Religion and Sexual Orientation as Predictors of Utah Youth Suicidality

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Abstract

In a sample of 86,346 youth in Utah (grades 6,8,10, and 12) the relationship between religion and suicidality and depression was examined. Previous research suggests religion is protective, though whether it is also protective for lesbian, gay, bisexual, and questioning individuals (LGBQ) is debated. In line with previous research, we hypothesized that those belonging to the dominate religion in Utah (The Church of Jesus Christ of Latter-day Saints) would have lower suicidality than other religious groups due to greater family connections, lower substance use, and more community connections (i.e., less bullying for sexual orientation or religion and feeling safer at school). Whether this held for LGBQ individuals was also examined. Overall, results found Latter-day Saints were lower in suicidality and depression; differences were almost entirely explained by family connections and substance use (less so by community connections). Similarly, regarding suicidality and depression, LGBQ Latter-day Saints were significantly lower than or equal to LGBQ individuals of other religions and no religion. Again, differences between LBGQ Latter-day Saints and others were almost entirely explained by family connections and substance use. Community connections explained little of the difference between Latter-day Saints and others, though community connections had a strong main effect on suicidality and depression.

Adolescent suicide rates have increased substantially over the last two decades; suicide has become the second leading cause of death for adolescents and young adults since 2017 [1]. Some areas in the U.S. have experienced particularly large rises in suicide. For example, according to the Utah Department of Health, there was a 141% increase in suicides among Utah youth age 10-17 from 2011 to 2015, compared to an increase of 24% nationally[2].

It is important to view Utah's suicide rates within the context of its region. Utah sits in the middle of a band of states called the "suicide belt"[3]. The states considered to make up the suicide belt varies, but it usually includes Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico. These states all have higher rates of suicide than the nation and share characteristics that are related to greater suicide rates, including higher altitude, lower population density, and high gun ownership [4]. Utah sits in the middle of the suicide belt both geographically and in its suicide rate. In 2019, four of the surrounding states had higher suicide rate[5] and the large increase in Utah suicide rates was average among the suicide belt states[6].

Utah does, however, stand out in its religious profile with 68.6% of its population being members of The Church of Jesus Christ of Latter-day Saints ("Church of Jesus Christ;" The Church of Jesus Christ of Latter-day Saints, n.d.-a). Despite having an average suicide rate for its region, some have suggested Utah's higher rates may be due to the Church of Jesus Christ's

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[1] Melonie Heron, "Deaths: Leading Causes for 2017," *National Vital Statistics Reports* 68, no. 6 (June 24, 2019): 77.
[2] Utah Department of Health, "CDC Investigation Shows Youth Suicides in Utah Increasing," no. Special Edition 4 (2017).
[3] Steven E. Barkan, Michael Rocque, and Jason Houle, "State and Regional Suicide Rates: A New Look at an Old Puzzle," *Sociological Perspectives* 56, no. 2 (Sum 2013): 287–97, https://doi.org/10.1525/sop.2013.56.2.287.
[4] Barry Brenner et al., "Positive Association between Altitude and Suicide in 2584 U.S. Counties," *High Altitude Medicine & Biology* 12, no. 1 (January 7, 2011): 31–35, https://doi.org/10.1089/ham.2010.1058; Namkug Kim et al., "Altitude, Gun Ownership, Rural Areas, and Suicide," *American Journal of Psychiatry* 168, no. 1 (January 1, 2011): 49–54, https://doi.org/10.1176/appi.ajp.2010.10020289.
[5] U.S. Centers for Disease Control and Prevention, "CDC WONDER," accessed July 12, 2021, https://wonder.cdc.gov/.
[6] William J. Dyer, "Book Review: Gay Rights and the Mormon Church: Intended Actions, Unintended Consequences," *BYU Studies* 59, no. 1 (2020): 223–29.

conservative stance on sexuality. Some have argued the dissonance gay, lesbian, bisexual, and questioning (LGBQ) individuals may feel contributes to Utah's suicide rate[7]. Across the nation, suicide rates for non-heterosexual youth are tragically high[8] and our best efforts are required to better understand the reasons behind these numbers. While research suggests that religion in general decreases suicide risk[9], few studies have examined whether Latter-day Saints are different from those of other religions or no religion in their suicide rates or suicidal thoughts and actions (often referred to as "suicidality"). Additionally, no research has examined whether LGBQ Latter-day Saints are different in their suicide rates or suicidal thoughts and actions from those of other religions or no religion.

In this study we examined whether Latter-day Saint youth in Utah were at more or less risk for suicidality than those of other religions or no religion. We also examined rates of suicidality for LGBQ Latter-day Saint youth and compared them to other religions. If there were differences between religions, we were interested in understanding why those differences may exist. For example, we tested whether family connections, drug use, and feeling socially a part of the community may be reasons for any differences in suicidality across religions. This is the first study examining how members of the Church of Jesus Christ, including those who identify as LGBQ, may differ from other religions in their suicidality.

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[7] Michael Barker, Daniel Parkinson, and Benjamin Knoll, "The LGBTQ Mormon Crisis: Responding to the Empirical Research on Suicide," *Dialogue: A Journal of Mormon Thought* 49, no. 2 (2016): 1–24, https://doi.org/10.5406/dialjmormthou.49.2.0001; Benjamin Knoll, "Youth Suicide Rates and Mormon Religious Context: An Additional Empirical Analysis," *Dialogue: A Journal of Mormon Thought* 49, no. 2 (2016): 25–43; Gregory A. Prince, *Gay Rights and the Mormon Church: Intended Actions, Unintended Consequences* (Salt Lake City, UT: University of Utah Press, 2019).

[8] Rasaki Aranmolate et al., "Suicide Risk Factors among LGBTQ Youth: Review," 2017, 4.

[9] Steven Stack and Augustine J. Kposowa, "Religion and Suicide: Integrating Four Theories Cross-nationally," in *International Handbook of Suicide Prevention: Research, Policy and Practice*, ed. Rory C. O'Connor, Stephen Platt, and Jacki Gordon (Oxford, UK: Wiley-Blackwell, 2011), 235–52; Steven Stack and Augustine J. Kposowa, "Sociological Perspectives on Suicide," in *The International Handbook of Suicide Prevention* (John Wiley & Sons, Ltd, 2016), 241–57.

Religion and Suicide

In 1897 Émile Durkheim asked the question of whether an individual's religion was predictive of their likelihood to die by suicide[10]. Since then, theorists and researchers have examined this question, generally finding religious affiliation, behaviors, and beliefs related to lower rates of suicide. Summarizing the research, Stack and Kposowa[11] find religion protective against suicide given it can provide, among other things, feelings of connection in a community, social networks to draw upon in times of need, and direction and meaning for one's life.

On average, religious service attendance is a long-term protective factor against suicidality[12]. Regarding religious affiliation (that is, what religion a person belongs to), Dervic et al.[13] found religious affiliation protective against suicide, though O'Reilly and Rosato[14] found affiliation had no relationship to suicidality. Others have looked at the relationships between religious beliefs and suicidality[15], with most finding religious beliefs generally protective[16]. These beliefs are thought to help individuals create meaning in their lives and to provide meaning in suffering such that individuals can better cope with difficulties.

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[10] Emile Durkheim, "Suicide: A Study in Sociology (JA Spaulding & G. Simpson, Trans.)," *Glencoe, IL: Free Press.(Original Work Published 1897)*, 1951 1897.
[11] "Religion and Suicide: Integrating Four Theories Cross-nationally"; "Sociological Perspectives on Suicide."
[12] Evan M. Kleiman and Richard T. Liu, "Prospective Prediction of Suicide in a Nationally Representative Sample: Religious Service Attendance as a Protective Factor," *The British Journal of Psychiatry: The Journal of Mental Science* 204 (2014): 262–66, https://doi.org/10.1192/bjp.bp.113.128900; T. J. VanderWeele et al., "Association between Religious Service Attendance and Lower Suicide Rates among Us Women," *JAMA Psychiatry* 73, no. 8 (2016): 845–51, https://doi.org/10.1001/jamapsychiatry.2016.1243.
[13] "Attitudes Toward Suicide and Help-Seeking in Hungarian Adolescents," *Journal of the American Academy of Child & Adolescent Psychiatry* 44, no. 7 (2005): 628–29, https://doi.org/10.1097/01.chi.0000162573.32826.db.
[14] "Religion and the Risk of Suicide: Longitudinal Study of over 1 Million People," *The British Journal of Psychiatry* 206, no. 6 (2015): 466–70, https://doi.org/10.1192/bjp.bp.113.128694.
[15] e.g., belief in an afterlife, belief in a compassionate God; Leilani Greening and Laura Stoppelbein, "Religiosity, Attributional Style, and Social Support as Psychosocial Buffers for African American and White Adolescents' Perceived Risk for Suicide," *Suicide and Life-Threatening Behavior* 32, no. 4 (2002): 404–17, https://doi.org/10.1521/suli.32.4.404.22333; Tobias Teismann et al., "Religious Beliefs Buffer the Impact of Depression on Suicide Ideation," *Psychiatry Research* 257 (November 1, 2017): 276–78, https://doi.org/10.1016/j.psychres.2017.07.060.
[16] Erminia Colucci and Graham Martin, "Religion and Spirituality along the Suicidal Path," *Suicide and Life-Threatening Behavior* 38, no. 2 (2008): 229–44, https://doi.org/doi:10.1521/suli.2008.38.2.229.

Religion may also help reduce suicidality though its influence on family connections. Research has found positive family relationships related to lower suicidality[17] and other research suggests those who are more religious have better family relationships including happier marriages and better parenting[18]. Some research has shown parental divorce related to greater child suicidality[19] and individual religious experience connected to greater marital stability[20]. Thus, one way religion may be related to lower suicidality is because it supports positive family relationships and greater marital stability.

Although research suggests religion is, in general, protective against suicide, it is also possible religion may increase suicide risk if it creates feelings of disconnect with others. For instance, being part of a minority religion may create feelings of not belonging and result in fewer social opportunities compared to those of the dominate religion[21]. One study found that in countries with low support for religion, religiosity was related to greater suicidality[22]. Regarding religion and family, parents and children who "triangulate" God into their disagreements are

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[17] Christopher M. Bell et al., "The Role of Perceived Burden and Social Support in Suicide and Depression," *Suicide and Life-Threatening Behavior* 48, no. 1 (February 2018): 87–94, https://doi.org/10.1111/sltb.12327; Jennifer M. Buchman-Schmitt et al., "Suicidality in Adolescent Populations: A Review of the Extant Literature through the Lens of the Interpersonal Theory of Suicide," *International Journal of Behavioral Consultation & Therapy* 9, no. 3 (July 2014): 26–34.

[18] e.g., Emily Padgett et al., "Marital Sanctification and Spiritual Intimacy Predicting Married Couples' Observed Intimacy Skills across the Transition to Parenthood," *Religions* 10, no. 3 (March 11, 2019): 177, https://doi.org/10.3390/rel10030177.

[19] Esme Fuller-Thomson and Angela D. Dalton, "Suicidal Ideation among Individuals Whose Parents Have Divorced: Findings from a Representative Canadian Community Survey," *Psychiatry Research* 187, no. 1 (May 15, 2011): 150–55, https://doi.org/10.1016/j.psychres.2010.12.004.

[20] Joshua D. Tuttle and Shannon N. Davis, "Religion, Infidelity, and Divorce: Reexamining the Effect of Religious Behavior on Deivorce among Long-Married Couples," *Journal of Divorce & Remarriage* 56, no. 6 (August 18, 2015): 475–89, https://doi.org/10.1080/10502556.2015.1058660.

[21] Ryan E. Lawrence et al., "Religion as a Risk Factor for Suicide Attempt and Suicide Ideation Among Depressed Patients," *The Journal of Nervous and Mental Disease* 204, no. 11 (November 2016): 845–50, https://doi.org/10.1097/NMD.0000000000000484.

[22] Ning Hsieh, "A Global Perspective on Religious Participation and Suicide," *Journal of Health and Social Behavior* 58, no. 3 (2017): 322–39, https://doi.org/10.1177/0022146517715896.

more hostile with their children[23]. This may, in turn, lead to feelings of disconnect from others. Further, believing that God is indifferent or hostile has been connected with greater suicidality[24].

In the last few years, questions have arisen as to whether LGBQ individuals derive benefit from religion. Some theorize that given religion's historical and often contemporary non-acceptance of same-sex sexual relations, LGBQ individuals would feel a sense of disconnect and shame from their religious participation[25]. Although some studies of the general population (not Latter-day Saint specific) suggest religious LGBQ individuals may be at higher risk for suicidality[26] the overall research suggests religion may be protective for LGBQ individuals. A statistical analysis of the 73 studies on religion and mental health of LGBQ individuals found LGBQ individuals had better mental health when they were religious, though this positive effect disappeared (became statistically non-significant) in studies that recruited their participants from locations catering to LGBQ individuals such as gay bars/clubs.

Suicide and Latter-day Saints

A few studies have examined the relationship between being a Latter-day Saint and risk of suicide. Two studies of male suicide rates found the suicide rate for active Latter-day Saints lower than for less active and non-Latter-day Saints[27]. These studies found no difference in

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[23] Gina M. Brelsford, "Divine Alliances to Handle Family Conflict: Theistic Mediation and Triangulation in Father–Child Relationships," *Psychology of Religion and Spirituality* 3, no. 4 (2011): 285–97, https://doi.org/10.1037/a0021602.

[24] Kelly M. Trevino et al., "Negative Religious Coping as a Correlate of Suicidal Ideation in Patients with Advanced Cancer," *Psycho-Oncology* 23, no. 8 (2014): 936–45.

[25] see Megan C. Lytle et al., "Association of Religiosity with Sexual Minority Suicide Ideation and Attempt," *American Journal of Preventive Medicine* 54, no. 5 (May 1, 2018): 644–51, https://doi.org/10.1016/j.amepre.2018.01.019 for additional discussion on LGBQ individuals feeling disconnected from their religion.

[26] Jeremy J. Gibbs, "Religious Conflict, Sexual Identity, and Suicidal Behaviors among LGBT Young Adults," *Archives of Suicide Research : Official Journal of the International Academy for Suicide Research* 19, no. 4 (2015): 472–88, https://doi.org/10.1080/13811118.2015.1004476; Lytle et al., "Association of Religiosity with Sexual Minority Suicide Ideation and Attempt."

[27] Gilbert W. Fellingham et al., "Statistics on Suicide and LDS Church Involvement in Males Age 15-34," *Brigham Young University Studies* 39, no. 2 (2000): 173–80; Sterling C. Hilton, Gilbert W. Fellingham, and Joseph L. Lyon,

suicide rates between less active Latter-day Saints and non-Latter-day Saints. Yet these studies were unable to explain why differences may exist between Latter-day Saints and those of other religions, with Hilton et al. suggesting it may be partially due to Latter-day Saints using less drugs or alcohol (substance use has been associated with greater suicidality). More recently, researchers from The U.S. Centers for Disease Control (CDC) analyzed 2015 SHARP data (over 27,00 Utah youth) and found Latter-day Saints were significantly lower in suicidal thoughts and attempts than those of other religions[28].

