

## Mental Health of Lesbian, Gay, and Bisexual Youth and Young Adults: Differential Effects of Age, Gender, Religiosity, and Sexual Orientation

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Drawing on minority stress theory, this study examined the mental health effects of the added burden of disadvantaged social status in an Israeli sample of 461 self-identified lesbian, gay, and bisexual (LGB) youths. Bisexuality was associated with lower levels of well-being, and, at a younger age, with higher levels of mental distress. In bisexuals, this relationship was fully mediated by family support and acceptance, internalized homophobia, and LGB social contact. Religiosity was associated with low levels of family and friends' support and acceptance, and high levels of internalized homophobia. These findings highlight the mental vulnerability of LGB adolescents and bisexuals, as well as the social vulnerability of sexual minorities in the religious sector, and the importance of social support to increase mental health.

Studies of lesbian, gay, and bisexual (LGB) youth since the 1990s provide ample evidence of their susceptibility to a myriad of mental health problems, including depression, suicide ideation, and substance abuse (e.g., Bradford, Ryan, & Rothblum, 1994; D'Augelli, 2006; Gibson, 1994; Hershberger & D'Augelli, 1995). Not surprisingly, much of the research focuses on the causes of their distress (e.g., Cass, 1996; Floyd & Stein, 2002; Savin-Williams, 2001, 2005; Savin-Williams & Ream, 2007). In general, the findings point to the detrimental effects of the stigma, victimization, and isolation LGBs suffer in our homophobic society and of the psychological stresses of acknowledging and accepting their sexual orientation (Rivers & D'Augelli, 2001). Notwithstanding this extensive research, various scholars have pointed to the continuing need to identify risk and protective factors among various sexual minorities (D'Augelli, 2006; Patterson, 2008).

The most coherent theory to date to explain the relatively poorer mental health of LGBs is Meyer's (2003, 2007) minority stress theory, based on social stress theory (Dressler, Oths, & Gravlee, 2005; Pearlin, 1989). This maintains that the heightened vulnerability of LGBs stems from their exposure to stressors that are unique to their minority status. Meyer (2003, 2007) identifies five such stressor types, based on their proximity to the self. Two of

these are distal stressors: general stressors (e.g., job loss) and prejudice events (i.e., discrimination or violence due to minority status). The other three are proximal stressors, relating to the LGB individuals themselves: expectations of rejection, hiding sexual orientation from others (both arising from the LGB individual's appraisal of the environment as threatening), and the internalization of societal heterosexist attitudes—often referred to as internalized homophobia.

Minority stress theory also maintains that the impact of the stressors may be alleviated by the coping resources available to the LGB individual, and intensified by what it terms the "added burden" of a disadvantaged social status on top of their sexual-minority identity (Meyer, 2003, 2007). "Disadvantaged social status" in this context refers to class and other structural factors that increase the stressors the individuals are exposed to, and/or decrease the availability of coping resources needed to deal with them. However, while the theory purports to explain the poorer mental health of all LGBs, most of the research testing conducted has been on adults (e.g., Frost & Meyer, 2009; Kertzner, Meyer, Frost, & Stirratt, 2009; Meyer, Schwartz, & Frost, 2008).

The present study examines the effects of the proximal stressors (internalized homophobia, disclosure, and fear of social rejection of sexual orientation) and coping resources (social support and connectedness to the LGBT community) on the mental health of sexual-minority youth and young adults, between the ages of 16 and 23. Targeting

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self-identified LGBs, it focuses on the effects of proximal stressors on mental health: being subjective, these are more affected by a person's self-identity as gay, lesbian, or bisexual than distal stressors, which are objective and do not depend on the individual's self-perception or identification as a member of a minority group (Meyer, 2007). More specifically, the study focuses on the argument that the added burden of disadvantaged social status intensifies the stressors arising from belonging to a sexual minority, as well as having a deleterious impact on mental health (Meyer, 2007). The types of status examined pertain to age, sexual orientation, religiosity, and gender.

The added burden of being young and LGB is well-documented (D'Augelli, 2006; Ryan, Huebner, Diaz, & Sanchez, 2009), and may stem from the stresses involved when LGB individuals accept their sexual orientation and disclose it—in growing numbers and at an ever younger age—to significant others in a homophobic society (Floyd & Stein, 2002; Savin-Williams & Ream, 2003, 2007). In samples of both American and Israeli youths today, the mean age of identifying as LGB and disclosing it to friends and family is sixteen (Pizmony-Levy, Kama, Shilo, & Lavee, 2008; Savin-Williams, 2005). The younger age of the coming out process is explained by the more positive social attitudes toward sexual minorities that LGB youth today enjoy, compared with older generations (Savin-Williams, 2005). However, although overall social climate and visibility of sexual minorities can affect the timing of coming out, research shows that the stresses related to accepting and disclosing sexual orientation that affect LGB individuals' mental health are intensified in adolescents (D'Augelli, 2006). It is thought that LGB adolescents must simultaneously negotiate normal challenges of adolescence as well as managing social stigma toward homosexuality, as manifested in school victimization and noxious social experiences (D'Augelli, 2006; Floyd & Stein, 2002).

