Religion and Sexual Orientation: Effects on Mental Health

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Abstract

Members of the Lesbian, gay, bisexual, and transgender (LGBT) community are at a higher risk for many mental and physical illnesses compared to heterosexual individuals. This pattern may be, in part, due to social stigma from the broader community and may be particularly acute when stigma is expressed by communities that LGBT individuals also identify with. This research study examined the impact of self-reported religiosity on anxiety levels among the LGBT community and a heterosexual comparison group. We looked to see if LGBT community members expressed higher levels of anxiety with increases in religiosity, particularly if they belong to groups with a generally negative attitude toward homosexuality. The study involved a total of 143 participants.

Introduction

Sexual orientation has become a very popular, and sometimes controversial, topic of discussion in society. This may be due to traditional norms that disapproved of and discouraged questions of sexuality. However, recent social mores have become more accepting of variations in sexual orientation. Given this growing level of conversation, there has been a large amount of research examining the lesbian, gay, bisexual, and transgender (LGBT) community regarding their mental and physical health.

Lesbian, gay, and bisexual adults are at a higher risk for poorer mental and physical health than heterosexual individuals (Institute of Medicine, 2011). Typically, sexual minorities report more depression, anxiety, acute physical complaints, limitations of activities, tension, and asthma than heterosexuals (Cochron & Mays, 2007; Conron, Mimiaga & Landers, 2010; King et al., 2008; Sandfort, Bakker, Schellens & Vanwesenbeeck, 2009). Previous research has also shown that sexual minority individuals are more at risk for other health disparities, such as cancer, cardiovascular disease, high cholesterol, asthma, and other health issues. This pattern may result from the added stress associated with being a minority in society (Lick, Durso, & Johnson, 2013). Many of these symptoms reflect idiosyncratic stressors that sexual minority individuals

encounter due to social stigmatization (Meyer, 2003). Meyer suggested that these stressors include heterosexism, stigma consciousness, sexual orientation concealment, and internalized homophobia. Internalized homophobia, for example, is the internalization of stigma related to one's sexual orientation and negative perception of themselves. Based on a recent meta-analysis, internalized homophobia was, in turn, associated with anxiety and depression (Newcomb & Mustanski, 2010).

Gay and bisexual men particularly are at a higher risk for poorer mental and physical health as a result of their sexual orientation. Gay and bisexual men are disproportionately diagnosed with mental health concerns including mood and anxiety disorders as well as associated behavioral comorbidity, such as substance use problems and/or HIV risk behavior compared to heterosexual men (Cochran et al., 2003; Mills et al., 2004).

Recent work has examined the effects of religion on the lives of individuals in the LGBT community. Some religions practice discrimination against lesbian, gay, and bisexual individuals, preach against same sex attractions, or cast LGB individuals violating norms for good and acceptable behavior. These negative messages may compromise the mental health of LGB individuals in general (Sowe, Brown & Taylor, 2014). However, the impact may be particularly acute for individuals who view religion as an essential aspect of their lives, despite the religious condemnation many gay and lesbian women face, (Davies, 2000). Religion is very essential to a large number of people and their lives as well as the way they perceive themselves. Religion is typically associated with both social and health benefits such as improved mental and physical health, increased life satisfaction, and higher quality of life (Ellison and Levin 1998; Ellison, 1993; Levin, Chatters, & Taylor, 1995). Furthermore, church-based health promotion programs and interventions have proven to reduce smoking behaviors and promote physical activity (Campbell, Hudson, Resnicow, Blakeney, Paxton & Baskin, 2007). Such positivity is also evident among youth. Religious adolescents report lower rates of risky behaviors, decreased likelihood of substance use and delinquency as well as fewer mental health issues (Smith, 2005). Unfortunately, such positive contributions and outcomes may not be available to lesbian, gay, bisexual, or transgender individuals. The social environment as well as the worldview and ideologies of many religious organizations are marked by negative beliefs about sexual minorities, leading to discrimination against and maltreatment of individuals as a result of their sexuality (Altman, Aggleton, Williams, Kong, Reddy, Harrad, Reis, Parker, 2012). Thus, many LGBT individuals who are highly religious can possibly experience some level of anxiety, depression, low self-esteem, and/or self-worth, especially if they are involved in a religion that does not approve of the LGBT community or lifestyle.

The goal of the current study is to examine patterns of anxiety among individuals that vary in sexual orientation and level of homosexual attractions as a function of level of religiosity. I hypothesize that in general, individuals who self-identify as LGBT community or who feel homosexual attractions will have higher social anxiety than heterosexual individuals. I also hypothesize that individuals that self-identify as members of the LGBT community or who feel homosexual attractions that are highly religious will have higher anxiety than highly religious

heterosexual individuals. I also predict that homosexual men will have higher anxiety than homosexual women.