Still, one unanswered question is how sexual orientation may play into the overall suicidality of Latter-day Saints. Despite Utah being average for its region, some have suggested the high suicide rates in Utah are due to LGBQ Latter-day Saints feeling they do not belong within the Church of Jesus Christ, which teaches against same-sex sexual relations[29]. Through the latter part of the 1900s, statements by Church leaders on homosexuality focused primarily on the sinful nature of same-sex sexual relations and on the need for repentance by those engaging in such acts. While these teachings remain, Church leaders have also increasingly emphasized the importance of helping LGBQ individuals know they belong and have a place in the Church. The Church's website on same-sex attraction leads with the words: "Kindness, Inclusion, and Respect for All of God's Children" (https://www.churchofjesuschrist.org/topics/gay?lang=eng).

Some research on mental health and sexual orientation has been done with Latter-day Saints. Lefevor and colleagues[30] compared current and former LGBQ Latter-day Saints, finding those who were highly religious and those who were not religious had the best mental health,

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"Suicide Rates and Religious Commitment in Young Adult Males in Utah," *American Journal of Epidemiology* 155, no. 5 (March 1, 2002): 413–19, https://doi.org/10.1093/aje/155.5.413.

[28] Francis Annor, "Epi-Aid # 2017-019: Undetermined Risk Factors for Suicide among Youth Aged 10-17 - Utah, 2017," 2017, 140.

[29] Prince, *Gay Rights and the Mormon Church*.

[30] G. Tyler Lefevor et al., "The Role of Religiousness and Beliefs about Sexuality in Well-Being among Sexual Minority Mormons," *Psychology of Religion and Spirituality*, June 13, 2019, https://doi.org/10.1037/rel0000261.

with those in the middle having the lowest mental health. Another study[31] found LGBQ individuals who were former Latter-day Saints to have better mental health compared to those who were current Latter-day Saints. Conversely, Cranney found LGB Latter-day Saints had better mental health than LGB individuals who were not Latter-day Saints[32] and another study found the more religious LGBQ Latter-day Saints were, the better their mental health, including lower suicidality[33]. With only two studies on the suicide rates of Latter-day Saints compared to other religions and the conflicting research findings regarding LBGQ Latter-day Saints and suicidality, much more work is needed to better understand what factors relate to suicidality for Latter-day Saints and whether these may account for higher rates of suicide in Utah.

Current Study

In this study we sought to determine whether, in Utah, rates of Latter-day Saints' suicidal thoughts and attempts were significantly different from those individuals from other religions or no religion. Although previous research has examined this question[34], this prior research was only with males and the data used is now more than 25 years old, well before the historic rates of suicide we see today. Further, this prior research was unable to answer questions of *why* suicide rates may differ for Latter-day Saints. We hypothesized Latter-day Saints in Utah may have lower rates of suicide than those of other faiths and no faith (as previously found) and we examined possible explanations for this. Specifically, we examined whether family connections,

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[31] John P. Dehlin et al., "Psychosocial Correlates of Religious Approaches to Same-Sex Attraction: A Mormon Perspective," *Journal of Gay & Lesbian Mental Health* 18, no. 3 (July 3, 2014): 284–311, https://doi.org/10.1080/19359705.2014.912970.

[32] Stephen Cranney, "The LGB Mormon Paradox: Mental, Physical, and Self-Rated Health among Mormon and Non-Mormon LGB Individuals in the Utah Behavioral Risk Factor Surveillance System," *Journal of Homosexuality* 64, no. 6 (2017): 731–44, https://doi.org/10.1080/00918369.2016.1236570.

[33] Jared S. Klundt et al., "Sexual Minorities, Mental Health, and Religiosity at a Religiously Conservative University," *Personality and Individual Differences* 171 (March 1, 2021): 110475, https://doi.org/10.1016/j.paid.2020.110475.

[34] Fellingham et al., "Statistics on Suicide and LDS Church Involvement in Males Age 15-34"; Hilton, Fellingham, and Lyon, "Suicide Rates and Religious Commitment in Young Adult Males in Utah."

alcohol and drug use, and social connections may explain differences between Latter-day Saints and other religions.

Regarding family connections, although an emphasis on family is prominent in many religions, the Church of Jesus Christ has a unique belief that marriage and parent-child connections are salvific[35], creating an emphasis on these relationships[36]. Some research has found strong belief in the importance of family relationships was related to Latter-day Saint families engaging in a variety of family-based religious rituals and practices[37], which have been found related to family wellbeing[38]. Further, divorce rates[39] have been found lower for Latter-day Saints than those of other religions[40]. We therefore hypothesized that the lower rates of suicidality for Latter-day Saints would be partially explained by family connections, including less family conflict and more stable family structures.

Latter-day Saints may also be lower in suicidality given the Church of Jesus Christ's strong discouragement of illegal drugs and alcohol[41]. Several studies have found substance abuse a risk factor for suicide[42]. Unsurprisingly, Latter-day Saints are less likely to use drugs or alcohol

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[35] Dean M Busby and David C. Dollahite, "The Strengths and Challenges of Contemporary Marriages of Members of The Church of Jesus Christ of Latter-Day Saints," *BYU Studies* 59, no. 1 (2020): 129–56.
[36] Nathan D. Leonhardt et al., "Together Forever: Eternal Perspective and Sacred Practices in American Latter-Day Saint Families," *Marriage & Family Review*, June 21, 2018, https://doi.org/10.1080/01494929.2018.1469575.
[37] Rachel W. Loser et al., "Perceived Benefits of Religious Rituals in the Latter-Day Saint Home," *Review of Religious Research* 50, no. 3 (2009): 345–62.
[38] Annette Mahoney, "Religion in Families, 1999 2009: A Relational Spirituality Framework," *Journal of Marriage and Family* 72, no. 4 (2010): 805–27, https://doi.org/10.1111/j.1741-3737.2010.00732.x.
[39] parental divorce is also related to suicidality; Bin Yang and George A. Clum, "Effects of Early Negative Life Experiences on Cognitive Functioning and Risk for Suicide: A Review," *Clinical Psychology Review* 16, no. 3 (1996): 177–95, https://doi.org/10.1016/S0272-7358(96)00004-9.
[40] Evelyn L. Lehrer and Carmel U. Chiswick, "Religion as a Determinant of Marital Stability," *Demography* 30, no. 3 (1993): 385–404, https://doi.org/10.2307/2061647.
[41] The Church of Jesus Christ of Latter-day Saints, "Word of Wisdom," accessed May 21, 2020, https://www.churchofjesuschrist.org/study/manual/gospel-topics/word-of-wisdom?lang=eng.
[42] Amanda Moskowitz, Judith A. Stein, and Marguerita Lightfoot, "The Mediating Roles of Stress and Maladaptive Behaviors on Self-Harm and Suicide Attempts Among Runaway and Homeless Youth," *Journal of Youth and Adolescence* 42, no. 7 (July 1, 2013): 1015–27, https://doi.org/10.1007/s10964-012-9793-4; Karen P. Reed, William Nugent, and R. Lyle Cooper, "Testing a Path Model of Relationships between Gender, Age, and Bullying Victimization and Violent Behavior, Substance Abuse, Depression, Suicidal Ideation, and Suicide Attempts in

than the national average and even less likely than most other religious denominations[43]. We therefore hypothesized the lower rates of suicidality for Latter-day Saint would be partially explained by less youth and family drug use. Conceptually, family drug use may also fit somewhat under "family connection" given it would likely impair family connections. However, family drug use likely has independent effects above family connections (possible involvement with the legal system, family income, increased abuse, etc.) that are not well captured by "family connection." Ultimately, family drug use was left in the "drug use" category, though its independent effects can be seen in the table of results. Finally, because Latter-day Saints in Utah are part of the majority religion, they may be more connected with their community. They may feel safer in school and experience less bullying for their religion. However, it may be the above arguments about lower suicidality and depression do not hold for LGBQ Latter-day Saints. We therefore finally examined whether findings hold the same for heterosexual and non-heterosexual youth. It may also be that given the Church of Jesus Christ's non-support of same-sex sexual relations, fewer LGBQ Latter-day Saints are "out" and thus may be less likely to be bullied for their sexual orientation. We therefore hypothesized that the lower rates of suicidality of Latter-day Saint would be partially explained by feelings of community connection including feeling safe at school, not being bullied for their religion, and not being bullied for their sexual orientation.

We examined the above while statistically controlling for parent education, race, gender, and grade. Further, including a variable of being bullied for sexual orientation will help us

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Adolescents," *Children and Youth Services Review* 55 (August 2015): 128–37, https://doi.org/10.1016/j.childyouth.2015.05.016.

[43] Ray M. Merrill, Jeffrey A. Folsom, and Susan S. Christopherson, "The Influence of Family Religiosity on Adolescent Substance Use According to Religious Preference," *Social Behavior and Personality* 33, no. 8 (2005): 821–36, https://doi.org/10.2224/sbp.2005.33.8.821; Laurence Michalak, Karen Trocki, and Jason Bond, "Religion and Alcohol in the U.S. National Alcohol Survey: How Important Is Religion for Abstention and Drinking?," *Drug and Alcohol Dependence* 87, no. 2 (March 16, 2007): 268–80, https://doi.org/10.1016/j.drugalcdep.2006.07.013.

partially control for whether the sexual orientation of an adolescent is known to others. This is important given it may be Latter-day Saint youth are less likely to disclose a non-heterosexual sexual orientation. In addition to suicidality, we also examined depression. In the data used here, questions about suicidality are simply two "yes/no" questions with youth indicating whether they had seriously considered suicide or attempted suicide. Although these kinds of "yes/no" items are frequently used in research, the recent recommendation is to add other, better measured indicators of mental health to see if results are consistent (AUTHOR CITE).

Methods

Sample

Data come from the 2019 Utah Prevention Needs Assessment survey that is conducted as part of the Student Health and Risk Prevention (SHARP) Statewide Survey administered by the Utah Department of Human Services[44]. There were 86,346 participants in grades 6, 8, 10, and 12, out of 133,350 sampled (64.8% participation rate). The survey was anonymous. The survey assesses adolescent substance use, anti-social behavior, and risk and protective factors. Using weights, a standard procedure to make data representative of the overall population, the data are representative of all Utah youth in grades 6, 8, 10, and 12 (population size: 201,394). Data are stratified by school district. The sample was 51.1% female, 48.5% male, with .4% choosing another gender category. Regarding race, 73.4% were white, 17.3% were Hispanic, and 9.3% were other. The sample was 51.7% Latter-day Saint, 8.3% Catholic, 1.1% Protestant, 0.2% Jewish, 4.6% of another religion, and 20.5% had no religious preference. Regarding sexual orientation, 64.9% were heterosexual, 3.7% were bisexual, 1.0% gay or lesbian, and 3.2% not sure. Another 27.2% were missing values. We were interested in this large group of individuals

[44] "SHARP Survey | DSAMH," accessed June 23, 2020, https://dsamh.utah.gov/reports/sharp-survey.

who did not report their sexual orientation. We thought it may be possible these individuals would be more likely to be LGBQ youth who were unwilling to disclose their sexuality, even on an anonymous survey. We therefore conducted the same analyses with this group as with the heterosexual and LGBQ groups to see whether they were more like the heterosexual or non-heterosexual youth.

Measures

Appendix A contains full details of the SHARP questions used in this study including reliabilities where applicable. The following question was used to determine whether the youth had recently seriously considered suicide: *During the past 12 months, did you ever seriously consider attempting suicide?* (*no = 0, yes = 1*) and 16.3% indicated they had seriously considered suicide. The youth were also asked if they had attempted suicide in the last 12 months (*no = 0, yes = 1*) with 6.7% indicating at least one suicide attempt in the last 12 months. To measure youth depression, four standard depression questions were combined (see Appendix A for details).

Regarding religion, youth were asked: *If you have a religious preference, choose one with which you identify the most,* with responses being: *Catholic, Protestant (such as Baptist, Presbyterians, or Lutherans), Jewish, Another religion, LDS (Mormon),* and *No religious preference*. Given the low proportion of *Jewish*, these were combined with "*Another religion.*" Just over 14% of youth were missing data on their religion. Rather than ignore these individuals, they were simply coded as a separate group ("missing") to examine whether this group was different from the others.

One measure of youth family connections was whether they lived with both their mother and father (coded as a 1) or in some other arrangement (coded as a 0). Although various

possibilities regarding family structure could have been used, it is expected that those living with both their father and mother will have had, on average (though certainly not in every situation), a more stable household. Three questions were used to create a measure of family conflict (e.g., *People in my family often insult or yell at each other*). These items were combined to create a measure indicating the amount of conflict in the family. Regarding drug use, youth were asked: *Has anyone in your family ever had severe alcohol or drug problems?* (0 = *no*, 1 = *yes*). They were also asked if they had ever used alcohol, tobacco, or any drug (including prescription medications without a prescription). Overall, 24% had used one of these (0 = had not used any drug, 1 = had used a drug). Three questions were used to measure community connection: whether the youth felt safe at school, whether they had been bullied for their sexual orientation (0 = not bullied for sexual orientation, 1 = bullied for sexual orientation; 2.4%), and whether they had been bullied for their religion (0 = not bullied for religion, 1 = bullied for religion; 4.5%).

Analyses controlled for parent education, race, gender, and youth grade in school. Since our primary interest is understanding the relationship between religion, suicidality, and depression, controlling for these variables makes sure that whatever differences we find are not actually the result of these control variables. We also controlled for reported honesty on the survey. At the end of the survey youth were asked how honest they were in filling out the survey (from 1 = *I was very honest* to 5 = *I was not honest at all*). It is almost guaranteed that in every study, some participants are less than honest in some response. This survey provides some indicator of that. Although the question does not capture all levels of honesty, it does capture some and that can be statistically accounted for. By adding this question to our statistical models, we can partially control for youth who may have intentionally misreported.

Analysis plan

To test the relationship between religion, sexual orientation, and suicidality/depression, five regression models were conducted. These models build on each other. In the first model, suicidality or depression were predicted by religious affiliation. The second model added the control variables. The third model introduced family connection variables and the fourth model added substance use variables. The final and fifth model added community connection variables. Differences between Latter-day Saints and other religions and those of no religion could be examined at each step. If variables are added and any statistically significant differences between Latter-day Saints and those of other religions become non-significant, those variables are said to "explain" why Latter-day Saints and other religions may differ. These five statistical models were conducted for the sample as a whole and then were conducted again while breaking out youth by their sexual orientation. To break out analyses by sexual orientation, an interaction term was specified between religion and sexual orientation. Thus, all five models were estimated for heterosexuals, LGBQ individuals, and those missing sexual orientation data. Below we refer to differences across "religious groups" which also includes those who were not religiously affiliated (referred to as "nones") and those who did not answer the religion question. Those who selected the option *other* when they reported their religion are designated "other."

Results

Appendix A contains full details of results with main results summarized here.

