent they felt a sense of belonging to their religious community. Likewise, in a sample of young transgender women, Dowshen and colleagues (2011) found that formal religious practices (including attending religious services) attenuated the odds of risky sexual behaviors in participants. Although risky sexual behaviors are distinct from suicidal ideation, both constructs arguably tap an element of risk-taking, lending some information about how formal religious practices might relate to suicidality for this population as well. On the other hand, the research documenting links between religiosity and mental health problems has tended to measure

intrapersonal aspects of religiosity, including internal conflict between one's religious and sexual identities (Rabinovitch et al., 2015; Gibbs & Goldbach, 2015). For instance, Rabinovitch and colleagues (2015) measured religiosity in SMW by inquiring of participants to what extent they agreed with each of two statements: "I've been trying to find comfort in my religion or spiritual beliefs" and "I've been praying or meditating." From this perspective, the buffering role of Interpersonal Religiosity in the relationships among Work/School discrimination, depression symptoms, and suicidality are consistent with the literature, while the finding that intrapersonal religiosity also moderates these relationships is inconsistent with extant research in this area.

Intrapersonal and interpersonal religiosity as moderators of Harassment/Rejection discrimination, depression symptoms, and suicidal ideation. Harassment/Rejection discrimination led to depression symptoms, which led to suicidal ideation, but only when participants had low to moderate levels of Intrapersonal Religiosity (10th - 75th percentile). When participants had high levels of Intrapersonal Religiosity (90th percentile), depression symptoms no longer mediated the effect of Harassment/Rejection discrimination onto suicidal ideation, indicating a moderated mediation. Harassment/Rejection discrimination led to depression symptoms, which led to suicidal ideation regardless of level of Interpersonal Religiosity, indicating the absence of a moderated mediation for that variable. As noted above, the finding that Intrapersonal Religiosity buffered LGBT adults in the current study against mental health issues seems to contradict the trend in extant research in this area suggesting that intrapersonal facets of religiosity may confer risk for mental health problems among LGBT adults (Rabinovitch et al., 2015; Gibbs & Goldbach, 2015).

Relative to results of the other moderated mediations documenting a protective function of both types of religiosity on mental health problems for LGBT adults in Latin America, it is

interesting that Interpersonal Religiosity was not a significant moderator of the relationships among Harassment/Rejection discrimination, depression symptoms, and suicidal ideation. As noted above, it is possible that different types of discrimination negatively impact LGBT individuals' mental health to varying degrees. While unfair treatment in work and school environments has been found to negatively impact the mental health of LGBT adults (Bostwick, Boyd, Hughes, West, & McCabe, 2014), harassment and rejection by family members and friends (tapped by the Harassment/Rejection subscale), may have especially pernicious effects on mental health problems for LGBT adults given the close nature of relationships that LGBT adults likely have with these individuals.

These negative effects may be especially pronounced among LGBT adults from Latin America given specific aspects of Latin American culture. For example, harassment and rejection by family and friends may represent fragmented family relationships (which also often encompass relationships with close friends in Latin American cultures), perhaps undercutting notions of harmony and unity that are central to *familismo*, and contributing to psychological distress in LGBT adults from this region. Harassment/Rejection discrimination may also directly conflict with *simpatia*, another prominent cultural value in Latin America, emphasizing kindness, politeness, and pleasantness (Schreier et al., 2010), also contributing to mental health problems for this population. Additionally, because Interpersonal Religiosity in part taps connections to one's religious community, rejection by family and friends, individuals who are likely to also be involved in one's religious community, may contribute to a sense of ostracism both with families and in religious communities.

Potential Implications

Results of the proposed study have the potential to inform targets for clinical intervention research at multiple levels, including at the individual level, the family level, and the community level. Given that depression symptoms mediated relationships between Harassment/Rejection and Work/School discrimination and suicidal ideation for LGBT adults from Latin America, mental health professionals conducting research with or working with LGBT populations from this region might consider investigating and employing evidence-based techniques that have been found to attenuate symptoms depression symptoms, in turn reducing suicidality for this population. This might be especially important for LGBT adults experiencing discrimination in work or school environments, or from family and friends, as discrimination in these domains was most strongly tied to mental health issues for this population.