Methods

Participants and procedures

Enrollment to participate in this research study began June 10, 2016 using various forms of recruitment strategies: 9 participants were from Amazon's Mechanical Turk, 199 participants were recruited through community outreach and listservs, including groups focused on the Lesbian Gay Bisexual Transgender community listservs. Mechanical Turk is a marketplace through Amazon that requires human intelligence. It gives businesses access to workforce and simultaneously giving workers a selection of numerous tasks to complete at their convenience. Each participant from Mechanical Turk received $0.10 for completing the questionnaires.

In order to be eligible for participating in this research study, participants were required to be at least 18 years of age. Participants could be heterosexual, lesbian, gay, transgender or bisexual.

Questionnaires were presented on line via Qualtrics (Provo, Utah). Consent was provided using an online form prior to presentation of the questionnaires. Procedures were reviewed and approved by the Institutional Review Board at the Pennsylvania State University.

Measures

Demographics: Participants were asked questions regarding their demographics. They were asked their age, biological sex at birth (male or female), gender identity (male or female), race (Hispanic, Asian/Pacific Islander, White, Native American, or other), and religious affiliation (Baptist, Catholic, Lutheran, Presbyterian, Methodist, Non-Denominational Christian, Jewish, Islamic, Buddhist, Hindu, None, or other).

Anxiety: The Beck Anxiety Inventory (Beck & Steer, 1993) was used to measure level of anxiety. Participants were assessed on 21 items associated with anxiety symptoms (e.g. unable to relax, nervous, unsteady, etc) using a 4-point Likert scale: Not at all (0), mildly but it didn't bother me much (1), moderately-it wasn't pleasant at times (2), or severely-it bothered me a lot (3). Scores on the BAI can range from 0 to 63 after adding up all the scores for each of the 21 questions (0-7 = minimal level of anxiety, 8-15= mild anxiety, 16-25=moderate anxiety, and 26-63= severe anxiety).

The 40-item State Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) was also used to assess the individuals' level of anxiety during the current moment (state) as well as in general (trait). (e.g. "I feel secure", "I feel upset", "I feel nervous and restless", "I worry too much over something that doesn't really matter", etc.). Participants respond using a 4-point Likert scale: Almost never, Sometimes, Often, or Almost Always. Scores on the STAI have two separate measurements, one is state and the other is the trait. Scoring for both of these

measurements is taken by calculating the mean of all the state items and calculating the mean for the trait items.

Depression: The levels of depressive symptoms were assessed with the Beck Depression Inventory (Beck, Steer, Brown, 1996). The BDI is a 21-item, self-report scale, which assesses the severity of depressive symptomatology. Participants were able to select the statement(s) that best fit the way they feel using a scale of 0 to 3. For example, "I do not feel sad" (0), "I feel sad" (1), "I am sad all the time and I can't snap out of it" (2), and/or "I am so sad or unhappy that I can't stand it" (3). Scores may range from 0 to 63 (0-10= these ups and downs are considered normal, 11-16= mild mood disturbance, 17-20= borderline clinical depression, 21-30= moderate depression, 31-40= severe depression, and over 40= extreme depression).

Religiosity and Spirituality: The Religiosity and Spirituality Scale for Youth (Hernandez, 2011) was administered to measure participants' religiosity and spirituality level. The 37 items on this scale referred to religious activity and participants rate the items using the following 4-point scale: 0=Never, 1=Sometimes, 2=Mostly, 3=Always. Some items on the Religiosity and Spirituality Scale for Youth include, "I pray in public, I attend prayer groups, I have a close relationship with God" etc. Participants were also asked what religion and denomination they were affiliated with (Baptist, Catholic, Lutheran, Presbyterian, Methodist, Non-Denominational Christian, Jewish, Islamic, Buddhist, Hindu, None, or other). Participants reported how often they pray, attend church, mosque, temple, and/or youth group, and their religion and church's stance on the LGBT community and gay marriage.

Sexual Orientation: The Sell Assessment of Sexual Orientation (Sell, 1996) was used to gather information on each participant's sexual orientation. The first 6 items assessed how often and intensely participants are sexually attracted to men and/or women. The next 4 items asked participants about their sexual (bodily) contact with other men and/or women. The last 2 items asked participants about their sexual orientation identity. There are 4 different scores on the SASO; homosexuality, heterosexuality, bisexuality, and asexuality. Homosexuality, heterosexuality, & bisexuality are all on a 4-point Likert scale. Asexuality scoring is either asexual or not at all asexual.