Examining the simple correlations (see Table 1), Latter-day Saints were more likely to report being heterosexual. Being a Latter-day Saint was also positively related to protective factors (two-parent home, feeling safe at school) and negatively related to risk factors (suicidality, depression, family conflict, family and youth drug use, and being bullied for religion or sexual orientation). Irrespective of religious denomination, those who identified as LGBQ

were lower on protective factors and higher on risk factors. Table 2 contains proportions and means. Those missing sexual orientation data were more similar to those who identified as heterosexual in their suicidality and depression than those who identified as LGBQ. It is worth noting that those missing sexual orientation data were most likely to be in 6th grade (mean = 6.11) whereas heterosexuals and LGBQ individuals were more likely to be three grades higher (means of 9.95 and 9.74 respectively). It may be that sixth graders had difficulty answering the sexual orientation question.[45]

Descriptively, we were interested in how rates of Utah youth suicidality in the SHARP data compared with national estimates. To do this, we used the 2019 Youth Risk Behavior Survey (YRBS) conducted by the CDC. In order to get an appropriate comparison with CDC numbers, for this comparison only, we limited the SHARP survey to only high school seniors and examined those who were LGB (not those questioning). The YRBS does not collect data on religious affiliation, though here we compare CDC national rates to religion specific rates in Utah. In the SHARP survey high school senior rates of seriously considering suicide were: Latter-day Saint: 47%; Catholic: 32%; Protestant: 48%; Other: 53%; None: 50%. The National CDC rate for this group was 52%. For suicide attempts, rates were as follows: Latter-day Saint: 9%; Catholic: 23%; Protestant: 32%; Other: 23%; None: 17%. The National CDC rate for this group was 20%. Thus, CDC National rates of suicidal thoughts and attempts were comparable to our sample, with Latter-day Saints being lower than national rates.

In results below we will refer to one religion being "significantly" higher or lower than another religion. In the language of statistics, when something is "significantly" higher or lower, this indicates statistical significance. That is, the differences are unlikely to be due to chance.

[45] Anecdotally, the first author spoke with a sixth grader who took the survey and they said they were unsure what was being asked by the sexual orientation question and left it blank.

Although the absolute differences may be small, those differences may still be *statistically significantly* higher or lower. Absolute differences have been provided for the reader to determine the level of difference. However, we also note several instances where, although the differences may be statistically significant, the degree to which they are different is small. Thus, below, when it is indicated something is "significantly" higher or lower, this simply refers to statistical significance and not absolute level of difference.

Results for the Full Sample

Figures 1 and 2 graphically represent results of Model 1 (religion only) and Model 5 (religion/controls/Family/Substance Use/Community Connection) for analyses with the full sample. Tables 1 and 2 of Appendix A (see links online) contain full model parameters and comparison statistics for these models. Further, more detailed graphs of results can be found in Appendix A.

Model 1: Religion

In our most basic models, religion was specified as the only predictor of suicidality and depression. In these model, rates of suicide ideation across religion are as follows: Latter-day Saint: 13%; Catholic: 15%; Protestant: 16%; Other: 19%; None: 22%. For suicide attempts, rates were as follows: Latter-day Saint: 4%; Catholic: 10%; Protestant: 9%; Other: 13%; None: 11%. Those of all other religions (including nones – which means no specific religious affiliation) were significantly higher in considering suicide, attempting suicide, and depression than Latter-day Saints. For considering suicide, compared to Latter-day Saints, these differences ranged from 4% (those missing religion data) to 14% higher (nones) higher. For suicide attempts, compared to Latter-day Saints, differences ranged from 5% (Protestants) to 9% ("other") higher. For depression, difference ranged from .15 (missing religion data) to .43 (nones) higher.

Model 2: Religion + Controls

When adding controls (parent education, race, gender, and youth grade in school and reported honesty) to Model 1, Latter-day Saints remained significantly lower than all other religious groups in suicidality and depression. The one exception was that for seriously considering suicide, Latter-day Saints were no longer significantly lower than Protestants, they were statistically equal. Statistically equal means that though there may be slight differences between denominations, they are too small to conclude that they are not simply due to chance.

Model 3: Religion + Controls + Family Connection

When adding family connection, Catholics became statistically equal to Latter-day Saints with Protestants continuing to be statistically equal. Further, Latter-day Saints and Protestants also became statistically equal in both suicide attempts and depression.

Model 4: Religion + Controls + Family Connection + Drug use

When adding drug use, Latter-day Saints were statistically equal to all other religions except they remained lower than those of no religion. When adding drug use, Catholics also became statistically equal to Latter-day Saints in both suicide attempts and depression.

Model 5: Religion + Controls + Family Connection + Drug use + Community Connections

With the final addition of community connections, the only change was those of other religions became statistically equal to Latter-day Saints.

Results by Sexual Orientation: LGBQ Individuals

Figures 3 and 4 graphically represent results of Model 1 and Model 5 for analyses with the LGBQ individuals. Tables 3-6 of Appendix A contain full model parameters and comparison statistics for LGBQ models as well as models for heterosexuals and those missing data on sexual orientation.

Model 1: Religion Predicting Suicidality and Depression

For LGBQ individuals, when religion was the only predictor, Latter-day Saints were significantly lower in suicide ideation and attempts than those of other religions and those of no religion. Latter-day Saints were also significantly lower in suicide attempts than Catholics. For depression, Latter-day Saints were significantly lower than all other religions. For LGBQ individuals in this first model, rates of ideation were as follows: Latter-day Saint: 28%; Catholic: 37%; Protestant: 46%; Other: 50%; None: 49%. Rates of attempts for LGBQ individuals were as follows: Latter-day Saint: 10%; Catholic: 26%; Protestant: 25%; Other: 30%; None: 23%.

Model 2: Religion + Controls

Only one difference between Model 1 and Model 2 was found: when adding controls, Latter-day Saints and Catholics LGBQ individuals became statistically equal in their depression.

Model 3: Religion + Controls + Family Connection

In terms of significant differences between LGBQ Latter-day Saints and those of other and no religions, there were no changes when adding family connections to the model.

Model 4: Religion + Controls + Family Connection + Drug use

When adding drug use, all significant differences between Latter-day Saints LGBQ individuals and those of other religious groups became non-significant except Latter-day Saints remained lower in suicide attempts and depression than those of no religion.

Model 5: Religion + Controls + Family Connection + Drug use + Community Connections

With the final addition of community connections, the only change was Latter-day Saints LGBQ individuals and LGBQ nones became equal in suicide attempts. Latter-day Saints remained lower in depression than nones which was the only group significantly different from Latter-day Saints in Model 5.

Results by Sexual Orientation: Heterosexual Individuals

Figures 5 and 6 graphically represent results of Model 1 and Model 5 for analyses with the Heterosexual individuals.

Model 1: Religion Predicting Suicidality and Depression

For heterosexuals, when religion was the only predictor, Latter-day Saints were significantly lower in suicide ideation (thoughts about suicide) and attempts than those of other religions and those of no religion. Latter-day Saints were also significantly lower in suicide attempts than Catholics and Protestants. For depression, Latter-day Saints were significantly lower than all other religions and those of no religion. In Model 1, percentages of ideation across religion are as follows: Latter-day Saint: 13%; Catholic: 15%; Protestant: 16%; Other: 19%; None: 22%. Rates of attempts for heterosexuals were as follows: Latter-day Saint: 4%; Catholic: 8%; Protestant: 8%; Other: 10%; None: 9%.

Model 2: Religion + Controls

When controls were added, Latter-day Saint heterosexuals were no longer significantly lower than Catholic heterosexuals in suicide attempts and depression. They were also no longer significantly lower than Protestant heterosexuals in suicide attempts.

Model 3: Religion + Controls + Family Connection

When adding family connections, Latter-day Saint heterosexuals were no longer lower than heterosexuals from “other” religions on seriously considering suicide or depression.

Model 4: Religion + Controls + Family Connection + Drug use

When adding drug use as a control, significant differences in considering suicide between heterosexual Latter-day Saints and heterosexual “nones” become non-significant. For suicide attempts, all significant differences between Latter-day Saint heterosexuals and those of other

religious groups also became non-significant. However, when adding drug use, Latter-day Saints became significantly higher in considering suicide than Catholics and significantly higher in depression than Catholics and Protestants.

Model 5: Religion + Controls + Family Connection + Drug use + Community Connections

Adding community connections did not change the significance level of differences between Latter-day Saints and other religious groups.

Results by Sexual Orientation: Individuals Missing Sexual Orientation Data

Given they are not the focus of this paper, we briefly review results for those missing sexual orientation data, though full results are available in Appendix A. For those missing sexual orientation data, there were no significant differences between Latter-day Saints and Protestants on considering suicide and attempting suicide. All other comparisons of suicidality and depression were significant with Latter-day Saints being significantly lower than all other religious groups and those of no religion. These significant differences remained through Model 5 except Protestants became statistically equal with Latter-day Saints when adding controls. In the end, those missing data on sexual orientation were highly similar to heterosexuals and often significantly different from LGBQ individuals.

Other Important Predictors of Suicidality and Depression

Table 6 of Appendix A contains the complete results for final models. These models include all the variables and we can here examine which variables matter most in predicting suicidality and depression. Compared to females, males were significantly lower in suicidality and depression. Being older (a higher grade in school) was associated with fewer recent suicide attempts but greater depression. All family, drug, and community connections variables significantly predicted suicidality and depression in the expected direction. Of the family

connection variables, family conflict was the strongest predictor of suicide, leading to a nearly doubling of ideation and a 170% increase in attempts along with being related to greater depression. Of the drug use variables, youth drug use was the strongest predictor, more than doubling the likelihood of ideation and attempt and related to higher depression. While not explaining differences between Latter-day Saints and others, community connections were highly related to suicidality. For example, being bullied for sexual orientation more than doubled the likelihood of ideation and attempt and was related to higher depression. Family connections, substance use, and community connections variables were important as well.

Latter-day Saint Disaffiliation and Suicidality

Study results suggest that LGBQ Latter-day Saints are not at higher suicidality risk than LGBQ youth of other religions or those with no religious affiliation, and in fact were significantly lower in suicidality than several of these other groups. Initial difference tests (Model 1) suggest Latter-day Saints are, on average, lower in suicidality than most other religious groups. However, one may conjecture the reason LGBQ Latter-day Saints are lower is because those at high levels of suicidality (possibly due to difficulties within the Church) disaffiliated with the Church. Thus, it may be Latter-day Saints are lower in suicidality because a disproportionate percentage of high suicidality LGBQ individuals no longer identified as Latter-day Saint. Unfortunately, SHARP data do not contain information about disaffiliation. However, it is possible to use other data on LGBQ youth disaffiliation from the Church of Jesus Christ to estimate the degree to which disaffiliation may play into results. Such analyses were conducted and are contained within Appendix A. Results suggest it very unlikely the reason those of no religion are higher than Latter-day Saints in suicidality is because of disaffiliated Latter-day Saints (the likelihood is lower than 2%).

Discussion

This study examined differences in suicidality and depression across religion and sexual orientation in a representative sample of Utah youth in grades 6, 8, 10, and 12. For the entire sample, before taking any other factors into account, Latter-day Saints were lower in their suicidality and/or depression than those of any other religious group or those of no religion. This is in line with previous research on Latter-day Saints and suicide in Utah[46]. Going beyond this previous work, analyses here were able to explain these differences. Indeed, based on the data available in the SHARP survey, the majority of differences were explained by family connections and drug use.

This same pattern held for LGBQ individuals. LGBQ Latter-day Saints were lower in their suicidality and/or depression than LGBQ individuals of any other religion or no religion. Again, the majority of these differences became non-statistically significant when taking into account controls, family connections, and substance use. That is, results suggest the reason for LGBQ Latter-day Saints being lower in their suicidality and/or depression is because of their stronger family connections and less drug use.

Thus, results suggest that, on average, Latter-day Saints (whether LGBQ or not) are lower in suicidality and depression given Latter-day Saints have (again, on average) stronger family connections and less drug use. This suggests that independent of religious background, a youth with a strong family background and low levels of substance use will have lower suicidality and depression. Hilton et al. (2002) posited drug use as a possible reason for their findings of lower suicidality of Latter-day Saints. It also appears strong family connections are central to lower risk of suicide.

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[46] Fellingham et al., "Statistics on Suicide and LDS Church Involvement in Males Age 15-34"; Hilton, Fellingham, and Lyon, "Suicide Rates and Religious Commitment in Young Adult Males in Utah."

However, an additional nuance emerged in analyses with only heterosexuals. Although initially Latter-day Saints were lower in suicidality and depression, after controlling for drug use, Catholics were *lower* in considering suicide than Latter-day Saints and Protestants and Catholics were *lower* than Latter-day Saints in depression. In other words, although Latter-day Saints initially appeared to have lower levels, once other factors were taken into account the relationship reversed. It appears there may be some additional protective factors for Catholics and Protestants (or some additional risk factors for Latter-day Saint heterosexuals) not accounted for in these models.

Still, it is important to recognize that when significant differences were found in our final models (whether Latter-day Saints were higher or lower) those differences were small. For suicidality, significant differences were no more than 2-3% in the final models. In contrast, differences in the initial models were much higher. For instance, for the combined sample (not breaking it out by sexual orientation), individuals of no religion were 14% higher in seriously considering suicide than Latter-day Saints. Although the difference remained statistically significant in the final model, the difference decreased to 2%.

It is important to note that the full nuance of religion's influence (Latter-day Saint or other) is not captured here. Although we can see denomination, family, and substance use matter, the SHARP data do not provide sufficient detail about religiosity to examine how beliefs or religious practices may matter. It is likely specific religious beliefs and practices influence family connections and drug use. Knowing precisely which beliefs and practices were most influential to family connections and drug use would provide additional information about the way in which religion affects suicidality and depression. For example, the lower substance use by Latter-day Saints likely has an underlying religious mechanism not captured here. It may be The Church of

Jesus Christ's unique emphasis on drugs and alcohol (it being included in their scripture and as part of one's "worthiness" before God) provides a greater than normal incentive to avoid substance use. That is, substance use avoidance may take on higher, sacred meanings, providing additional motivation to avoid these substances. This study does not capture such influences of religious belief. It should also be noted that religion may impact the youth in ways not captured here. Indeed, suicidality and depression, although important, are not the "whole picture" of a youth.

It is interesting that for those missing data on sexual orientation, differences between Latter-day Saints and those of other religions and no religion persisted (though substantially reduced) through each of the models. Again, this group is, on average, much younger than those who are not missing sexual orientation data. At this younger age, they may be less likely to use drugs or alcohol, and therefore this may be less likely to explain differences. Reasons why younger Latter-day Saint individuals were lower in suicidality and depression are not fully captured here, suggesting future research should examine these younger youth for possible reasons why Latter-day Saints may be lower.

Little evidence was found that community connections explained the difference between Latter-day Saints and those of other religions or no religion. In two instances, community connection explained away a significant difference between Latter-day Saints and another religious group. The first was for depression where a significant difference between Latter-day Saints and nones became non-significant. The second instance was for LGBQ Latter-day Saints and LGBQ nones where adding community connection dropped the difference between these two groups from 3% to 2% and became non-significant. In the end, when adding community connections, there were only a few instances where significant differences between Latter-day

Saints and other religious groups became non-significant. Further, absolute differences changed little when including community connections variables. After including the family connections and drug use, nearly all the differences between Latter-day Saints and other groups were accounted for.