As for coping resources, support by family and friends was found to be a significant factor of resilience and protection both in at-risk youth (Smokowski, Reynolds & Bezruczko, 2000) and in LGB adolescents and youth (Floyd & Stein, 2002). The importance of friends' support to the lives of adolescents is indicated by life course theory, which considers friendship in adolescence a developmental task, as well as being subject to social forces (Crosnoe, 2000). While most scholars consider family peripheral to the mental health of sexual minorities—on the grounds that sexual

minorities disclose their sexual orientation first to friends and inform parents only at the end of the process (Cass, 1996; Meyer, 2003; Troiden, 1989)—the fact that nowadays LGB youth disclose their sexual orientation to both heterosexual friends and family as early as the age of 16 (Savin-Williams, 2005) makes both friends and family members potentially significant providers of support. Indeed, research shows that LGB youth are highly concerned about the reaction of both their parents and their friends to learning about their sexual orientation, and they fear rejection by both (LaSala, 2010; Savin-Williams & Ream, 2003, 2007). Unsupportive family reactions to the individual's sexual orientation of LGB youths and young adults were found to be associated with their negative mental and physical health (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Conversely, social contact with other LGBs offers youth a safe social environment, with high levels of acceptance, and with the opportunity to have role models, as well as friendships with others who share the same sexual orientation, experiences and needs (D'Augelli, 2006). Such resources are significant, promoting adolescents' development, social skills, and romantic relationships (Collins, Welsh, & Furman, 2009; Crosnoe, 2000); however, younger LGBs may have fewer opportunities to access them, as they are less self-sufficient and usually rely on social networks of school peers and family, making the process of sexual orientation identity formation more stressful, compared to older cohorts (Floyd & Stein, 2002; Hass, Schefer, & Kornienko, 2010).

Bisexuality is also documented as a disadvantaged social status by comparison with being gay or lesbian (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Rust, 2002). Bisexuals—who are viewed especially negatively and are particularly stigmatized both within the society at large and in the LGBT community (Herek, 2002)—have been consistently found to have poorer mental health and less social support than their gay and lesbian peers (e.g., Kertzner et al., 2009; Rosario et al., 2001; Russell & Consolacion, 2003). Furthermore, the stigmatization of bisexuals within the LGBT community may discourage them from revealing their sexual orientation to other sexual minorities and cause them to abstain from supportive activities within the LGBT community (McLean, 2008).

Although studies of the population at large indicate that religious faith and belonging to a religious congregation have a positive impact on the mental health of adults and adolescents (Weaver et al., 2000), the strong prohibition of same-sex sexual

orientation in the three major monotheistic religions raises questions about whether being religious provides similar strength and succor to sexual minorities. To date, little research has been done on this issue. LGB youth and young adults from families with highly traditional values perceive their family reaction to their sexual orientation as negative, compared with those from less traditional families (Newman & Muzzonigro, 1993), and are less likely to disclose their sexual orientation if their parents are religious (Schope, 2002). Two qualitative studies carried out in Israel (Koren, 2003; Levado, 1993) document the inner conflicts and the conflicts with family and community experienced by religiously observant gays and lesbians in the country. The only study that the authors have found that looked at the link between religious identity and health among sexual-minority youths is that by Rosario, Yali, Hunter, and Gwadz (2006), which found that most of the LGB youths in their sample (aged 14–21) had abandoned their childhood religion and chose to live with no religious identity. It also showed that adolescents with religious identity reported fewer sexual risk behaviors and lower levels of depression compared with those without religious identity (Rosario et al., 2006). However, these findings related to the protective factor of belonging to a (Christian) religion with regard to mental health, rather than probing the levels of religiosity among LGB adolescents of religious identity. Given the centrality of religion in Israeli society and culture (to be discussed later)—and in particular the fact that the concept of nationality in Israel is linked to religious identity—and the evidence of conflict between religiosity and self-identification as a sexual minority (Koren, 2003), we expected that high levels of religious observance would impose an added burden on the mental health of LGB youths.

With regard to gender, adult lesbian and bisexual women have been found to have more depressive symptoms (albeit not worse social well-being) than gay and bisexual men (Kertzner et al., 2009). This, however, is not reflected in lesbian and female bisexual adolescents, whose mental health, social support, self-acceptance, and disclosure patterns have not been found to be markedly different from those of their male counterparts (see D'Augelli, 2006, for review). Based on their previous research, which found no gender-related differences in mental health, Kertzner et al. (2009) concluded that these contradictory findings may stem from a positive shift in societal attitudes toward females. Focusing on diverse populations within sexual-minority

youth and young adults, and based on this previous research, it is unclear whether female gender is, in fact, a disadvantaged social status: research into homophobia experiences and social attitudes toward LGB youth did not find female gender to feature higher rates of negative attitudes toward, or experiences of, homophobia, compared to gay men (Pizmony-Levy, Shilo, & Pinhasi, 2009).