Analytic Plan

Initial analyses examined the demographic characteristics of the final sample. Importantly, we looked to see that the sample had adequate representation of the core factors of interest, namely sexual orientation and religiosity. We then turned to examine the core hypotheses laid out in the study.

First, using continuous variables, we examined zero-order correlations between levels of religiosity, levels of homosexual attraction, and anxiety, as well as demographic factors, such as age, gender, and ethnicity. Analyses were completed using categorical between-subjects measures of sex and sexual orientation within an initial ANOVA analysis to examine levels of anxiety. The follow up ANCOVA used religiosity to examine the potential impact on anxiety.

Finally, we examined the inter-relations between our measures using a PROCESS model (Preacher et al., 2007) using sexual orientation, gender, and religiosity, to examine the direct and conditional effects on anxiety.

Analyses were then repeated using a continuous measure of homosexual attraction as our predictor variable.

Results

We had a sample of 208 participate in data collection. Of these, we removed 42 participants who did not complete the study. Our final sample consisted of a total of 163 participants, 26% male, 74% female and average age of 29 (SD=11.26). There were 24 who identified as Asian/Pacific Islander, 9 were Hispanic, 109 were Caucasian, 1 were Native American, and 22 identified as other.

Overall, the mean religiosity score was 71.63 (SD=28.8). Religiosity did not vary as a function of denomination. In addition, levels of religiosity did not differ significantly as a function of age, gender, and race, *p*'s>0.08.

In addition, we note the score derived from the Sell Assessment of Sexual Orientation. Participants disclosed the extent to which they felt homosexual, heterosexual, or bisexual (i.e. not at all, slightly, moderately, etc.). Participants also disclosed their sexual contact between a male or female within the past year as well as the amount of sexual attractions they had for a male or female.

Within the sample, 76 (28 male) participants self-identified as homosexual and 93 self-identified as heterosexual (16 male). The distribution was significantly skewed, $\chi 2$ (1,169) = 0.38, p=0.004, based on the large percentage of female participants and the variation in sexual orientation within males and females. The distribution of participants in the sexual orientation groups did not differ significantly as a function of age and race, *p*'s > 0.10. As expected, level of homosexual attraction was significantly higher in the homosexual group (2.12 vs. 0.47), t (162) =11.73, p<0.001. Although there were proportionately more homosexual men in the sample than homosexual women, the interaction between sex and sexual orientation when examining homosexual attraction levels only approached significance, F(1,165)=2.82, p=.10.

The initial ANOVA examined the impact of sexual orientation and sex on levels of religiosity. The findings suggest no main effect of sex, (p=0.99), and no sex by orientation interaction, (p=0.86). However, there was, at trend, the suggestion that individuals who self-identify as homosexual were less religious (66.3 vs. 75.1), F(1,165)=2.89, p=.09.

Initial t-tests suggested that homosexual participants were higher in anxiety than heterosexual participants, t(149)=1.96, p=0.05 (6.75 vs. 4.34). However, this relation was no longer significant when sex was added as a second predictor, F(1,147)=2.30, p=0.13. The interaction between sexual orientation and sex was not significant, F(1,147)=0.21, p=0.65. When examining level of anxiety as a categorical measure (healthy, sub-clinical, and clinical), again

homosexual participants trended toward greater anxiety and impairment, $\chi 2$ (2,151)= 4.52, p=0.033.

We then ran an ANCOVA, adding religiosity to the initial ANOVA analysis examining anxiety levels. Our findings indicated no main effect of religiosity, p=0.51, and no interactions with either sexual orientation or sex, p's>0.31. The correlation between religiosity and anxiety did not reach significance when examined separately for homosexual and heterosexual participants, r's<0.15, p's>0.15.

Finally, we examined a PROCESS model predicting level of anxiety as a function of sexual orientation (categorical), sex (categorical), religiosity (continuous), and each of the two-way and three-way interactions. The overall model was not significant, F(7, 143)=1.13, p=0.35. However, as reflected in our individual analyses, sexual orientation was once again significantly related to anxiety levels, t=-1.97, p=0.05. No other factors were significant, p's>0.173.

We then examined our initial hypotheses using a more continuous measure of sexual orientation—that is, homosexual attraction.

First, we examined the zero-order correlations between homosexual attraction, religiosity, and anxiety. There was a negative correlation of, r(170)=-.251, p=.027, between the level of homosexual attraction and religiosity. In addition, there was a significant positive correlation between level of homosexual attraction and anxiety, r(152)=.192, p=.018. There was no significant correlation between religiosity and anxiety, r(152)=-.047, p=.562.