For example, cognitive techniques such as challenging automatic negative thoughts and behavioral strategies such as behavioral activation are core components of cognitive-behavioral therapy, and have been found to decrease depression symptoms (Cuijpers, Berking, Andersson, Quigley, Kleiboer, & Dobson, 2013). Likewise, because harassment or rejection by family members and friends was found to predict suicidal ideation in participants, family systems approaches might be used to simultaneously promote adaptability of families (e.g., to an individual's LGBT identity) and connectedness among family members, two hallmark components of family systems work (Cox & Paley, 1997).

Social support moderated relationships among discrimination, depression symptoms, and suicidal ideation for participants in the current study such that high level of social support buffered LGBT adults in Latin America against mental health problems in the face of discrimination. This finding underscores the importance of high levels of social support in protecting LGBT adults from Latin America against mental health problems. Accordingly, it

seems important for mental health workers and other stakeholders in the LGBT community to expand existing LGBT social support networks (i.e., by increasing visibility and accessibility for LGBT adults), and also to create new networks in order to provide safe and supportive spaces for LGBT adults to connect and receive support. In Latin America, internet-based approaches might be used to establish online forums and groups, and to organize in-person clubs or meetings. Likewise, increasing social support from family members might involve helping families to reconcile conflicts between love for and connection with LGBT family members and anti-LGBT attitudes within family structures, moving towards acceptance and integration of the family, a value that is consistent with *familismo*.

In the current study, Intrapersonal Religiosity moderated relationships among Work/School and Harassment/Rejection discrimination with depression symptoms and suicidal ideation, such that high levels of Intrapersonal Religiosity buffered LGBT adults against mental health problems. As Haldeman (2004) notes, religion and spiritual practice may "create a rich internal spiritual framework that soothes the anxieties stemming from sexual dissonance with social expectation and heals the wounds of a homonegative world" (p. 694). Likewise, research conducted with religious LGBT individuals in the U.S. has found that developing a spiritual or religious identity distinct from institutionalized religions may promote mental health for religiously-affiliated LGBT adults (Lease, Horne, & Noffsinger-Frazier, 2005). Consistent with this research and in light of the current study's findings, clinicians working with LGBT adults in Latin America may focus on helping LGBT individuals to negotiate conflicts between their religious beliefs and LGBT identity and experiences in order to promote healthy and cohesive *personal* religious or spiritual identities.

In the present study, although Interpersonal Religiosity at high levels buffered LGBT adults in Latin America against mental health problems in the face of Work/School discrimination, it did not seem to protect individuals confronting Harassment/Rejection discrimination against mental health problems. As noted above, it is possible that harassment and rejection from family and friends is particularly damaging to LGBT individuals' mental health, given the close and important nature of these relationships. Additionally, participants in the current study reported considerably lower levels of religiosity in comparison to U.S. samples, perhaps due to anti-LGBT religious doctrines as well as anti-LGBT sentiments espoused by many religious communities in Latin America. Accordingly, LGBT advocates in Latin America might consider building LGBT-affirming religious communities, or at least carving out space within traditional faith-based communities for LGBT individuals to reconcile their sexual and/or gender minority statuses and their religious identities. Indeed, research has found that in samples of U.S. LGBT adults, involvement in LGBT-affirming religious communities was associated with better mental health (Dowshen et al., 2011; Rodriguez & Ouellette, 2000). Establishing LGBT-affirming religious communities in Latin America might help to increase religiosity among LGBT adults in this region, in turning potentially protecting this population against mental health problems.

Limitations and Future Directions

The current study documented relationships among discrimination, depression symptoms, and suicidal ideation in LGBT adults from Latin America and also found that social support and religiosity generally buffered individuals against mental health problems in the face of specific types of discrimination, providing ripe targets for clinical intervention research. Nevertheless, these findings should be considered within the context of several limitations.