#### ISRAEL AS A SOCIAL ENVIRONMENT FOR SEXUAL-MINORITY YOUTH

One of the greatest challenges in research of minority stress is assessing the impact of the social environment (Krieger, 2003). Therefore, examining it in different social settings provides a considerable contribution to minority stress theory.

Israel provides a fertile context for research of minority stress and of sexual minorities as disadvantaged social groups. On the one hand, sexual minorities in Israel enjoy nondiscriminatory laws and regulations, including equality in the workplace, cohabitation (Kama, 2005), and more recently also equality under law with regard to adoption of children by couples in a same-gender partnership (Pizmony-Levy et al., 2009). Moreover, in the past 20 years the LGBT community in Israel has blossomed, and the needs of LGB youth and young adults have been addressed by several organizations. In 2002, the Israeli Gay Youth Organization was established, providing a home for LGBT youth groups. The Tel Aviv municipality has opened a residential shelter for sexual-minority youth who ran away from home or were thrown out due to their sexual orientation. Opportunities exist for social activities with sexual-minority youth peers, such as social groups, internet forums, and parties catering to the sexual-minority population (Pizmony-Levy et al., 2009).

Conversely, some features of Israeli society may expose sexual minorities to social stress. For reasons rooted in Jewish history, the family plays a more central role in Israel and family values stronger than in most western countries (Katz, 2001). This may heighten the concerns of LGBs about coming out to parents and family—even if incidences of total rejection by the family are, in fact, quite rare (Kama, 2005). Judaism, like Christianity and Islam, prohibits same-sex sexual contact. Although most Israeli Jews are not religiously observant, Jewish tradition is deeply interwoven in Israel's social and political life. The integral place of Judaism in Israeli culture and society even among those who are not religiously observant

may help to explain why attitudes toward homosexuality are more negative in Israel than in other western societies (Weishut, 2000; Shilo, 2009). Furthermore, Israel’s small geographical size makes for a dense social interweave that makes it very difficult for people to act anonymously in any sphere, including the sexual one (Kama, 2005). Concealing one’s sexual orientation is not easy.

In most western countries, the age of 18 legally marks the transition from adolescence to adulthood. In Israel, it is also the age when, unlike most other countries, most Jewish youths are conscripted into the military. Scholars often refer to this mandatory service as a significant phase in the lives of young Jewish Israelis entering adulthood, both psychologically and socially (Mazali, 1998). Furthermore, the fact that Israel perceives itself as still fighting for its existence, and the key role military service plays in Israeli life fosters a certain machismo that affects society’s attitudes toward issues of sexual orientation (Dar & Kimhi, 2001). Indeed, studies show that, although there are no restrictions on LGB individuals serving in the Israel Defence Forces (IDF), most LGB soldiers prefer not to reveal their sexual orientation in the army even if they have come out in the civilian sphere (Shilo & Pizmony-Levy, in preparation). Moreover, Israel’s educational system pays little attention to sexual-minority students or to issues of sexual orientation. In a group-oriented society such as Israel, school is a key social network in the lives of youths (Mesch, 2001). Unlike the United States, the Israel educational system does not have gay-straight alliances, and with the primary role that school plays as the principal social environment of Israeli youth,

this may add to the social burden on Israeli LGB youth. This is borne out by studies that reveal high levels of verbal victimization of sexual-minority youths in Israeli schools (Shilo & Pizmony-Levy, 2008). The characteristics of Israeli society and school system place heterosexual friends as central support providers (or as potential undermining figures) in the lives of LGB youth and young adults.

**THE PRESENT STUDY**

This study examined the mental health (distress, well-being) of a diverse group of Israeli LGB youths and young adults. In line with minority stress theory (Meyer, 2003, 2007), which posits that disadvantaged social group members are exposed to a unique minority stress that adversely affects mental health, and that the impact of these stressors may be alleviated by available coping resources (see model outline in Figure 1), we hypothesized that: (1) the added social disadvantages of bisexual identity, religiosity, and younger age would be associated with increased distress and decreased well-being (Path a). Due to the mixed findings regarding gender as a disadvantaged social status, we will explore the relationship between gender and mental health outcomes; (2) minority stressors (internalized homophobia, disclosure of sexual orientation, acceptance of sexual orientation by family and friends) would partially mediate the adverse effects of social disadvantages on mental health (Paths b and c); (3) coping resources (support by family and friends, LGB social contact) would moderate the effects of minority stressors on mental health (Path d).