For female participants, homosexual attraction was negatively correlated with religiosity, r(126)=-.270, p=.002. The correlation, while in the same direction, was not significant for male participants, r(44)=-.210, p=.172. Follow-up analyses found that the two correlations were not significantly different from each other, Z=-0.353, p=0.72.

For female participants, homosexual attraction was positively correlated with anxiety, r(113)=.225, p=.017. The correlation, while in the same direction, was not significant for male participants, r(39)=.143, p=.385. Follow-up analyses found that the two correlations were not significantly different from each other, Z=0.442, p=0.66. Religiosity did not correlate with anxiety for either women, r(113)=-.011, p=.907, or men r(39)=-.188, p=.253.

Our overall ANCOVA examined the impact of homosexual attraction levels, sex, and religiosity on levels of anxiety. None of the predictors reached significance when examined together in a single model, F's < 0.850, p's>0.358.

Finally, we examined a PROCESS model predicting level of anxiety as a function of homosexual attraction (continuous), sex (categorical), religiosity (continuous), and each of the two-way and three-way interactions. The overall model was not significant, F(7, 144)=1.37, p=0.22. However, as reflected in our individual analyses, homosexual attraction was once again significantly related to anxiety levels, t=2.63, p=0.010. No other factors were significant, p's>0.212.

Discussion

This research study examined the anxiety and depressive levels among individuals self-identifying sexual orientation as a function of religiosity. We also looked at the impact of sex on the interrelations between sexual orientation, religiosity, and anxiety.

Our examination took both a categorical (sexual orientation) and continuous (homosexual attraction) approach in hopes of pulling apart potential variations in anxiety and religiosity. When examining sexual orientation, it appears that homosexual individuals are both less religious and higher in anxiety. These findings are in line with the initial hypotheses. They are also in line with previous studies indicating that homosexual individuals report more depression and anxiety (Cochron & Mays, 2007; Conron, Mimiaga & Landers, 2010; King et al., 2008; Sandfort, Bakker, Schellens & Vanwesenbeeck, 2009).

However, when examining the factors together we did not find that religiosity or sex influenced the relation between sexual orientation and anxiety. As such, our higher order hypotheses were not supported.

Our analyses with sexual attraction paralleled the categorical findings, as level of homosexual attraction was negatively correlated with religiosity and positively correlated with anxiety. There was some indication that these relations were stronger for women. Again, there were no significant interactions when examining sexual attraction, religiosity, and sex together to predict anxiety.

A number of conclusions can be drawn from this preliminary study. First, individuals who self-identified as homosexual or had more homosexual attractions were less religious. It may be that they were therefore less conflicted regarding the clash between sexual orientation and religion.

This study also found that the more homosexual attractions women have, the more anxious feelings they have. For homosexual men, there was no significant relationship between their gender and their levels of anxiety. This finding was the opposite of what we hypothesized prior to completing this research study. However, this finding may be the result of the large gender imbalance in our sample size; as the make-up was 74% female and 26% male.

This study produces support and evidence for further research regarding the effects of religion and sexual orientation on mental health. However, there are limitations to our study. There was a large gender imbalance in our final sample, with 74% female and 26% male participation. A larger, targeted recruitment procedure may have resulted in a larger sample size with a smaller gender imbalance. We also had a small sample size of 165 participants. In order for our results to accurately generalize to a specific population, a larger sample is needed. A large sample size could have also given us a better distribution of membership in specific religious denominations. This could be beneficial to our study by allowing us to have a diverse group of religions that accept the LGBT community and those that do not accept the LGBT community.

This study underlines several directions for future research. Our study focused on the levels of religiosity and spirituality of each participant. Additional research is needed to explore the anxiety and/or depressive levels within specific denominations varying in levels of acceptance for the LGBT community. For example, one could explore variation in anxiety levels of homosexual individuals who are a part of a religion that accepts sexual minorities versus anxiety levels among individuals who are a part of a denomination that does not accept sexual minorities. This analysis may be able to help us understand whether condemnation and discrimination in religious groups has the hypothesized mechanistic effect on mental health among members of the LGBT community. Other research could also benefit from having a larger sample size in order to make findings more generalizable for and in order to have proportionate groups to compare (i.e. women vs. men, homosexuals vs. heterosexuals). Expanding this research in these ways can help us understand minorities' mental health in order to enhance their mental health if needed. Further research can also contribute to better educating society as a whole about sexual minorities and their health as a means of creating less judgement and condemnation towards sexual minorities.

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