First, the current sample included very few transgender individuals. For this reason, study results may not be fully generalizable to transgender populations. Additionally, the vast majority of participants were from Mexico, and may have been from Guadalajara, Mexico specifically, due to the fact that the main research team developed strong Guadalajara-based research collaborations. The snowball-type sampling used by Guadalajara collaborators may have resulted in a particularly large subsample of participants from this region of Mexico. Thus, results may not be fully generalizable to disparate Latin American countries or regions. Also, the bulk of participants were middle-class, well-educated, and very young (M age = 24.38, SD = 5.97). Thus, the current sample represents a small sub-group of young, primarily sexual (not gender) minority individuals, potentially residing largely in Guadalajara, Mexico, and likely with much higher levels of literacy compared to the majority of individuals in this region.

Of note, a requirement for participating in the current study was having access to the internet, as data were obtained solely via an online survey. It is possible that the online nature of the study influenced recruitment, as the current study implemented online methods of recruitment. In order to capture a more heterogenous sample with respect to education level and class, as well as gender identity, and location, similar research in the future could be carried out in-person and via paper-and-pencil administration in community venues traditionally frequented by LGBT individuals. In-person recruitment may have fostered interpersonal relationships and personal alliances between researchers and potential participants, lending greater trust between potential participants and the research team, and in turn increasing the likelihood that more diverse LGBT adults from Latin America would participate in the study.

Another limitation to the current study is that the design was cross-sectional rather than longitudinal in nature, making it impossible to assert causality and establish temporality among

variables. For example, although the present study's measure of suicidal ideation had a scoring algorithm that weighted current suicidality much more highly than past suicidality in order to more strongly tap the frequency of a respondent's current ideation, it was impossible to establish that discrimination experiences occurred prior to suicidal ideation. However, the HSCL-25 tapped current mental health, while the HHRDS measured discrimination within the past year. It is therefore likely that discrimination experiences occurred prior to the onset of mental health problems. Additionally, affective symptoms (e.g., anxiety and depression symptoms) have been found to show stability over time (Prenoveau et al., 2011), whereas suicidal ideation may be more likely to wax and wane over time in response to social stressors (Dohrenwend, 1998), lending some support that depression symptoms in the models presented in the current study preceded or occurred concurrent with suicidal ideation.

Additionally, measures used in the current study were translated by bilingual (English-Spanish) researchers, and had not been previously psychometrically validated. Future research should conduct exploratory factor analysis to assess whether underlying structures of variables under study hold for the current population and confirmatory factor analysis to examine whether study variables are related in the hypothesized ways (e.g., that discrimination is related to depression symptoms). However, the relatively small sample size of the current study precludes such analyses. Additionally, translation procedures were carried out by Mexican researchers, thus it is unclear whether nomenclature would translate appropriately across other regions in Latin America.

An additional limitation to the current study relates to the potential confounding nature of multiple variables, and in particular social support from family with values and behaviors inherent in *familismo*. For instance, many of the items that map onto the Social Support from

Family subscale of the MSPSS ("My family really tries to help me," "I get the emotional help and support I need from my family") are likely to reflect social support in this domain, as well as values and behaviors that are integral to the concept of *familismo*. In fact, because *familismo* extends to close friends as well as blood-related relatives, the Social Support from Friends subscale may also be somewhat confounded with *familismo*. One way that this could be addressed in future studies is to include direct measures of *familismo*, and to examine multicollinearity between this measure and the Social Support from Family and Friends subscales, as well as to control for *familismo* in analyses in order to parse out unique contributions of each construct in predicting criterion variables.

Another prominent drawback to the current study is that the RCI-10 does not tap other important aspects of religion, such as religious affiliation, religious coping, religious conflict, and spirituality (a concept that may overlap considerably with religiosity), religious identification, or discrepancy between parent and child religious beliefs. Religious affiliation in particular may be important to measure with LGBT individuals, as different religions and denominations within those religions have been found to be more or less tolerant of LGBT individuals (Fisher, Derison, Polley, Cadman, & Johnston, 1994; Fuist, Stoll, & Kniss, 2012). Additionally, spirituality has been found to promote emotional well-being in LGBT adults (Halkitis et al., 2005), while religious conflict has been linked to suicidality for this population. (Gibbs & Goldbach, 2015).