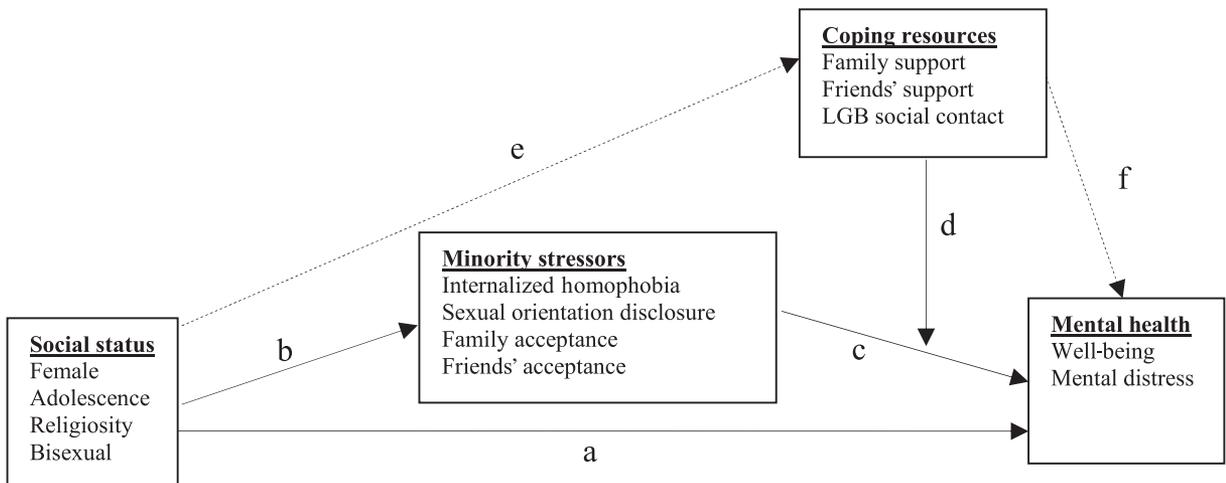


FIGURE 1 Theoretical model explaining mental health among lesbian, gay, and bisexual (LGB) youth and young adults.

## METHOD

### Participants

Participants were 461 self-identified LGB youths and young adults, divided equally between males ( $n = 233$ , 50.3%) and females, aged between 16 and 23 years old ( $M = 18.23$ ,  $SD = 1.83$ ). Most self-identified as gay or lesbian ( $n = 339$ , 73.5%); the rest as bisexual ( $n = 122$ , 26.5%). The majority also identified themselves as secular ( $n = 392$ , 85%) and Jewish ( $n = 433$ , 93.9%), but some called themselves “traditional” ( $n = 62$ , 13.5%), meaning they observed some but not most religious edicts, or “religious” ( $n = 7$ , 1.5%). All participants lived in Israel. The sample comprised participants from 121 cities and towns, representing all seven demographic clusters in Israel (Israeli Central Bureau of Statistics, 2009). Most participants were living at home with their parents ( $n = 416$ , 90.2%). Most ( $n = 228$ , 88%) of the 259 participants under the age of 18 were attending school. Most ( $n = 138$ , 68.3%) of the 202 participants aged 18 years or above were serving in the military. The mean ages at which they disclosed their sexual orientation were 16.08 ( $n = 420$ ,  $SD = 1.83$ ) to friends, and 16.6 ( $n = 286$ ,  $SD = 1.92$ ) to a family member, respectively.

### Procedure

All study procedures were reviewed and approved by the Tel Aviv University and the Israeli Gay Youth Organization Institutional Review Boards. Due to the difficulty in obtaining a representative LGB sample (Diamond & Savin-Williams, 2003; Sell, 2007), three sampling procedures were employed:

- 1 *Youth groups*. Twenty-two social and recreational youth groups of the Israeli Gay Youth Organization (IGY)—representing all youth groups in Israel at that time—were asked to and agreed to participate. Four hundred sets of questionnaires were delivered to the group coordinators between April and June 2006, and 195 filled-out questionnaires (49%) were returned. Of these, 36 were discarded due to a large number of missing items, leaving 159 sets of questionnaires for analysis.
- 2 *Online*. Five web-based forums aimed at lesbian, gay, and bisexual youth were identified (e.g., Youth Sexual Identity Forum, Young Gay Men Forum, Young Bisexual Forum). Forum moderators were asked, and agreed, to allow their members to participate in the study. In October 2006,

327 filled-out questionnaires were returned. Of these, 86 were removed from the study because they had too many missing items or because the respondent’s age fell outside the study parameters. Another 31 questionnaires were excluded because the birth date matched that of a manually distributed questionnaire, suggesting that the two may have been filled out by the same person. This left 210 questionnaires collected by this method for analysis.

- 3 *Snowballing*. Respondents from the youth groups were given questionnaires and asked to relay them to friends who met the research requirements (LGB youth, aged 16–23). A similar request was posted on online forums asking members to forward the study’s web link to eligible friends. This method yielded 35 manual and 73 online questionnaires. Of these, 16 were eliminated due to a large number of missing items, leaving 92 sets of questionnaires for analysis.

Of the 461 questionnaires available for analysis, 40.8% were manual, 59.2% web-based. The manually distributed and online questionnaires shared the same design: beginning with a description of the study, stating that participation was completely voluntary, and asking youths aged 16–23 to take part in a study whose purpose was to understand issues relating to the lives of sexual-minority youths. Participants signed a statement of informed consent, stating that they understood the terms of the study and agreed to participate in it. The online questionnaire was hosted at a secure URL.