This does not, however, mean community connections are not related to suicidality and depression. It simply means they do not explain much of the difference between Latter-day Saints and other groups. It may also be that community connections have an effect on suicidality and depression through family and drug use/abuse. That is, less community connection may create strain on the family and individual, leading to more family conflict. For instance, feeling safe at school is moderately correlated with family conflict (-.25) and youth drug use (-.21). However, longitudinal mediation models are needed to examine the indirect effect of community connections on suicide.

Indeed, community connections appear to have a major influence on suicidality and depression (see Table 6 of Appendix A). Those bullied for their sexual orientation were at more than double the risk for considering and attempting suicide and significantly higher in depression. Feeling safe at school also reduced ideation and attempts by 35-40%. Given this, community-based gatekeeper training[47] would be important as it is designed to enable members of the community to inquire about suicide among youth (and others) who may be at risk. Such training is more effectively offered in settings where youth study, live and play and should also include individuals who surround youth in these social contexts. Such training can not only identify youth at risk but also help to strengthen connections and convey caring—especially

[47] U.S. Department of Health and Human Services, Office of the Surgeon General, and National Action Alliance for Suicide Prevention., *2012 National Strategy for Suicide Prevention: Goals and Objectives for Action* (Washington, DC: HHS, 2012).

among youth who may be at risk of marginalization (e.g., bullied for sexual orientation or religion). Given the protective potential of religious communities, such gatekeeper training should be offered regularly in these contexts, particularly for youth who might be at risk of being estranged from their church or religious group. For youth identified as at risk of suicide, the use of crisis response plans[48] should be considered. The CRP is a personalized and highly specific plan written on a small card that addresses the following elements: warning signs of suicide, specific coping skills, helpful people to contact, specific reasons for living, and crisis resources (hotlines, emergency services). The CRP is intended to strengthen interpersonal connections, improve emotional regulation, and help the person-at-risk to avoid behaviors that may increase risk of suicide, impulsivity, and disinhibition, including drug and alcohol use during a crisis. Our results also confirm what has been found in previous research: LGBQ individuals have far higher rates of suicidality and depression than heterosexuals. The suggestions for interventions here are particularly important for this higher risk group.

Durkheim's[49] proposition that social connection is a facet of religion which reduces suicide was suggested by results. However, within this study, it was social connections within the *family* that primarily explained differences in suicidality and depression across religion. Thus, religion may have its greatest influence on youth wellbeing through its effects on the adolescents' family life.

Limitations

Several limitations of this study should be noted. First, the data used for this study do not account for those who deidentified with their religion. Analyses that examined the potential

[48] CRP; Craig J. Bryan et al., "Effect of Crisis Response Planning on Patient Mood and Clinician Decision Making: A Clinical Trial with Suicidal U.S. Soldiers," *Psychiatric Services* 69, no. 1 (October 2, 2017): 108–11, https://doi.org/10.1176/appi.ps.201700157.
[49] "Suicide: A Study in Sociology (JA Spaulding & G. Simpson, Trans.)."

impact of disaffiliated Latter-day Saints on initial models should be noted for the various assumptions they make and should be interpreted cautiously and considered preliminary. Confirmatory analyses need to be conducted with a sample that contains information about religion, disaffiliation, sexual orientation, and suicidality. Further, we were unable to determine how religious youth were. It is likely the degree to which youth were religious would be a partial explanation of relationships examined here. Further, we do not have a measure of how "out" LGBQ youth were. It will be important for future research to determine the degree to which "outness" influences suicidality of Latter-day Saint youth. Still, the partial control for outness (whether they had been bullied) explained few differences between Latter-day Saints and those of other religions.

The measures used to capture family and community connections are rather narrow. It will also be important to use more nuanced measures of family and community connections. Still, these measures explained most of the differences between religions and had strong main effects, which demonstrates their utility.

Conclusion

Although some have suggested otherwise[50], results here give support to research suggesting that, in Utah, being a Latter-day Saint is protective against depression and suicidality[51] even for LGBQ individuals[52]. This study also reveals that a major reason for that protection is that being a Latter-day Saint is associated with stronger family connections, less drug and alcohol use, and, to a lesser degree, more community connections in schools and with

[50] Barker, Parkinson, and Knoll, "The LGBTQ Mormon Crisis"; Knoll, "Youth Suicide Rates and Mormon Religious Context: An Additional Empirical Analysis"; Prince, *Gay Rights and the Mormon Church*.
[51] Annor, "Epi-Aid # 2017-019: Undetermined Risk Factors for Suicide among Youth Aged 10-17 - Utah, 2017"; Fellingham et al., "Statistics on Suicide and LDS Church Involvement in Males Age 15-34"; Hilton, Fellingham, and Lyon, "Suicide Rates and Religious Commitment in Young Adult Males in Utah."
[52] Cranney, "The LGB Mormon Paradox: Mental, Physical, and Self-Rated Health among Mormon and Non-Mormon LGB Individuals in the Utah Behavioral Risk Factor Surveillance System."

peers. Utah data match other state and national data suggesting significantly higher rates of suicide ideation and attempt among those youth who identify as LGBQ versus those who identify as heterosexual. We continue to see a need to learn more about the risk and protective factors for suicidal ideation and attempt among the LGBQ community. Although we were not able to fully estimate the influence of disaffiliation, it should be noted that the majority of LGBQ individuals who currently identify as Latter-day Saints have not had suicidal thoughts or attempts in the recent past. Although the levels are still high compared to heterosexuals, it appears most LGBQ Latter-day Saints are not having suicidal thoughts.

While community connections appear to explain little of the differences between Latter-day Saints and other religions, they have a strong main effect on suicidality and depression. The implications are rather clear: to address suicidality, engaging with families to reduce conflict and engaging with peers to reduce bullying are key strategies. Further, those youth engaged in substance use should have particular attention paid to them regarding suicidality as they are at substantially higher risk. A broad approach tackling family, drug, and community connections will be critical to reducing the suicidality in the suicide belt, a region of higher risk.

Table 1. *Correlations (n = 86,346)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Latter-Day Saint	-													
2. Other Religion	-.41	-												
3. No Religion	-.53	-.19	-											
4. Heterosexual	.11	.01	-.04	-										
5. LGBQ	-.14	.02	.17	-.36	-									
6. Suicide Ideation	-.15	.04	.14	-.03	.21	-								
7. Suicide Attempt	-.13	.06	.09	-.06	.14	.49	-							
8. Depression	-.19	.08	.17	-.02	.23	.63	.38	-						
9. Two-parent Home	.24	-.07	-.19	.02	-.08	-.13	-.11	-.18	-					
10. Family Conflict	-.13	.04	.13	.02	.14	.30	.21	.47	-.16	-				
11. Family Drug Use	-.20	.09	.18	.05	.12	.21	.15	.27	-.26	.28	-			
12. Youth Drug Use	-.33	.19	.25	.08	.15	.25	.21	.30	-.22	.24	.29	-		
13. Feel Safe at School	.15	-.07	-.11	-.07	-.14	-.28	-.21	-.38	.11	-.25	-.17	-.21	-	
14. Bullied for Religion	.03	.03	-.05	.03	.02	.09	.06	.11	.01	.08	.04	.01	-.12	-
15. Bullied for Sexual Orient.	-.10	.02	.11	-.15	.33	.20	.18	.20	-.06	.12	.11	.12	-.15	.11

Note. All correlations are significant at $p < .001$.

Table 2. *Descriptives by Sexual Orientation, Weighted Proportions/Means and Standard Errors.*

Characteristic	Heterosexual (n=51,189)	LGBQ (n=7,205)	Missing (n=28,132)
Religion			
Latter-day Saint	56.0%(.003)^{LM}	26.7%(.007)^{HM}	48.7%(.004)^{HL}
Catholic	8.8%(.002)^{LM}	7.6%(.004)^{H}	7.3%(.002)^{H}
Protestant	1.3%(.001)^{M}	1.1%(.002)^{M}	.7%(.001)^{HL}
Other	4.5%(.001)^{LM}	7.6%(.004)^{HM}	5.0%(.002)^{HL}
None	19.0%(.002)^{LM}	44.7%(.001)^{HM}	17.0%(.003)^{HL}
Missing	10.5%(.002)^{LM}	12.2%(.005)^{HM}	21.2%(.003)^{HL}
Suicide Ideation	15.6%(.002)^{LM}	40.8%(.008)^{HM}	11.5%(.003)^{HL}
Suicide Attempt	6.0%(.002)^{L}	19.1%(.008)^{HM}	6.6%(.003)^{L}
Depression	1.86(.005)^{LM}	2.50(.015)^{HM}	1.73(.006)^{HL}
White	77.1%(.003)^{LM}	72.8%(.008)^{H}	72.7%(.003)^{H}
Gender			
Female	49.8%(.003)^{L}	63.7%(.008)^{HM}	50.5%(.004)^{L}
Male	50.2%(.004)^{L}	31.8%(.008)^{HM}	49.5%(.004)^{L}
Other	.01%(.000)^{LM}	4.6%(.002)^{HM}	.02%(.000)^{HL}
Grade	9.95(.010)^{LM}	9.74(.028)^{HM}	6.11(.006)^{HL}
Parent Education	4.58(.007)^{LM}	4.35(.022)^{HM}	4.55(.010)^{HL}
Honest	1.16(.003)^{LM}	1.19(.008)^{HM}	1.13(.003^{HL}
Family Conflict	2.00(.004)^{LM}	2.30(.013)^{HM}	1.88(.005)^{HL}
Live with mother and father	76.9%(.003)^{LM}	64.3%(.008)^{HM}	78.2%(.003)^{HL}
Family drug problems	32.8%(.003)^{LM}	49.0%(.008)^{HM}	22.4%(.003)^{HL}
Youth drug use	26.4%(.003)^{LM}	44.4%(.008)^{HM}	11.6%(.002)^{HL}
Bullied for Religion	4.8%(.001)^{M}	5.0%(.003)^{M}	3.3%(.001)^{HL}
Bullied for Sexual Orient.	.80%(.001)^{LM}	19.3%(.007)^{HM}	1.9%(.001)^{HL}
Safe at School	3.27(.005)^{LM}	2.97(.015)^{HM}	3.47(.006)^{HL}

H = Significantly different from Heterosexual by at least $p < .05$

L = Significantly different from LGBQ by at least $p < .05$

M = Significantly different from missing by at least $p < .05$

Figure 1. *Full Sample Suicidality, Comparison of Latter-day Saints and Other Groups*

Figure 1a. *Model 1: Religion Only*

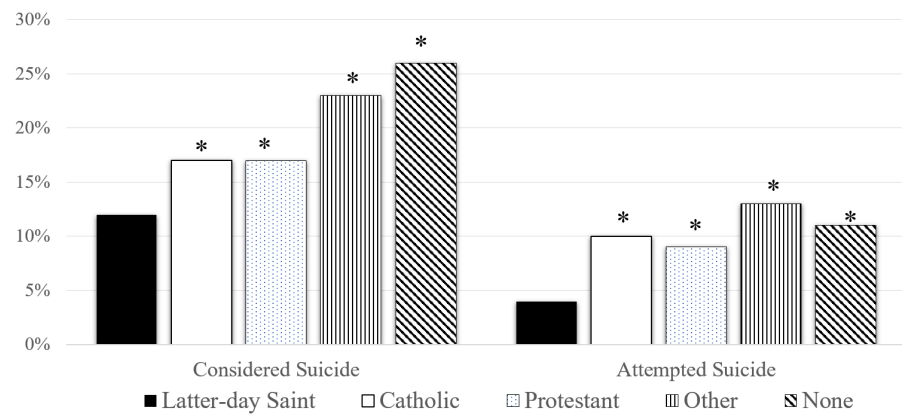
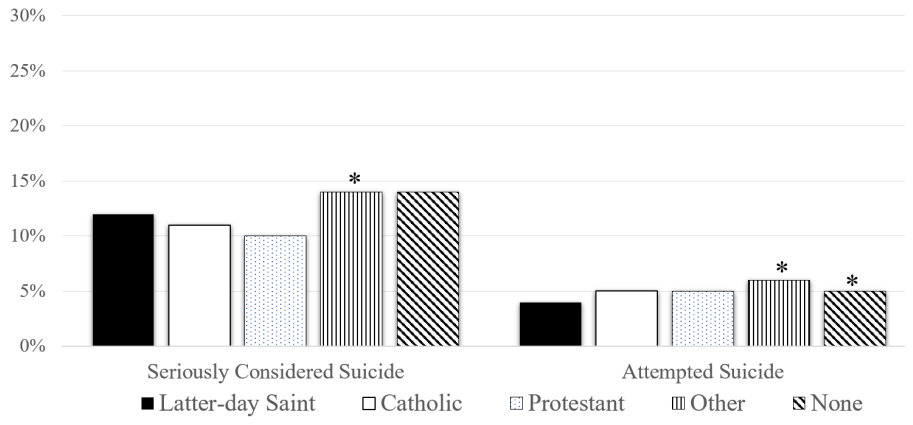


Figure 1b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Figure 2. *Full Sample Depression, Comparison of Latter-day Saints and Other Groups*

Figure 1a. *Model 1: Religion Only*

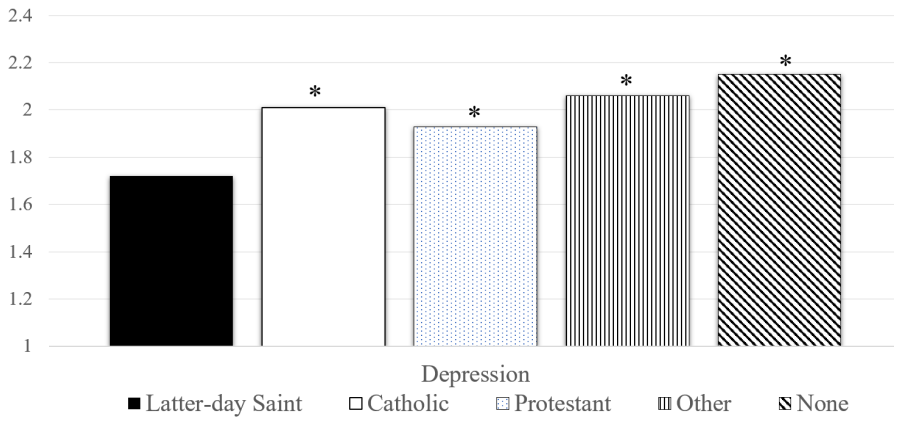
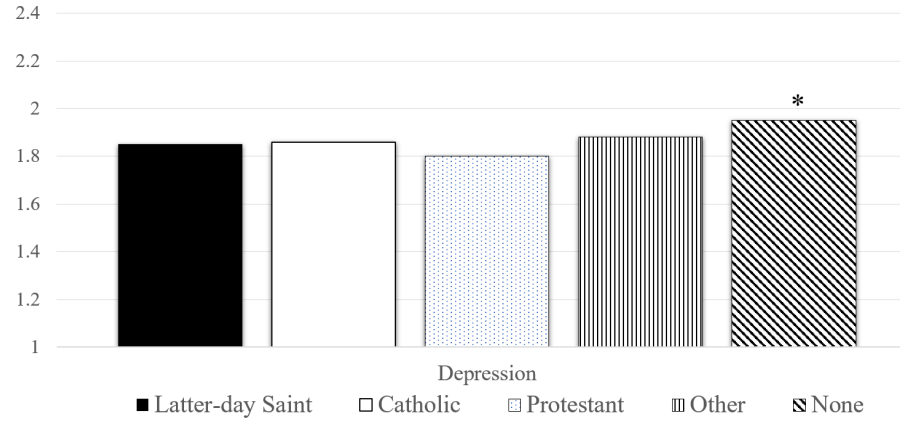