Religious coping may reflect a more nuanced religiosity construct, as different types of religious coping have been tied to disparate mental health outcomes (Ano & Vasconcelles, 2005). Ano and Vasconcelles (2005) conducted a meta-analyses of 49 studies and consistently linked positive religious coping (e.g., spiritual connection, seeking support from clergy) to

positive psychological adjustment to stress, and negative religious coping (e.g., punishing God reappraisal, pleading for direct intercession) to psychological maladjustment to stress in U.S. adults. Utilizing measures of religiosity that tap multiple facets of this construct may be especially important in light of the research from developed countries documenting mixed results in regards to how religiosity relates to mental health problems for LGBT individuals, and also in light of the fact that religiously may look differently in Latin American cultures, as noted above.

Additionally, although discrimination across family and friends, school and work, and other (e.g., from service workers or strangers) domains were measured, the present study did not examine religious discrimination. This limitation is especially pronounced in light of high levels of discrimination that LGBT individuals face in religious communities, which negatively impact their mental health (Super & Jacobson, 2012; Wood & Conley, 2014). Future research should examine relationships between various types of discrimination (including religious discrimination), and their relative impact on mental health issues for LGBT adults in Latin America.

Conclusions

The current study is among very few other studies to examine relationships between discrimination, mental health, and risky behaviors in LGBT adults from Latin America, and is the first study to the author's knowledge to test a mediational model linking these constructs among sexual and gender minority adults from Latin America. The present study also appears to be the first to examine the potential moderating effect of social support and religiosity on the relationships among discrimination, mental health, and risky behaviors for this population.

Although discrimination predicted suicidal ideation, none of the three discrimination subscales predicted illicit substance use, a finding that contradicts a relatively large body of research conducted with LGBT adult samples from the U.S. It is possible that LGBT adults from

Latin America were not using substances to self-medicate for mental health issues or to cope with discrimination, but perhaps engaged in illicit substance use for recreational purposes (e.g., sexual enhancement, socializing). At high levels, social support and religiosity (both interpersonal and intrapersonal facets) buffered LGBT adults in Latin America against mental health issues (depression symptoms, suicidal ideation) in the face of different types of discrimination. Furthermore, while social support and Intrapersonal Religiosity served this protective function in models examining discrimination from family and friends, as well as discrimination within work or school environments, Interpersonal Religiosity only protected LGBT adults in Latin America against mental health problems in the face of discrimination at work or school. Findings from this study suggest that clinical intervention research with this population should focus on increasing social support and where appropriate, assist LGBT adults from Latin America in negotiating conflicts between their religious and sexual identities in order to harness religiosity as a potential protective factor. Future work incorporating these implications may have the potential to improve mental health for a population that has generally been overlooked to date in the scientific literature.

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APPENDIX A

Demographics Questionnaire
How old are you?years
Please estimate your current weight in pounds (lbs).
Please estimate your current height in inches (1 foot = 12 inches).
Have you been tested for HIV in the past 6 months?
Do you currently have health insurance?
Yes No
If not, do you have access to a health care facility if you needed care?
Yes No
Do you have health insurance, but find yourself incapable of paying your co-payment for care?
Yes No
What gender label <i>best</i> describes you (select one)?
Man
Woman
Tranman
Transwoman
Innersex
Other (please list)
Which racial/ethnic label best describes you?
Asian/Asian-American/Pacific Islander
Black/African-American (non-Latino)
Latino/Hispanic
American-Indian/Native-American
White/European-American (non-Latino)
Multiracial/Multiethnic
Other

What is your highest level of completed education?