A common pitfall in sampling LGB social youth groups is that participants are usually at advanced stages of coming out, creating a biased sample of youths who have disclosed their sexual orientation (Sell, 2007). However, the two sampling methods used in this study produced a sample that was heterogeneous in terms of its sexual orientation disclosure. A comparison between the web and social group participants showed that the only significant group difference was in the sexual orientation disclosure measure ( $t_{(459)} = 3.36$ ,  $p < .01$ ): More participants in the web sample were “in the closet” ( $M = 3.16$ ,  $SD = 0.94$ ) compared with the social group sample ( $M = 3.45$ ,  $SD = 0.85$ ).

A potential risk relating specifically to web-based sampling—namely that it may exclude segments of the population studied (e.g., in terms of age or ethnicity) due to different computer accessibility and use (Meyer & Wilson, 2009)—is not really applicable to this study. Ninety two percent of Israelis 25 years old or less have access to the Internet and use it on a daily basis (Israeli Central

Bureau of Statistics, 2009). LGB youth and young adults, in particular, are known to be a population with internet access (Jones & Fox, 2009).

## Measures

We conducted confirmatory factor analysis (CFA) using AMOS to demonstrate adequate fit of the measurement models. In line with Coovert and Craiger's (2000) recommendations, we included the two indices considered most important for determining model fit: the root-mean-square error of approximation (RMSEA) and the comparative fit index (CFI). We also looked at the goodness-of-fit index (GFI), which is commonly considered in CFAs. CFI and GFI values range from 0 to 1.00, where values greater than .95 indicate good fit and values greater than .90 are considered satisfactory (Hoyle, 1995). For RMSEA, values of .05 or less indicate a close fit and values of up to .08 represent reasonable errors of approximation (Browne & Cudeck, 1993).

*Social status variables* were obtained by asking participants for their gender (male, female), age, religiosity (from 1 [secular] to 7 [orthodox]—the higher the score, the higher the religiosity), and current sexual orientation, from among the following five options: (1) gay or lesbian; (2) bisexual, but mostly gay or lesbian; (3) bisexual; (4) bisexual, but mostly heterosexual; (5) heterosexual; (6) questioning (D'Augelli, Pilkington, & Hershberger, 2002). Participants who declared a current sexual orientation from these options that included bisexuality (b, c, d) were coded as "bisexual." None of the participants in the current study declared they were questioning.

*Mental health* was assessed by means of the Mental Health Inventory (MHI; Veit & Ware, 1983)—a widely used 38-item measure of psychological distress and psychological well-being which provides a global mental health index. The distress scale consists of 25 items that gauge anxiety, depression, and loss of control (e.g., "How much of the time, during the past month, have you felt depressed?"); the well-being scale comprises 13 items measuring general positive impact (e.g., "How much of the time, during the past month, have you felt calm and peaceful?"). Items are administered on a 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). For the purposes of this study, the Hebrew translation of the scale was used (Florian & Drori, 1990). CFA reconfirmed the two-factor structure (distress and well-being). The fit was satisfactory:  $\chi^2(483, N = 461) = 1079.89, p < .001$ ; GFI = .928, CFI = .943, RMSEA = .052. Reliability was high:  $\alpha = .96$  for the distress scale, and  $\alpha = .92$

for the well-being scale. Scores were calculated as the mean of the items constituting each index: the higher the scores, the greater the well-being and the greater the distress.

## Minority Stressors

Four stressors were assessed:

*Internalized homophobia* was assessed by the Hebrew version (Elizur & Mintzer, 2003) of Bell and Weinberg's (1978) questionnaire. The scale consists of 13 questions tapping respondents' acceptance of their sexual orientation (e.g., "To what extent do you think same-gender orientation is as normal as heterosexuality?"). Participants were asked to indicate their agreement with the statements on a 5-point scale ranging from 1 (very much) to 5 (not at all). CFA reconfirmed the existing single factor of internalized homophobia. The fit was satisfactory:  $\chi^2(32, N = 461) = 115.94, p < .001$ ; GFI = .951, CFI = .948, RMSEA = .076. In the present study,  $\alpha = .84$ . Scores were calculated as the mean of the index items, after reversing respondents' answers; the higher the score, the greater the internalized homophobia.

*Sexual orientation disclosure* was assessed by a questionnaire asking whether or not (yes = 1; no = 0) the respondents disclosed their sexual orientation to 11 key individuals in family and social surroundings: father, mother, brothers and sisters, aunts and uncles, close male and female heterosexual friends, distant male and female heterosexual friends, friends at school (or military, or work). CFA reaffirmed the existing overall factor of sexual orientation disclosure. The fit was satisfactory:  $\chi^2(55, N = 461) = 150.98, p < .001$ ; GFI = .948, CFI = .949, RMSEA = .060. In the present study,  $\alpha = .85$ . Scores were calculated as the sum of the items; the higher the score, the greater the disclosure.