Figure 1b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Figure 3. *LGBQ Suicidality, Comparison of Latter-day Saints and Other Groups*

Figure 3a. *Model 1: Religion Only*

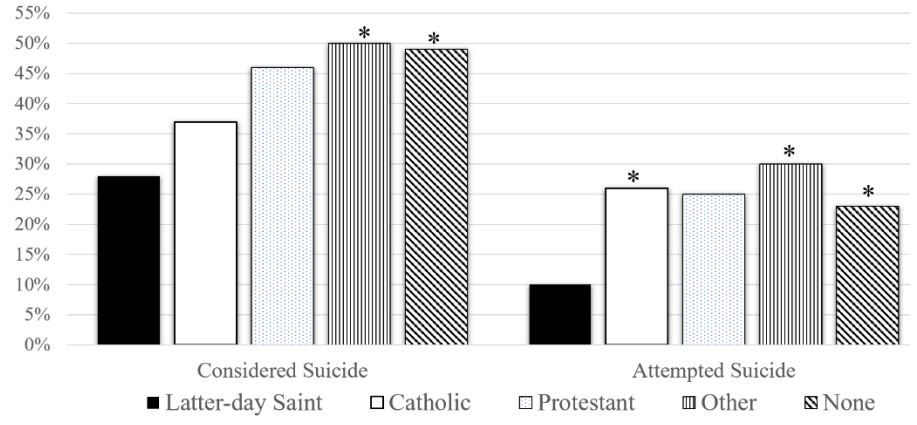
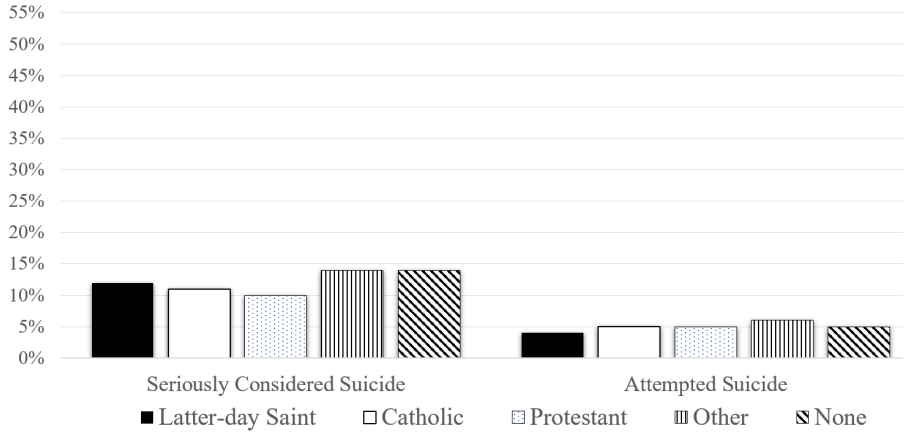


Figure 3b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Figure 4. *LGBQ Depression, Comparison of Latter-day Saints and Other Groups*

Figure 4a. *Model 1: Religion Only*

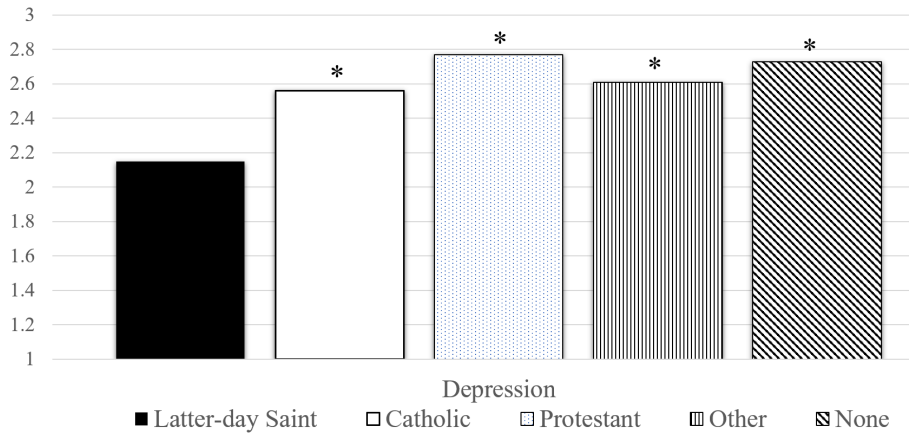
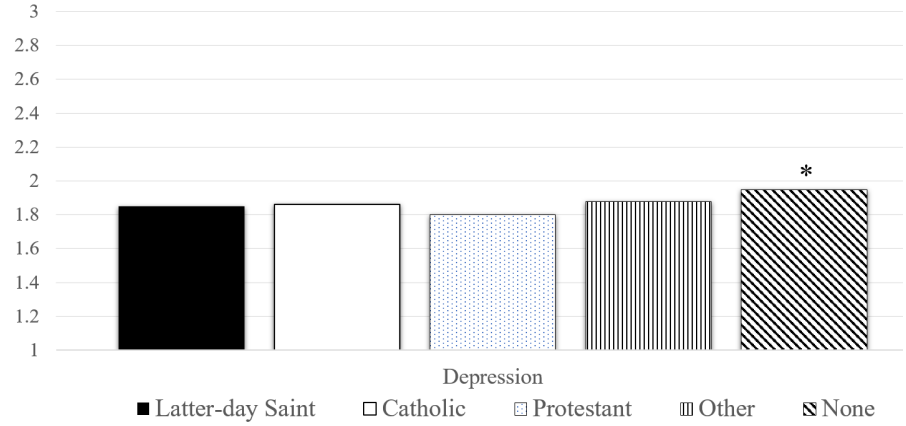


Figure 4b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Figure 5. *Heterosexual Suicidality, Comparison of Latter-day Saints and Other Groups*

Figure 5a. *Model 1: Religion Only*

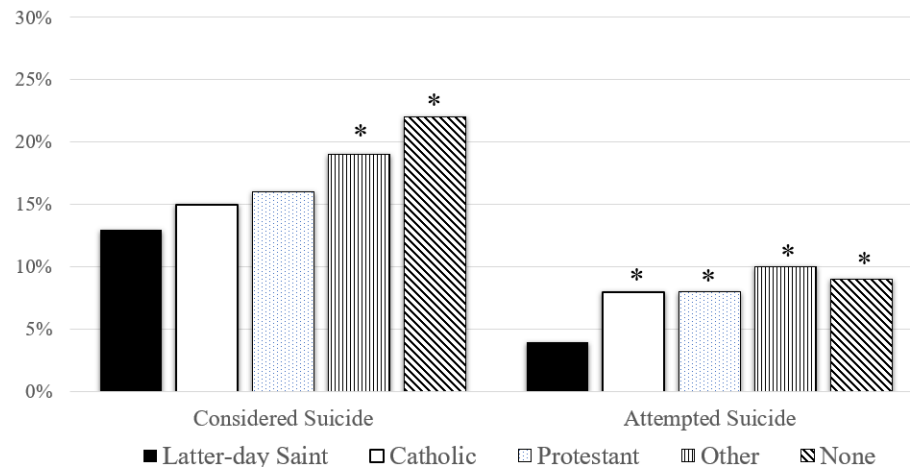
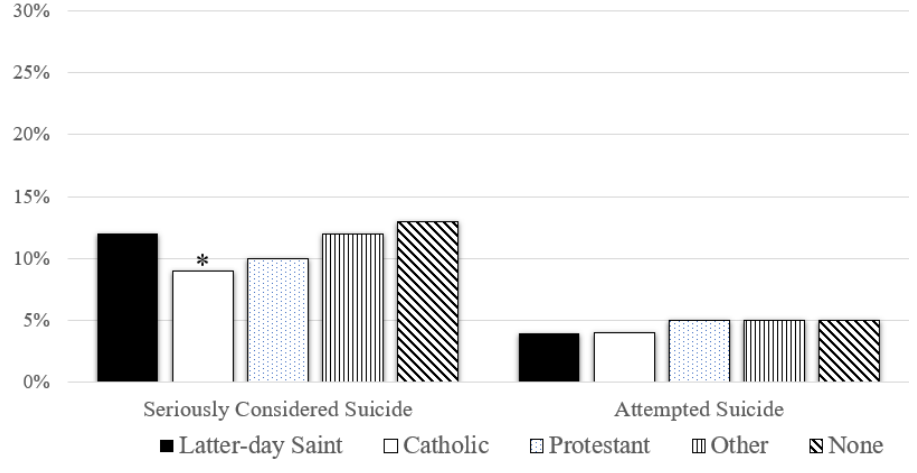


Figure 5b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Figure 6. *Heterosexual Depression, Comparison of Latter-day Saints and Other Groups*

Figure 6a. *Model 1: Religion Only*

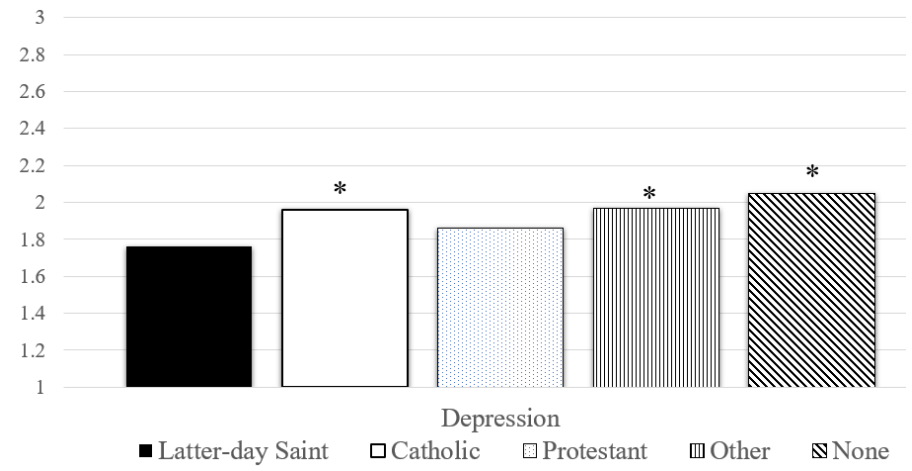
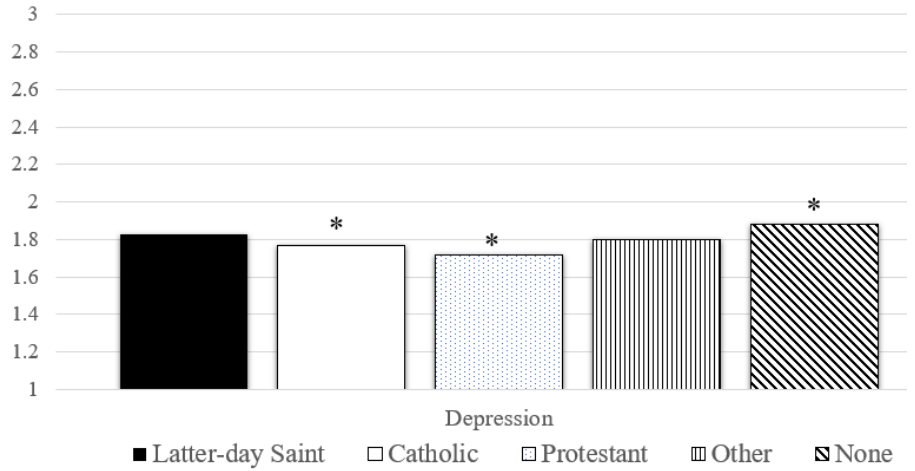


Figure 6b. *Model 5: Religion + Controls + Family Connection + Drug Use + Community Connection*



Note. * denotes significantly different from Latter-day Saints.

Appendix A

Measures

Descriptive statistics were calculated using the "svy" command in Stata with stratification and weights. Descriptives, are representative of Utah youth in 6th, 8th, 10th, and 12th grades. Items came from "The Communities that Care Youth Survey," an instrument used nationwide by State and local governments to track the youth wellbeing [1].

Suicidality. Suicide consideration was measured with the item: *During the past 12 months, did you ever seriously consider attempting suicide?* with responses (*no = 0, yes = 1*) and 16.3% indicating they had seriously considered suicide. Suicide attempts was measured with the item: *During the past 12 months, how many times (if any) did you actually attempt suicide?* Given the highly skewed distribution, responses were coded 0 = no suicide attempts, 1 = one or more suicide attempts, 6.7% indicating at least one suicide attempt in the last 12 months.

Depression. Depression was measured with four items on a four-point Likert-type scale: 1 = *definitely no*, to 4 = *definitely yes*. Items were: *Sometimes, I think that life is not worth it*; *At times, I think I am no good at all*; *All in all, I am inclined to think that I am a failure*; and *In the past year, have you felt depressed or sad MOST days, even if you felt okay sometimes?* This measures come from the "Communities that Care Youth Survey" used to examine and assess a variety of adolescent problem behaviors [2]. To reduce measurement error, a latent variable was

[1] Michael W. Arthur et al., "Measuring Risk and Protective Factors for Use, Delinquency, and Other Adolescent Problem Behaviors: The Communities That Care Youth Survey," *Evaluation Review* 26, no. 6 (December 1, 2002): 575–601, https://doi.org/10.1177/0193841X0202600601.
[2] Arthur et al.; Department of Human Services, State of Utah, "Prevention Needs Assessment Survey: Results Fo State of Utah," 2019, https://dsamh.utah.gov/pdf/sharp/2019/State%20of%20Utah%20Report.pdf.

created in Mplus [3] and factor scores exported. Effects coding was used to preserve the scale [4]. The appropriate measure of reliability for latent variables is maximal reliability [5] and was good at .93.

Religion. Youth were asked: *If you have a religious preference, choose one which you identify the most* with responses: *Catholic, Protestant (such as Baptist, Presbyterians, or Lutherans), Jewish, Another religion, LDS (Mormon),* and *No religious preference*. Given the low proportion of *Jewish*, these were combined with "*Another religion*" for analyses.