Grade school High school/GED Some college (no degree) 2-year/technical degree 4-year college degree Master's degree Doctorate degree Which sexual orientation best describes you? Heterosexual Bisexual Gay/lesbian Queer Other (please specify) What is your and your family's social class? Upper Class: \$200,000 & up (CEOs, Politicians) Upper Middle Class: \$60,000-199,999 (Professionals) Lower Middle Class: \$30,000-59,999 (Professional Support & Sales) Working Class: \$15,000 – 29,999 (Clerical, Service, & Blue Collar) Lower Class: \$7,000-14,999 (Part-time & Unemployed) What is your relationship status? In a long-term relationship (≥ 12 months) with 1 person In a new relationship (<12 months) with 1 person Dating / in a relationship with more than 1 person Not currently dating / in a relationship

Appendix B

Heterosexism Harassment, Rejection, and Discrimination Scale (HHRDS)

Please think carefully about your life as you answer the questions below. Read each question and then indicate the number that best describes events in the PAST YEAR, using these rules.

Circle 1—If the event has NEVER happened to you Circle 2—If the event happened ONCE IN A WHILE (less than 10% of the time) Circle 3—If the event happened SOMETIMES (10–25% of the time) Circle 4—If the event happened A LOT (26–49% of the time) Circle 5—If the event happened MOST OF THE TIME (50–70% of the time) Circle 6—If the event happened ALMOST ALL OF THE TIME (more than 70% of the time)						
1.	How many 1	y times have yo 2	u been rejected 3	by friends bec	ause you are ar 5	n LGBTQ individual? 6
2.	How many 1	y times have yo 2	u been verbally 3	/ insulted becau 4	ise you are an I 5	GBTQ individual?
3.	How many with harm	y times have yo because you ar	u been made fu e an LGBTQ in	in of, picked or ndividual?	n, pushed, shov	ed, hit, or threatened
	1	2	3	4	5	6
4.	How many 1	2 times have yo	u heard ANTI- 3	LGBTQ remar	ts from family 5	6
5.	How many individual	y times have yo ?	u been rejected	by family mer	nbers because	you are an LGBTQ
	1	2	3	4	5	6
6.	How many	y times have yo	u been called h	eterosexist/trar	sphobic names	like dyke, lezzie, or
	1	2	3	4	5	6
7.	How many individual	y times have yo ?	u been treated	unfairly by you	r family becaus	se you are an LGBTQ
	1	2	3	4	5	6
8.	B. How many times have you been treated unfairly by your employer, boss, or supervisors because you are an LGBTO individual?					
	1	2	3	4	5	6
9.	How many other such 1	y times were yo things at work 2	ou denied a rais that you deserv 3	e, a promotion, ved because yo 4	tenure, a good u are an LGBT 5	assignment, a job, or Q individual? 6

10.	10. How many times have you been treated unfairly by teachers or professors because you are an LGBTQ individual?						
	1	2	3	4	5	6	
11.	How many colleagues	y times have yo because you a	ou been treated n LGBTQ indi	unfairly by you vidual?	ır co-workers, f	ellow students, or	
	1	2	3	4	5	6	
12.	How many waiters, ba LGBTQ in	y times have yo artenders, waitr ndividual? 2	ou been treated esses, bank tel	unfairly by peo lers, mechanics,	ple in service j , and others) be 5	obs (e.g., store clerks, ecause you are an	
	1	2	5	-	5	0	
13.	How many individual	y times have yo ?	u been treated	unfairly by stra	ngers because	you are an LGBTQ	
	1	2	3	4	5	6	
14.	How many nurses, psy school prin 1	y times have yo ychiatrists, case ncipals, gyneco 2	w been treated workers, denti logists, and oth 3	unfairly by peo sts, school cour hers) because yo 4	ple in helping j nselors, therapis ou are an LGBT 5	obs (by doctors, sts, pediatricians, ΓQ individual? 6	

Appendix C

Hopkins Symptoms Checklist (HSCL-25)

Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much each symptoms bothered your or distressed you in the last week, including today. Place a check in the appropriate column.