*Acceptance of sexual orientation by family and friends* was assessed by means of the Hebrew version (Elizur & Mintzer, 2003) of the scale developed by Ross (1985) to measure actual and anticipated societal reactions to sexual orientation. In the original version, participants are presented with a list of 20 individuals and asked to rate the actual or anticipated response of each person to their sexual orientation on a 9-point scale (1 = rejection, 9 = acceptance). In the Hebrew version, the scale was shortened and divided into two sub-scales: perceived family acceptance—referring to the responses of seven family members (e.g., mother, father, sister, aunt)—and perceived acceptance by

friends, relating to the responses of eight individuals in the participant's close social network (e.g., close heterosexual male friend). In the present study, we removed "your boss" and changed "friends at work" to "friends at school/in army settings," to suit the youths' lives. CFA of the 14 items did not match the two-factor structure; we removed two items which had a loading below .1 on the expected factor "friends' acceptance" ("teachers" and "parents' friends"). The second CFA confirmed the two-factor structure (family acceptance of sexual orientation, and friends' acceptance of sexual orientation). The fit was satisfactory:  $\chi^2(29, N = 461) = 170.62, p < .001$ ; GFI = .941, CFI = .943, RMSEA = .073. Reliability in the present study was good:  $\alpha = .81$  for the family acceptance scale;  $\alpha = .82$  for the friends' acceptance scale. Scores were calculated as the mean of the items comprising each index; the higher the score, the greater the perceived acceptance of sexual orientation by family and friends.

### Coping Resources

Three coping resources were assessed—support by family, support by friends, and LGB social contact—as follows:

*Support by family and friends* was assessed together through the Hebrew translation (Tiferet, 2005) of the questionnaire developed by Abbey, Abramis, and Caplan (1985). It consists of eight items tapping perceived social support, and five items tapping perceived social undermining from close individuals. The social support items represent the four types or functions of social support proposed by House (1981): emotional, appraisal, informational, and instrumental. The social undermining items refer to actions that directly undermine and diminish one's sense of self-worth. In the present study, participants responded to the statements twice: first with regard to family members—where items were worded to fit family members as support providers (e.g., "My family cares for me as a person"; "My family acts in an unpleasant or angry manner toward me")—then with regard to friends, where items were worded to fit heterosexual friends as support providers (e.g., "My friends treat me with respect"; "My friends misunderstand the way I think and feel about things"). Items were rated on 5-point Likert-type scale (1 = not at all, 5 = a great deal). Preliminary analysis of the correlations between the study's variables, revealed high correlations between family and friends' support and accep-

tance of sexual orientation by family and friends variables ( $r = .93$ ;  $r = .92$ , respectively), suggesting an overlap between support and acceptance variables. We removed two items with high correlations with most of the acceptance scales items (for both family and friends; "My friends/family make me feel unwanted," "My friends/family criticize me"). CFA of the 11 items on the friends' support scale reaffirmed the two-factor structure (friends' support and friends' undermining) and the overall factor of global friends' support. The fit was satisfactory:  $\chi^2(25, N = 461) = 158.52, p < .001$ ; GFI = .952, CFI = .974, RMSEA = .060. CFA of the family support scale confirmed the two-factor structure (family support and family undermining) and the overall factor of global family support. The fit was satisfactory for the CFA of the family support scale:  $\chi^2(61, N = 461) = 204.17, p < .001$ ; GFI = .932, CFI = .964, RMSEA = .071. In this study,  $\alpha = .84$  for social support from friends,  $\alpha = .87$  for social support from family. Scores were calculated as the mean of the items making up the scale, with reversed scores for the undermining items; the higher the score, the greater the support from each support provider.

*LGB social contact* was assessed by a 9-item questionnaire designed specifically for the present study. The items tapped three key social activities available for LGB youth in Israel: LGBT social groups, LGB internet forums, and parties catering to LGB youth (Shilo & Savaya, 2011). For each social activity, participants were asked as to the nature of their activity: participation (e.g., "I have participated in LGB social groups"), active participation (e.g., "I actively participate [i.e., contributing, not just reading] in LGB internet forums"), and the extent to which the participant meets friends at the social activity (e.g., "I meet friends (not for sex) at parties for LGB youth"). Participants were asked to rate their social contact on a 5-point scale, ranging from 1 (never) to 5 (usually). Since CFA of the 9 items did not match the three-factor structure, we removed the one item that had a lower than .1 loading on the expected factor. The second CFA confirmed the three-factor structure (group social contact, social contact via the Internet, social contact through LGB parties) and the overall factor of LGB social contact:  $\chi^2(19, N = 461) = 64.74, p < .001$ ; GFI = .966, CFI = .971, RMSEA = .078. Testing the reliability of the LGB social contact scale we found  $\alpha = .79$ . Scores were calculated as the mean of the items comprising the index. The higher the score, the greater the LGB social contact.