Family connections. Youth were asked: *Think of where you live most of the time. Which of the following people live there with you?* Reponses included: Mother, Father, Stepmother, Stepfather, Foster Parents(s), Grandparent(s), Aunt, Uncle, etc. Those who indicated they lived with both their mother and father were coded 1 (not including those living with a stepparent), while those who did not live with their mother and father, were coded 0. Although a variety of possibilities regarding family structure could be indicated here, it is expected that those living with both their father and mother will have had, on average, a more stable household.

The following three statements were used to create a family conflict scale: *People in my family often insult or yell at each other; We argue about the same things in my family over and over; People in my family have serious arguments* [6]. Responses were on a four-point Likert-type scale ranging from 1 = *definitely no*, to 4 = *definitely yes*. A latent variable was created which had good reliability (MR = .89) and the factor score was exported.

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[3] Bengt O. Muthén and Linda K. Muthén, *Mplus 8 User's Guide*, 8th ed. (Los Angeles, CA: Muthén & Muthén, 2017).
[4] mean(SE)=1.87(.01); Todd D. Little, David W. Slegers, and Noel A. Card, "A Non-Arbitrary Method of Identifying and Scaling Latent Variables in SEM and MACS Models," *Structural Equation Modeling* 13, no. 1 (2006): 59–72.
[5] MR; Tenko Raykov, "Scale Construction and Development Using Structural Equation Modeling," in *Handbook of Structural Equation Modeling*, ed. Rick H. Hoyle (New York: Guilford, 2012), 472–92.
[6] Arthur et al., "Measuring Risk and Protective Factors for Use, Delinquency, and Other Adolescent Problem Behaviors."

Drug use. Youth were asked: *Has anyone in your family ever had severe alcohol or drug problems?* with a binary response 1 = *yes* (31.3%), 0 = *no*. They were also asked if they had ever used alcohol, tobacco, or any drug. We coded as 1 whether they had used any of the following: marijuana (including synthetic marijuana such as herbal incense products), cigarettes, alcoholic drinks, LSD or other hallucinogens, cocaine, methamphetamines, heroine, or prescription stimulants, tranquilizers, products without a prescription. Participants were coded 0 if they had never used any of these. Overall, 24% had used one of these.

Sexual orientation. Participants were asked: *Which of the following best describe you?* with responses: *Heterosexual (straight), Bisexual, Gay or lesbian, Not sure.* Given the substantial number of missing values (27.2%), it was determined to treat "missing" as a distinct category within the analyses. Although these values could have been imputed, we did not have high confidence in substantially identifying the mechanism of missingness. They are therefore treated as a unique category and it was examined if this group followed patterns of heterosexuals and LGBQ individuals in relation to the outcomes.

Community connection. Three variables measured community connections. The first is whether the youth feels safe at school. Youth were asked to rate the statement *I feel safe at my school* on a four-point response scale (1 = *definitely no*, 4 = *definitely yes*; mean(SE) = 3.31(.00)). Two items about bulling were also included: *If you have been bullied in the past 12 months, why do you think you were you bullied?* Two options were included, being bullied for sexual orientation (0 = not bullied for sexual orientation, 1 = bullied for sexual orientation; 2.4%) and religion (0 = not bulled for religion, 1 = bullied for religion; 4.5%).

Controls. Controls included gender (0 = female, 1 = male, 2 = other) which was treated as an unordered categorical variable, highest education of any adult living in the home (1 =

completed grade school or less, 2 = some high school, 3 = completed high school, 4 = some college, 5 = completed college, 6 = graduate or professional school after college; mean(SE) = 4.61(.01)), child's grade (1 = 6^{th}, 2 = 8^{th}, 3 = 10^{th}, 4 = 12^{th}; mean(SE) = 2.61(.01)), and race (1 = white (79.6%), 0 = other (20.4%)). A question on how honest the child was in completing the survey was also included (self-reported): *How honest were you in filling out this survey?* on a five-point scale ranging from 1 = *I was very honest* to 5 = *I was not honest at all* (mean(se) = 1.13(.00)). This was reverse coded so higher values indicated greater honesty.

Missing Data

The most missing data was for parent education (16.0%) followed by honesty at 14.9%, suicide attempts at 11.1%, and seriously considered suicide at 11.0%. All other variables were missing less than 10%. The Stata program ICE was used to create a multiply imputed dataset [7] with 20 imputations. Given the amount of missing data, 20 imputation has excellent relative efficiency of between .99 and 1.00 (the highest is 1.00) and with no proportional increase in standard errors [8].

Analysis plan

Stata was used to conduct all analyses. The Stata prefixes "mi estimate" and "svy" [9] were used to perform logistic and OLS regressions with multiple imputation and accounting for the survey design (incorporating weights and stratification). Analyses generalize to all Utah youth in grades 6, 8, 10, and 12. To test hypotheses one through five, a series of five models were conducted for each outcome. Model 1 contained only the dependent variable and the religion variable with Latter-day Saint as the base category. Model 2 added control variables,

[7] Patrick Royston, "Multiple Imputation of Missing Values: Update," *Stata Journal* 5, no. 188–201 (2005).
[8] Craig K. Enders, *Applied Missing Data Analysis* (New York: Guilford Press, 2010).
[9] StataCorp, *Multiple Imputation* (College Station, TX: StataCorp Press, 2017).

Model 3 added family connections variables, Model 4 added substance use variables, and Model 5 added community connections variables. After each model, marginal proportions or means for each religion were estimated and compared. Bonferroni's correction was used for the multiple comparisons. In a second set of models, we examined the research question of whether hypotheses hold for LGBQ individuals. The two unordered categorical variables of religion and sexual orientation were interacted together using Stata's automated interaction specifications (i.e., *religion##sexual_orientation*). The same five models were fit, except for this set of regressions included the religion by sexual orientation interaction.

Extended Results

Descriptives

Table 1 contains correlations. Given the sample size, all correlations were significant at $p < .001$. Being a Latter-day Saint was positively correlated to reporting "heterosexual" and was positively related to protective factors (two-parent home, feeling safe at school) and negatively related to risk factors (suicidality, depression, family conflict, family and youth drug use, and being bullied for religion or sexual orientation). Those who identified as LGBQ were lower on protective factors and higher on risk factors. Table 2 contains proportions and means. Regarding outcomes (suicidality and depression), those missing sexual orientation data were more similar to those who identified as heterosexual than who identified as LGBQ. Suicide consideration and attempt for those missing sexual orientation data was 11.4% and 6.6% respectively. For heterosexuals it was 15.7% and 6.0% and for LGBQ individuals it was 40.8% and 19.1%. Depression for those missing sexual orientation (mean = 1.73) data was also closer to heterosexuals (mean = 1.96) than for LGBQ individuals (mean = 2.50). It is also worth noting that those missing sexual orientation data had a mean grade of 6.11 whereas heterosexuals and

LGBQ individuals had mean grades of 9.95 and 9.74, more than three grades higher. It may be that sixth graders had difficulty answering the sexual orientation question.[10] Proportion and mean comparisons across sexual orientation were undertaken. Differences were significant in nearly every instance.

Religion Main Effects

When discussing differences, we refer to differences across "religious groups" which also includes those who were not religiously affiliated (referred to as "nones"). Those who selected the option *other* when they reported their religion are designated "other."

Seriously considered suicide.

Table 3 contains model predicted percentages of those who seriously considered suicide and those who attempted suicide across religion. It also contains model predicted levels of depression across religion. In the unconditional model (religion only in the model), those of all other religions (including nones) had a significantly higher proportion of youth who had seriously considered suicide than Latter-day Saints, ranging from 4% higher (those missing religion data) to 14% higher (nones). When adding controls (Model 2), Protestants were no longer significantly different than Latter-day Saints, and differences between Latter-day Saints and other religious groups decreased, ranging from 2% (Catholics) to 9% (nones) higher. When adding family connections variables, neither Catholics nor Protestants were significantly different from Latter-day Saints with differences reducing further, ranging from 1% (Protestants) to 6% ("other" and nones) higher. When drug use was entered, no other group was significantly higher than Latter-day Saints except nones (2%) with Catholics and Protestants being lower (-1% and -2% respectively) though not significantly. Including community connections variables did

[10] Anecdotally, the first author spoke with a sixth grade who took the survey and they indicated they were unsure what was being asked by the sexual orientation question and left it blank.

not change any significant differences. In the final model, Catholics, Protestants, and missing were also lower than nones, with Protestants also being lower than "other" religions.

In the final model (see Table 4), the only demographic significantly related to suicide consideration was gender (boys had lower suicide consideration than girls, OR(SE)=.71(.02), p<.001). Those missing sexual orientation were no different than heterosexuals, though LGBQ individuals were significantly higher than heterosexuals (OR(SE)=1.98(.10), p<.001). All family, drug, and community connections variables significantly predicted consideration in the expected direction.

Suicide attempt

In the unconditional model, all other groups were significantly higher than Latter-day Saints in suicide attempts, ranging from 5% (Protestants) to 9% ("other"). When adding controls, all groups were still significantly higher, though differences were reduced ranging from 3% (Catholics and Protestants) to 6% (other). When adding family connections variables to the model, Protestants were no longer significantly different from Latter-day Saints, and differences were reduced further ranging from 2% (Catholics and Protestants) to 4% (other). With the addition of drug use, neither Catholics nor Protestants were significantly different from Latter-day Saints and other differences were further reduced ranging from 1% (Catholics, Protestants, and nones) to 3% ("other"). The final model adding community connections was nearly identical to the previous model, though those missing religion data were no longer significantly different from Latter-day Saints and the difference between "others" and Latter-day Saints was reduced from 3% to 2%. In the final model, there were no other significant differences across any of the other groups. When adding community connections, a previously significant difference between Catholics and "other" was no longer significant. In the final model (see Table 4) a higher grade

and being male was negatively related to suicide attempts (OR(SE)=.78(.04), p<.001; OR(SE)=.83(.03), p<.001) while being LGBQ compared to heterosexual was positively related to suicide attempt (OR(SE)=1.70(.12), p<.001). Being white was negatively associated with suicide attempt (OR(SE)=.76(.04), p<.001). Those missing sexual orientation data were not significantly different from heterosexuals. All family, drug, and community connections variables significantly predicted consideration in the expected direction.

Depression

In the unconditional model, all other groups were significantly higher than Latter-day Saints in depression with the difference ranging from .15 (missing) to .43 (nones). When adding controls, all groups were still significantly higher, though the differences was reduced ranging from .09 (Catholics) to .30 (nones). With adding family connections variables, Protestants no longer significantly differed from Latter-day Saints and differences between Latter-day Saints and other religious groups was reduced ranging from .04 (Protestants) to .19 (nones). When adding drug use, all differences were further reduced ranging from -.03 (Protestants) to .11 (nones) with only "other" and nones being significantly higher than Latter-day Saints. When adding community connections, the difference between Latter-day Saints and "other" was no longer significant, though the difference between Latter-day Saints and nones remained. In the final model (see Table 4) being male and being white were negatively related to depression (b(SE)=-.23(.01), p<.001; b(SE)=-.09(.01), p<.001 respectively) while grade and being honest were positively associated with depression (b(SE)=.03(.01), p<.001; b(SE)=.05(.01), p<.001 respectively). Being LGBQ or missing sexual orientation data (compared to heterosexual) was positively related to suicide attempt (b(SE)=.27(.01), p<.001; b(SE)=.06(.01), p<.001 respectively). All family, drug, and community connections variables significantly predicted

consideration in the expected direction.

Interaction between Religion and Sexual Orientation

Our research question was whether the findings above hold for LGBQ individuals. The 3 X 6 interaction (three sexual orientations by six denominations) produces numerous results. We therefore limit reporting results to similarities and differences from main effects models, though full results are provided in Tables 5-7. Further, it should be noted that the cell sizes of the 3 X 6 interaction vary substantially. The smallest cell size is 77 (Protestant LGBQ individuals) with all other cell sizes above 100 (most are about 1,000). This means for Protestant LGBQ individuals, the margin of error is greater making it less likely to find significant differences. Small cell size may also accentuate differences, though results do not appear to suggest this.

Seriously considered suicide

For heterosexuals and LGBQ individuals (Table 5, see also Appendix A Figure 1), the patterns exhibited in main effects models generally held. However, after controlling for drug use, heterosexual Protestants were 3% *lower* than Latter-day Saint heterosexuals. In Model 1 (only sexual orientation and religion), Latter-day Saint LGBQ individuals had lower suicide consideration than LGBQ "other" and nones. In comparing Latter-day Saints to all other religious groups, there was no change in significant differences when adding community connections (i.e., from Model 4 to Model 5). However, when adding community connections for heterosexuals, a significant difference between Catholics and "other" and missing became nonsignificant. Further, a significant difference between Protestants and nones became non-significant when controlling for community connections. When adding community connections, the difference between Catholics and nones also disappeared.

For those missing sexual orientation data, Catholics, "other", and nones were all

significantly higher than Latter-day Saints in the final model as they were in the previous model. Also, when adding community connections a difference between Catholics and Protestants emerged and a significant difference between Protestants and nones dropped out.

Suicide attempt

In Model 1 for LGBQ individuals (Table 6, see also Appendix A Figure 2), Latter-day Saints were lower on suicide attempts than Catholics, "other", and nones. However, similar to main effects models, for heterosexuals and LGBQ individuals, there were no significant differences across religion groups in the final model. When adding community connections in Model 5, a significant difference between LGBQ nones and LGBQ Latter-day Saints became non-significant (dropping from a 3% difference to a 2% difference) but no other changes in significance levels were observed when adding community connections. For those missing sexual orientation data, there was no change in significance when adding community connections. However, Latter-day Saints were significantly lower in suicide attempts from all other religions except Protestants.

Depression

In Model 1 for heterosexuals (Table 7, see also Appendix A Figure 3), Latter-day Saints were significantly lower in depression than other religious groups expect Protestants. In Model 1 for LGBQ individuals, Latter-day Saints were lower in depression than all other groups other than missing. For heterosexuals in the final model, Catholics and Protestants had significantly lower depression levels than Latter-day Saints. Nones had higher levels of depression than all other religious groups. When adding community connections, significant differences across the religious groups did not change except a difference between others and nones emerged.

For LGBQ individuals, in the final model nones were significantly higher in depression

than Latter-day Saints and those missing religion data. The only change in significance when adding community connections is the significant difference between the nones and those missing religion data emerged. For those missing sexual orientation data, Latter-day Saints were significantly lower in depression from all religious groups except Protestants. There was no change in significance when adding community connections.

In the final models for suicide consideration, attempt, and depression (see Table 8), males were at increased risk when compared to females. All family, drug, and community connections variables significantly predicted consideration, attempt, and depression in the expected direction.