	Not at all	A bit	Quite a bit	Extremely
Suddenly scared				
for no reason				
Feeling fearful				
Faintness,				
dizziness, or				
weakness				
Nervousness or				
shakiness inside				
Heart pounding or				
racing				
Trembling				
Feeling tense or				
keyed up				
Headaches				
Spells of terror or				
panic				
Feeling restless,				
can't sit still				
Feeling low in				
energy, slowed				
down				
Blaming yourself				
for things				
Crying easily				
Loss of sexual				
interest or pleasure				
Poor appetite				
Difficulty falling				
asleep, staying				
asleep				
Feeling hopeless				
about the future				
Feeling blue				
Feeling lonely				
Thoughts of				
ending your life				
1	1		1	1

Feeling of being		
trapped or caught		
Worrying too		
much about things		
Feeling no interest		
in things		
Feeling everything		
is an effort		
Feelings of		
worthlessness		

Appendix D

Suicidal Behaviors Questionnaire (SBQ-14)

<u>Please answer EVERY item with the number that applies to you. Please put only one number per space. DO NOT leave any empty spaces.</u>

1 _____ Have you thought about or attempted to kill yourself in your lifetime?

0 = No

1 = It was just a passing thought

2 = I briefly considered it, but not seriously

3 = I thought about it and was somewhat serious

4 = I had a plan for killing myself which I thought would work and seriously considered it

5 = I attempted to kill myself, but I do not think I really meant to die.

6 = I attempted to kill myself, and I think I really hoped to die.

How often have you thought about killing yourself?

0 = Not at all 1 = Rarely 2 = Sometimes 3 = Often 4 = Very often

- 2. _____ in your lifetime?
- 3. _____ in the last year?
- 4. _____ within the last 4 months?
- 5. _____ within the last month?

6. _____ in the last several days, including today?

Have you ever told someone that you were going to commit suicide, or that you might do it?

0 = No 1 = Yes, during one short period of time 2 = Yes, more than one period of time.

- 2. ____ in your lifetime?
- 3. _____ in the last year?
- 4. _____ within the last 4 months?
- 5. _____ within the last month?
- 6. _____ in the last several days, including today?

Appendix E

Multidimensional Inventory of Social Support

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

1. There is a special person who is around when I am in need.

Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
2. There is a special person w	with whom I can	n share my joys and sorrows.				
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
3. My family really tries to h	elp me.					
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
4. I get the emotional help an	d support I nee	d from my family.				
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
5. I have a special person wh	o is a real sourc	ce of comfort to me.				
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
6. My friends really try to he	lp me.					
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
7. I can count on my friends	when things go	wrong.				
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
8. I can talk about my proble	8. I can talk about my problems with my family.					
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
9. I have friends with whom I can share my joys and sorrows.						
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree			
10. There is a special person in my life who cares about my feelings.						

Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree
11. My family is willing to	help me make	decisions.	
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree
12. I can talk about my prob	olems with my	friends.	
Strongly Disagree Strongly Agree	Disagree	Neither Agree nor Disagree	Agree

Appendix F

Religious Commitment Inventory-10

Instructions: Read each of the following statements. Using the scale to the right, indicate the response that best describes how true each statement is for you.

1	2	3	4	5
Not at all true of	Somewhat true	Moderately true	Mostly true of	Totally true of
me	of me	of me	me	me

- 1. I often read books and magazines about my faith.
- 2. I make financial contributions to my religious organization.
- 3. I spend time trying to grow in understanding of my faith.
- 4. Religion is especially important to me because it answers many questions about the meaning of life.
- 5. My religious beliefs lie behind my whole approach to life.
- 6. I enjoy spending time with others of my religious affiliation.
- 7. Religious beliefs influence all my dealings in life.
- 8. It is important to me to spend periods of time in private religious thought and reflection.
- 9. I enjoy working in the activities of my religious affiliation.
- I keep well informed about my local religious group and have some influence in its decisions.

Appendix G

Measure of Substance Use

Please check how much you have used the following in the past 3 MONTHS:

	None	Once or twice	Several times	At least every week
Marijuana	1	2	3	4
Poppers ("Rush")	1	2	3	4
Ecstasy ("X")	1	2	3	4
Methamphetamine ("crystal" "tina")	1	2	3	4
Cocaine (powder or crack)	1	2	3	4
Ketamine ("special K")	1	2	3	4
Rohypnol ("roofies")	1	2	3	4
GHB ("g")	1	2	3	4
Heroin	1	2	3	4
Viagra, Cialis, or Levitra	1	2	3	4
Any other recreational drug	1	2	3	4