TABLE 1  
Descriptive Statistics of, and Correlations Among, the Variables in the Study (N = 461)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Female			1											
2. Bisexual			.18**	1										
3. Age	18.23	1.83	-.03	-.21**	1									
4. Religiosity	1.72	0.90	-.14**	.08	-.03	1								
5. Internalized homophobia	1.20	0.65	.07	.24**	-.01	.16**	1							
6. Disclosure	6.31	3.53	.03	-.27**	.17**	-.13**	-.33**	1						
7. Family acceptance	5.99	1.99	-.09	-.17**	.08	-.24**	-.24**	.17**	1					
8. Friends' acceptance	7.75	1.32	.08	-.07	.09	-.22**	-.25**	.43**	.32**	1				
9. Family support	3.71	0.87	-.03	-.11**	.05	-.11**	-.20**	.11*	.36**	.11**	1			
10. Friends' support	4.12	0.65	.04	-.09*	.07	-.11**	-.20**	.33**	.15**	.49**	.19**	1		
11. LGBT social contact	3.17	0.90	-.16**	-.23**	.03	.03	-.23**	.37**	.06	.13**	.08	.16**	1	
12. Well-being	47.13	12.5	-.04	-.10*	.05	-.03	-.21**	.25**	.22**	.29**	.28**	.30**	.20**	1
13. Mental distress	71.12	22.8	.08	.10*	-.14**	.06	.22**	-.19**	-.23**	-.19**	-.18**	-.18**	-.09	-.73**

Note. \**p* < .05; \*\**p* < .01.

RESULTS

Correlational Analyses

Means, standard deviations, and correlations between all the variables are presented in Table 1. As can be seen, all variables correlated in the predicted directions. Religiosity and gender did not correlate with mental health variables.

SEM Tests of the Association Between Social Status, Minority Stressors, Coping Resources and Mental Health

Structural Equation Modeling (SEM) was applied, using AMOS (Arbuckle, 2010). Using Anderson and Gerbing's (1988) recommended two-step method for analysis of structural equation models, we first tested the measurement model with a CFA to determine if the model was an acceptable fit to the data, and whether the scales were measuring distinct constructs. After an acceptable measurement model was developed, the structural model was then tested using observed variables (Kline, 2005). An examination of the fit indices indicated that the measurement model had good fit ( $\chi^2/df = 1.89$ ; CFI = .985, RMSEA = .042). Before testing the structural model, we tested for multivariate normality among the observed variables to be used in testing the hypothesized SEM models. Because the multivariate critical ratio was above the minimum accepted value of 1.96 (i.e., 10.38), the hypothesis of multivariate normality was rejected. To correct for the overestimation of chi-square indicator of model fit, and underestimation of standard

estimates when conducting SEM with data that are not multivariate normal, we used a bootstrapping procedure (Bollen & Stine, 1993), involving calculating SEM analyses of estimates drawn from 10,000 samples drawn randomly from the 461 participants in the study. In addition, this procedure was used to assess the indirect effects in the mediation models tested. We used the Bollen–Stine adjusted probability values for the chi-square tests of model fit. In addition to the indicators described above (CFI, GFI, RMSEA), we used the chi-square test of exact model fit (*p* > .05) and the standardized root-mean-square residual (SRMR; values below .08; Hu & Bentler, 1999) for testing the fit of structural models.

Model 1 tested the direct relationship between social status and mental health (Figure 1, Path a). The model yielded a good fit to the data (Table 2, Model 1): age was significantly and negatively associated with mental distress ( $\beta = -.12$ , *SE* = .39, *p* < .01); being bisexual was significantly and negatively associated with well-being ( $\beta = -.11$ , *SE* = .91, *p* < .05). Being female and religiosity were not significantly associated with mental distress ( $\beta = .06$ , *SE* = 2.13, *p* > .05;  $\beta = .05$ , *SE* = 1.17, *p* > .05, respectively) or well-being ( $\beta = -.02$ , *SE* = .82, *p* > .05;  $\beta = -.02$ , *SE* = .65, *p* > .05, respectively).

Model 2 tested the extent to which minority stressors mediated the relationships between social status and mental health (Figure 1, Paths a, b, c). In this model, we included the direct effects that were found to be significant in the tests described above (i.e., Model 1: age on mental distress, and

TABLE 2  
Fit Statistics for Structural Equation Models Predicting Mental Health

Model	Fit Statistics						
	$\chi^2$	df	p	GFI	CFI	SRMR	RMSEA
Model 1: Direct effect of social statuses	7.032	6	.33	.995	.997	.031	.019
Model 2: Mediation of minority stressors	24.271	16	.12	.990	.989	.033	.034
Model 3: Moderation of coping resources	122.360	36	.000	.781	.768	.085	.082
Model 4: Mediation of minority stressors and coping resources	23.800	25	.53	.992	1.000	.028	.000

Note. GFI = goodness-of-fit index; CFI = comparative fit index; SRMR = standardized root-mean-square residual; RMSEA = root-mean-square error of approximation.