Other Predictors of Suicide and Depression

Table 8 contains the complete results for models including the interaction between sexual orientation and religion. Being male was related to significantly less suicidality and depression in comparison to girls and grade negatively predicted suicide attempt and positively predicted depression. All family, drug, and community connections variables significantly predicted suicidality and depression in the expected direction. Of the family connections variables, family conflict was the strongest predictor with family conflict leading to a nearly doubling of consideration (OR(se)=1.98(.05), p< .001) and a 170% increase in attempts (OR(se)=1.70(.05), p<.001) along with being related to depression (b(se)=.41(.01), p<.001). Of the drug use variables, youth drug use was the strongest predictor, more than doubling the likelihood of consideration (OR(se)=2.05(.08), p<.001) and attempt (OR(se)=2.24(.13), p<.001) and related to higher depression (b(se)=.22(.01), p<.001). For community connections, being bullied for sexual orientation more than doubled the likelihood of consideration (OR(se)=2.37(.20), p<.001) and attempt (OR(se)=2.13(.23), p<.001) and was related to higher depression (b(se)=.21(.02), p<.001). Though family connections, drug, and community connections variables were important

as well (see Table 8).

Latter-day Saint Disaffiliation and Suicidality

Study results suggest that not only are LGBQ Latter-day Saints not at higher suicidality risk than LGBQ youth of other religions or those with no religious affiliation, but were significantly lower in suicidality than several of these other groups. The above results do not suggest that LGBQ Latter-day Saints are at higher risk for suicidality than any other religion. Initial difference tests (Model 1) suggest Latter-day Saints as a whole are lower in suicidality than most other religious groups. However, one may conjecture the reason LGBQ Latter-day Saints are lower is because those at high levels of suicidality (possibly due to difficulties within the Church) disaffiliated with the Church. Thus, it may be Latter-day Saints are lower in suicidality because a disproportionate percentage of high suicidality LGBQ individuals no longer identified as Latter-day Saint. Unfortunately, SHARP data do not contain information about disaffiliation. However, it is possible to use other data on LGBQ youth disaffiliation from the Church of Jesus Christ to estimate the degree to which disaffiliation may play into results.

The Family Foundation of Youth Development Project (Foundations) has data from Utah on youth sexual orientation and religion, including any prior religious affiliations (see https://foundations.byu.edu/). In Foundations data, 60.5% of LGBQ Utah teens who had no religion had, at some point in their lives, identified as Latter-day Saint. Of that 60.5%, 42.4% had seriously considered suicide and 11.5% had attempted suicide.

As supplementary analyses, in SHARP, 60.5% of LGBQ individuals of no religion were recoded as current Latter-day Saints (these recoded cases are referred to here as “estimated former Latter-day Saints”) with suicidality rates mirroring those in the Foundations data: 42.4% of them having seriously considered suicide and 11.5% of them having attempted suicide. In

other words, in the SHARP data, those of no religion who mirror statistics of former LGBQ Latter-day Saints had their variable "religion" changed from "no religion" to "Latter-day Saint." Thus, for these supplementary analyses, those coded as "LGBQ Latter-day Saint" included LGBQ individuals who indicated they were Latter-day Saint as well as LGBQ individuals who indicated they were *not* Latter-day Saint, but *who mirror the suicidality characteristics of former LGBQ Latter-day Saints* (i.e., estimated former Latter-day Saints).

Model 1 analyses were then conducted comparing LGBQ Latter-day Saints (current and estimated former Latter-day Saints) with those of no religion. Results were substantively identical to results reported in Appendix A Table 3 and Table 4 with LGBQ Latter-day Saints (current and estimated former combined) remaining significantly lower in suicide ideation and suicide attempts than LGBQ individuals of no religion.

To test the sensitivity of these analyses, several additional models were run. In these analyses, for estimated former LGBQ Latter-day Saints, the percentage of them who had considered or attempted suicide was gradually increased. For instance, in a subsequent model, instead of 42.4% having seriously considered suicide, 43.4% were specified as having seriously considered suicide. This percentage was gradually increased.

At 59.2% of estimated former LGBQ Latter-day Saints seriously considering suicide (17% higher than what was estimated in the Foundations data), LGBQ Latter-day Saints (current and estimated former Latter-day Saints combined) had higher levels of seriously considering suicide than LGBQ individuals of no religion. At 28.5% of estimated former LGBQ Latter-day Saints attempting suicide (also 17% higher than those of no religion) current and former LGBQ Latter-day Saints combined had higher levels of seriously considering suicide than LGBQ individuals of no religion.

The percentages 59.2% and 28.5% fall at the high end of the 95% confidence interval for considering and attempting suicide in the Foundations data. Given this 95% confidence interval in the Foundations data, for initial models with no other predictors but religion, one can be 90% confident for considering suicide and 86% confident for suicide attempt that current and former LGBQ Latter-day Saints combined are equal to or lower in suicidality than LGBQ individuals of no religion who were never Latter-day Saints. Given these numbers, the likelihood that LGBQ individuals of no religion are higher on both considering suicide and suicide attempts than combined current and former Latter-day Saints is 1.4%.

Table 1. *Seriously Considered Suicide, Attempted Suicide, and Depression, Religion Main Effects Models (n = 86,346)*

	Model 1 Unconditional		Model 2 +Controls		Model 3 +Family Connections		Model 4 +Drugs		Model 5 +Community Connections	
Seriously Considered Suicide										
	% Considered	% diff. LDS[a]	% Considered	% diff. LDS	% Considered	% diff. LDS	% Considered	% diff. LDS	% Considered	% diff. LDS
Latter-day Saint	12%	--	12%	--	12%	--	13%	--	12%	--
Catholic	17%^{ON}	5%*	15%^{ON}	2%*	13%^{ON}	2%	11%^{ON}	-1%	11%^{ON}	-1%
Protestant	17%^{ON}	5%*	16%^{N}	3%	13%^{ON}	1%	11%^{N}	-2%	10%^{N}	-2%
Other	23%^{CPM}	11%*	20%^{CM}	8%*	17%^{CPM}	6%*	15%^{C}	2%	14%^{C}	1%
None	26%^{CPM}	14%*	22%^{CPM}	9%*	18%^{CPM}	6%*	15%^{CPM}	2%*	14%^{CPM}	2%*
Missing	16%^{ON}	4%*	16%^{ON}	4%*	14%^{ON}	2%*	13%^{N}	0%	12%^{N}	0%
Suicide attempt										
	% Attempted	% diff. LDS	% Attempted	% diff. LDS	% Attempted	% diff. from LDS	% Attempted	% diff. from LDS	% Attempted	% diff. from LDS
Latter-day Saint	4%	--	4%	--	4%	--	4%	--	4%	--
Catholic	10%^{O}	6%*	7%^{ON}	3%*	6%^{O}	2%*	5%^{O}	1%	5%	1%
Protestant	9%^{O}	5%*	8%	3%*	6%	2%	5%	1%	5%	1%
Other	13%^{CP}	9%*	10%^{C}	6%*	8%^{C}	4%*	7%^{C}	3%*	6%	2%*
None	11%	7%*	9%^{C}	5%*	7%	3%*	6%	1%*	5%	1%*
Missing	10%	6%*	8%	4%*	7%	3%*	6%	2%*	6%	2%
Depression										
	Depression Level	diff. LDS	Depression Level	diff. LDS	Depression Level	diff. from LDS	Depression Level	diff. from LDS	Depression Level	diff. from LDS
Latter-day Saint	1.72	--	1.78	--	1.81	--	1.85	--	1.85	--
Catholic	2.01^{NM}	0.28*	1.87^{ON}	0.09*	1.89^{N}	0.08*	1.85^{N}	0.00	1.86^{N}	0.00
Protestant	1.93^{ON}	0.21*	1.89^{N}	0.11*	1.85^{N}	0.04	1.81^{N}	-0.03	1.80^{N}	-0.05
Other	2.06^{PNM}	0.34*	1.98^{CNM}	0.20*	1.94^{NM}	0.13*	1.90	0.05*	1.88^{N}	0.03
None	2.15^{CPOM}	0.43*	2.07^{CPOM}	0.29*	2.00^{CPOM}	0.19*	1.96^{CPM}	0.11*	1.95^{CPOM}	0.09*
Missing	1.87^{CON}	0.15*	1.88^{ON}	0.10*	1.87^{ON}	0.06*	1.85^{N}	0.01	1.85^{N}	0.00

[a] Percentage different from Latter-day Saints within the model. * $p < .05$. The following superscripts indicate a significant difference ($p < .05$) between one religion and another: ^{C} = Catholic, ^{P} = Protestant, ^{O} = Other, ^{N} = None, ^{M} = Missing religion data.

Table 2. *Final Main Effects Models (Model 5) Predicting Suicide Consideration, Suicide Attempt, and Depression (n=86,346)*

	Suicide Consideration OR(SE)	Suicide Attempt OR(SE)	Depression b(SE)
Religion (LDS Base)			
Catholic	.89(.06)	1.23(.10)**	0.00(.01)
Protestant	.83(.10)	1.24(.19)	-0.05(.03)
Other	1.14(.08)	1.58(.14)***	0.03(.02)
None	1.19(.05)***	1.35(.08)***	0.09(.01)***
Missing	.98(.05)	1.53(.18)***	-0.00(.01)
White	1.05(.04)	0.76(.04)***	-0.09(.01)***
Gender (Girl Base)			
Boy	.71(.02)***	0.78(.04)***	-0.23(.01)***
Other	1.10(.12)	1.03(.14)	0.01(.03)
Grade	1.03(.02)	0.83(.03)***	0.03(.01)***
Par. Education	1.02(.02)	0.97(.02)	-0.00(.00)
Honest	.96(.03)	1.05(.06)	0.05(.01)***
Sexual Orientation (Heterosexual Base)			
LGBQ	1.98(.10)***	1.71(.12)***	0.27(.01)***
Missing	1.00(.05)	1.03(.07)	0.06(.01)***
Family Connections			
Two Parent Home	.85(.03)***	0.86(.04)**	-0.05(.01)***
Family Conflict	1.99(.05)***	1.70(.05)***	0.42(.01)***
Drugs			
Family Drug Problem	1.40(.05)***	1.37(.07)***	0.11(.01)***
Youth Drug Use	2.02(.08)***	2.21(.13)***	0.21(.01)***
Community Connections			
Safe at School	.60(.01)***	0.66(.02)***	-0.24(.01)***
Bullied for Sex. Orientation	2.40(.20)***	2.16(.23)***	0.28(.03)***
Bullied for Religion	1.64(.10)***	1.75(.18)***	0.21(.02)***

* p < .05. **p < .01. *** p < .001

Note. Parameters for consideration and attempt are odds-ratios meaning those ratios below 1.00 are indicative of a negative association.

Table 3. *Percent Seriously Considered Suicide by Religion and Sexual Orientation (n = 86,346)*

	Model 1 Unconditional		Model 2 +Controls		Model 3 +Family Connections		Model 4 +Drugs		Model 5 +Community Connections	
Heterosexual	% Considered	% diff. LDS[a]	% Considered	% diff. LDS	% Considered	% diff. LDS	% Considered	% diff. LDS	% Considered	% diff. LDS
Latter-day Saint	13%	--	12%	--	12%	--	13%	--	12%	--
Catholic	15%^{ON}	2%	13%^{ONM}	0%	12%^{N}	0%	10%^{ONM}	-3%*	9%^{N}	-3%*
Protestant	16%^{N}	3%	15%^{N}	2%	12%^{N}	0%	10%^{N}	-3%	10%	-2%
Other	19%^{C}	6%*	17%^{C}	5%*	15%	3%	13%^{C}	0%	12%	0%
None	22%^{CPM}	9%*	21%^{CPM}	8%*	17%^{CPM}	5%*	14%^{CP}	1%	13%^{C}	1%
Missing	17%^{N}	4%*	16%^{N}	4%*	14%^{N}	2%	13%^{C}	0%	12%	0%
LGBQ										
Latter-day Saint	28%	--	27%	--	24%	--	25%	--	21%	--
Catholic	37%^{N}	9%	31%^{ON}	4%	25%^{N}	1%	21%^{N}	-4%	18%	-3%
Protestant	46%	18%	41%	14%	36%	12%	30%	5%	24%	2%
Other	50%^{M}	22%*	46%^{CM}	18%*	37%^{M}	14%*	30%	5%	23%	2%
None	49%^{CM}	21%*	44%^{CM}	17%*	35%^{CM}	11%*	30%^{CM}	5%	24%^{M}	2%
Missing	33%^{ON}	4%	30%^{ON}	2%	24%^{ON}	0%	21%^{N}	-4%	17%^{N}	-5%
Missing										
Latter-day Saint	8%	--	9%	--	9%	--	9%	--	10%	--
Catholic	17%^{PM}	9%*	18%^{PM}	9%*	16%^{PM}	8%*	15%	6%*	15%^{P}	6%*
Protestant	9%^{CON}	1%	10%^{CON}	1%	9%^{CON}	0%	8%^{O}	0%	7%^{CON}	-3%
Other	19%^{PM}	11%*	20%^{PM}	11%*	17%^{PM}	8%*	15%^{PM}	6%*	16%^{PM}	6%*
None	17%^{PM}	9%*	19%^{PM}	10%*	15%^{PM}	7%*	14%	5%*	14%^{P}	4%*
Missing	12%^{CON}	4%*	13%^{CON}	4%*	12%^{CON}	3%*	11%^{O}	2%	12%^{O}	2%

[a] Percentage different from Latter-day Saints within the model. * $p < .05$. The following superscripts indicate a significant difference ($p < .05$) between one religion and another: ^{C} = Catholic, ^{P} = Protestant, ^{O} = Other, ^{N} = None, ^{M} = Missing religion data.

Table 4. *Percent Attempted Suicide by Religion and Sexual Orientation (n = 86,346)*

	Model 1 Unconditional		Model 2 +Controls		Model 3 +Family Connections		Model 4 +Drugs		Model 5 +Community Connections	
Heterosexual	% Attempt	% diff. LDS[a]	% Attempt	% diff. LDS	% Attempt	% diff. LDS	% Attempt	% diff. LDS	% Attempt	% diff. LDS
Latter-day Saint	4%	--	4%	--	4%	--	4%	--	4%	--
Catholic	8%	4%*	6%^{N}	1%	5%	1%	4%	0%	4%	0%
Protestant	8%	4%*	8%	3%	6%	2%	5%	1%	5%	1%
Other	10%	6%*	8%	4%*	7%	3%*	6%	1%	5%	1%
None	9%	5%*	8%^{C}	4%*	7%	3%*	5%	1%	5%	1%
Missing	10%	6%*	9%	5%*	8%	4%*	7%	2%	6%	2%
LGBQ										
Latter-day Saint	10%	--	10%	--	8%	--	8%	--	7%	--
Catholic	26%	16%*	19%	9%*	15%	7%*	12%	3%	10%	4%
Protestant	25%	15%	22%	12%	18%	10%	14%	5%	10%	4%
Other	30%^{M}	20%*	27%	17%*	20%	11%*	15%	6%	11%	4%
None	23%	13%*	21%	11%*	14%	6%*	11%	3%*	8%	2%
Missing	15%^{O}	6%	13%	3%	10%	2%	8%	0%	6%	0%
Missing										
Latter-day Saint	3%	--	3%	--	3%	--	3%	--	3%	--
Catholic	11%^{P}	7%*	7%	4%*	7%	4%*	6%	3%*	6%	3%*
Protestant	5%^{CON}	1%	4%^{ON}	1%	3%^{O}	0%	3%^{O}	0%	3%^{O}	0%
Other	13%^{P}	9%*	10%^{P}	7%*	8%^{P}	5%*	7%^{P}	4%*	7%^{P}	4%*
None	10%^{P}	7%*	8%^{P}	5%*	7%	4%*	6%	3%*	6%	2%*
Missing	9%	6%*	7%	4%*	7%	4%*	6%	3%*	6%	3%*

[a] Percentage different from Latter-day Saints within the model. * $p < .05$. The following superscripts indicate a significant difference ($p < .05$) between one religion and another: ^{C} = Catholic, ^{P} = Protestant, ^{O} = Other, ^{N} = None, ^{M} = Missing religion data.

Table 5. *Mean Depression by Religion and Sexual Orientation Models (n = 86,346)*

	Model 1 Unconditional		Model 2 +Controls		Model 3 +Family Connections		Model 4 +Drugs		Model 5 +Community Connections	
Heterosexual	Depression Level	diff. LDS[a]	Depression Level	diff. LDS	Depression Level	diff. LDS	Depression Level	diff. LDS	Depression Level	diff. LDS
Latter-day Saint	1.76	--	1.77	--	1.80	--	1.85	--	1.83	--
Catholic	1.96^{N}	0.21*	1.79^{NM}	0.03	1.83^{N}	0.03	1.77^{N}	-0.07*	1.77^{N}	-0.06*
Protestant	1.86^{N}	0.10	1.82^{N}	0.05	1.77^{N}	-0.03	1.73^{N}	-0.11*	1.72^{N}	-0.11*
Other	1.97^{N}	0.22*	1.88^{N}	0.11*	1.86^{N}	0.06	1.82	-0.02	1.80^{N}	-0.03
None	2.05^{CPOM}	0.30*	2.02^{CPOM}	0.25*	1.95^{CPOM}	0.15*	1.90^{CPM}	0.05*	1.88^{CPOM}	0.05*
Missing	1.90^{N}	0.14*	1.87^{CN}	0.10*	1.85^{N}	0.05*	1.83^{N}	-0.02	1.82^{N}	-0.02
LGBQ										
Latter-day Saint	2.15	--	2.14	--	2.09	--	2.11	--	2.06	--
Catholic	2.56^{M}	0.41*	2.32^{N}	0.18	2.19^{N}	0.11	2.12^{N}	0.01	2.08	0.02
Protestant	2.77^{M}	0.61*	2.61^{M}	0.47*	2.50	0.42*	2.42	0.30	2.31	0.25
Other	2.61^{M}	0.46*	2.49^{M}	0.35*	2.31^{M}	0.22*	2.20	0.09	2.06^{N}	0.00
None	2.73^{M}	0.58*	2.61^{CM}	0.48*	2.41^{CM}	0.32*	2.33^{CM}	0.22*	2.22^{MO}	0.16*
Missing	2.30^{CPON}	0.15	2.21^{PON}	0.07	2.11^{ON}	0.03	2.07^{N}	-0.05	1.98^{N}	-0.08
Missing										
Latter-day Saint	1.57	--	1.69	--	1.75	--	1.77	--	1.83	--
Catholic	1.97^{M}	0.41*	1.95^{M}	0.26*	1.97^{M}	0.22*	1.95^{M}	0.18*	2.00^{M}	0.17*
Protestant	1.82	0.25*	1.88	0.20	1.89	0.15	1.89	0.12	1.90	0.06
Other	2.01^{M}	0.45*	2.04^{M}	0.35*	2.01^{M}	0.26*	1.99^{M}	0.22*	2.02^{M}	0.19*
None	1.96^{M}	0.39*	2.02^{M}	0.33*	1.98^{M}	0.23*	1.96^{M}	0.19*	2.00^{M}	0.17*
Missing	1.76^{CON}	0.19*	1.82^{CON}	0.13*	1.84^{CON}	0.09*	1.84^{CON}	0.07*	1.89^{CON}	0.05*

[a] Mean difference from Latter-day Saints within the model. * $p < .05$. The following superscripts indicate a significant difference ($p < .05$) between one religion and another: ^{C} = Catholic, ^{P} = Protestant, ^{O} = Other, ^{N} = None, ^{M} = Missing religion data

Table 6. *Final Interaction Effects Models (n = 86,346)*

	Suicide Consideration OR(SE)	Suicide Attempt OR(SE)	Depression b(SE)
Religion			
Catholic	0.74(0.06)***	0.98(0.10)	-0.06(0.02)***
Protestant	0.78(0.10)	1.19(0.21)	-0.11(0.03)***
Other	0.98(0.09)	1.32(0.16)*	-0.03(0.02)
None	1.11(0.06)	1.20(0.09)*	0.05(0.01)***
Missing	0.96(0.07)	1.52(0.21)**	-0.02(0.02)
Sexual Orientation			
LGBQ	2.00(0.16)***	1.67(0.17)***	0.22(0.02)***
Missing	0.80(0.05)***	0.77(0.08)**	-0.00(0.01)
*Religion*Sexual Orientation*			
Catholic*LGBQ	1.11(0.20)	1.66(0.36)*	0.08(0.05)
Catholic*Missing	2.27(0.27)***	1.89(0.28)***	0.23(0.03)***
Protestant*LGBQ	1.48(0.64)	1.39(0.59)	0.36(0.14)**
Protestant*Missing	0.90(0.30)	0.70(0.30)	0.18(0.11)
Other*LGBQ	1.11(0.20)	1.26(0.29)	0.03(0.05)
Other*Missing	1.71(0.23)***	1.67(0.28)**	0.22(0.03)***
None*LGBQ	1.04(0.12)	1.08(0.15)	0.11(0.03)***
None*Missing	1.36(0.12)***	1.52(0.18)***	0.12(0.02)***
Missing*LGBQ	0.76(0.13)	0.59(0.17)	-0.06(0.04)
Missing*Missing	1.26(0.13)*	1.30(0.22)	0.07(0.02)***
White	1.05(0.04)	0.76(0.04)***	-0.08(0.01)***
Gender (Girl Base)			
Boy	0.71(0.02)***	0.78(0.04)***	-0.23(0.01)***
Other	1.12(0.12)	1.06(0.14)	0.02(0.03)
Grade	1.02(0.02)	0.82(0.03)***	0.03(0.01)***
Par. Education	1.02(0.02)	0.97(0.02)	-0.00(0.00)
Honest	0.96(0.03)	1.05(0.06)	0.05(0.01)***
Family Connections			
Two Parent Home	0.85(0.03)***	0.85(0.04)**	-0.05(0.01)***
Family Conflict	1.98(0.05)***	1.70(0.05)***	0.41(0.01)***
Drugs			
Family Drug Problem	1.40(0.05)***	1.36(0.07)***	0.11(0.01)***
Youth Drug Use	2.05(0.08)***	2.24(0.13)***	0.22(0.01)***
Community Connections			
Safe at School	0.60(0.01)***	0.65(0.02)***	-0.24(0.01)***
Bullied for Sexual Orientation	2.37(0.20)***	2.13(0.23)***	0.27(0.03)***
Bullied for Religion	1.62(0.10)***	1.74(0.17)***	0.21(0.02)***

* p < .05. **p < .01. *** p < .001.

Note. Parameters for consideration and attempt are odds-ratios meaning those ratios below 1.00 are indicative of a negative association.

Figure 1. *Suicide Consideration by Religion and Sexual Orientation*

Figure 1a. *Model with only religion and sexual orientation (Model 1)*

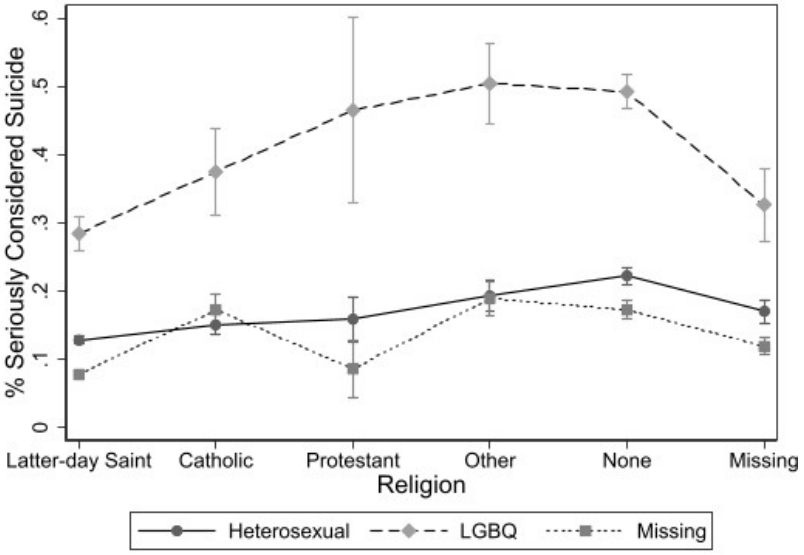

Figure 1b. *Model with all variables included (Model 5)*

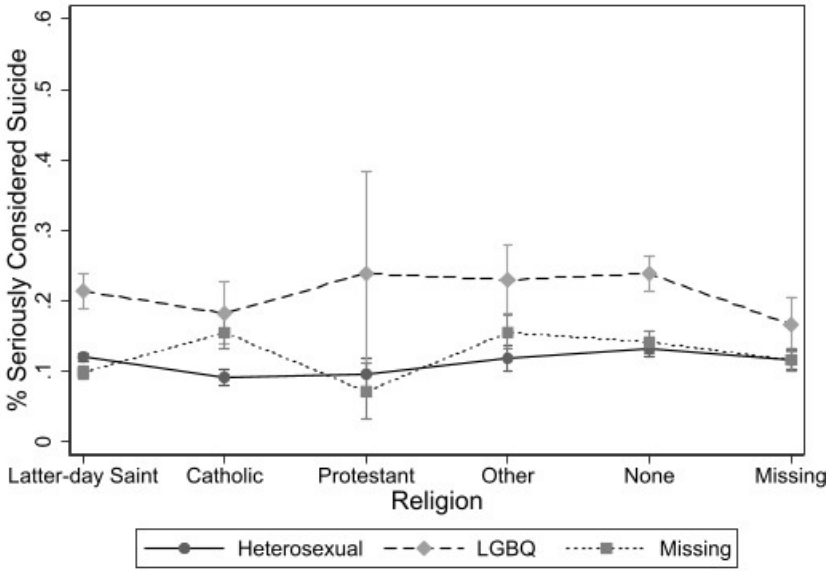

Figure 2. *Suicide Attempt by Religion and Sexual Orientation*

Figure 2a. *Model with only religion and sexual orientation (Model 1)*

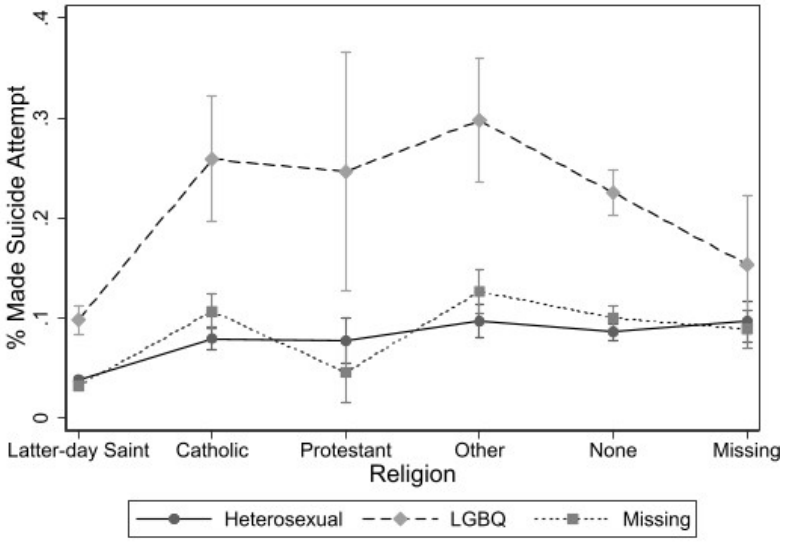

Figure 2b. *Model with all variables included (Model 5)*

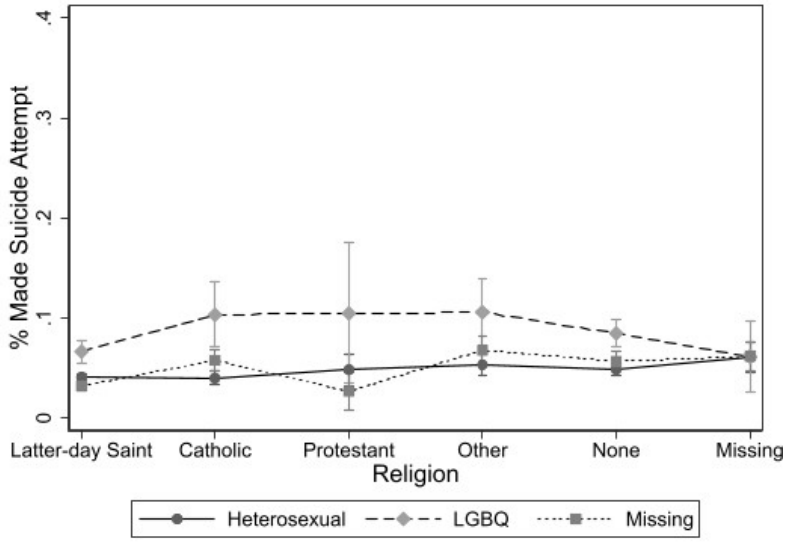

Figure 3. *Depression by Religion and Sexual Orientation*

Figure 3a. *Model with only religion and sexual orientation (Model 1)*

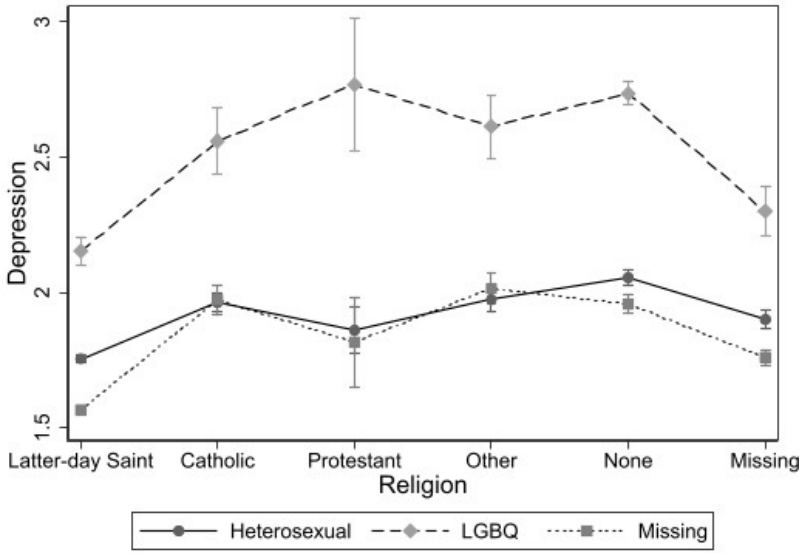

Figure 3b. *Model with all variables included (Model 5)*