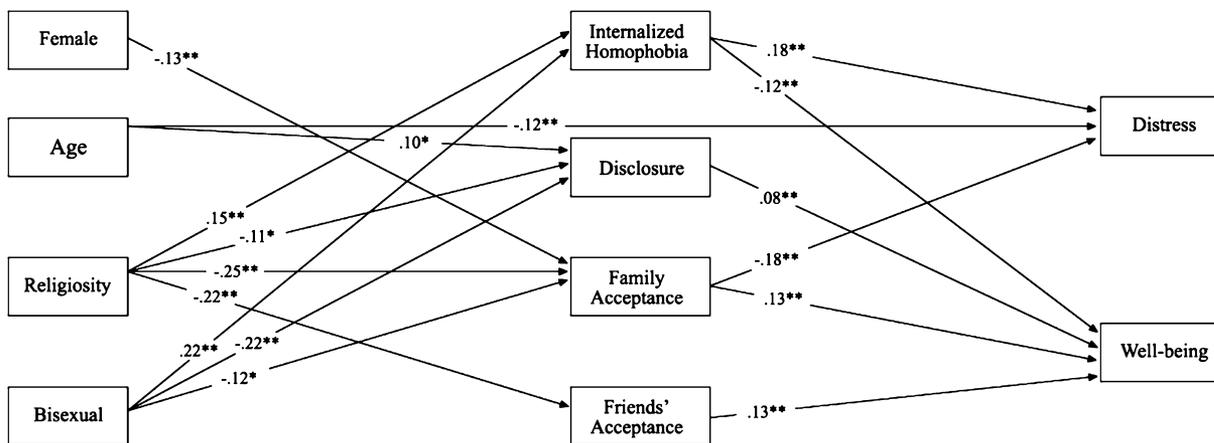


FIGURE 2 Results of an SEM model for minority stressors mediation between social statuses and mental health among lesbian, gay, and bisexual (LGB) youth and young adults ( $N = 461$ ). Only significant relationships are presented. To simplify the figure, we do not present covariances among variables, although they were tested. Numbers represent standardized path coefficients obtained from bootstrapping using 10,000 samples.  $*p < .05$ ;  $**p < .01$ .

being bisexual on well-being). The model—as shown in Table 2, Model 2—fitted to the data well. The model is presented in Figure 2: the direct effect of age on mental distress remained significant, but the effect of being bisexual on well-being was not significant. Being female was associated with family rejection, and increased age was associated with higher levels of disclosure. Religiosity was associated with higher levels of internalized homophobia, lower levels of disclosure, family and friends' rejection of sexual orientation. Being bisexual was associated with higher levels of internalized homophobia, lower levels of disclosure, and family rejection. Internalized homophobia and family acceptance were both associated with mental distress and well-being in the predicted directions. Higher levels of disclosure and friends' acceptance were both associated with well-being.

Model 3 tested the extent to which coping resources moderated the relationship between

minority stressors and mental health. We used the moderator centering approach (Aiken & West, 1991), whereby minority stressors and coping resources were centered (using standardized scores), and interactions between minority stressors and coping resources were calculated. The moderation model tested included paths a, b, c (using standardized scores for minority stressors), and f (using the interactions of minority stressors and coping resources standardized scores; Figure 1). The model yielded a poor fit to the data (Table 2, Model 3;  $\chi^2(36, N = 461) = 122.36, p < .001$ ), ruling out the moderation hypothesis. We therefore tested an alternative model, in which coping resources were added as mediators along with minority stressors (Model 4), that tested the extent to which coping resources and minority stressors mediated the relationship between social status and mental health (Figure 1, paths a, b, c, e, and f). This model (Figure 3) yielded a good fit to the data—indeed,

the best fit among all the models tested (Table 2, Model 4). In it (unlike Model 2, which tested the extent to which only minority stressors mediated the relationship between social status and mental health), the direct effect of age on mental distress once again remained significant, and the effect of being bisexual on well-being was not significant. The effect of social statuses on minority stressors, as tested in Model 2, remained significant, and to (approximately) the same degree. In addition, being female and being bisexual were associated with lower levels of LGB social contact; religiosity and being bisexual were associated with lower levels of family support, and religiosity was associated with lower levels of friends' support. As for the impacts of minority stressors on mental health, once coping resources were taken into account as mediators, disclosure and friends' acceptance no longer had significant effects on well-being. All other standardized coefficients (tested in Model 2) remained significant, yet the degree of family acceptance on both mental distress ( $\beta = -.36$ ,  $SE = 0.40$ ,  $p < .01$ ) and well-being ( $\beta = .55$ ,  $SE = 0.74$ ,  $p < .01$ ) increased. Family and friends' support were associated with both lower levels of mental distress and higher levels of well-being, and LGB social contact was positively associated with well-being.

The results of Models 2 and 4 suggest that the effect of bisexuality on well-being (Model 1) is mediated by (certain) minority stressors and coping resources. We followed Shrout and Bolger's (2002) procedure for testing the significance of the mediated effects (as obtained from the bootstrapping procedure described above), using Model 4. Results showed that the total indirect effect of being bisexual on well-being through the mediators (internalized homophobia, family acceptance, family support, and LGB social contact) was significant (point estimate of  $-1.40$ , and a 95% bootstrap CI of  $-2.48$  to  $-0.37$ ). These results indicated that, taken as a set, internalized homophobia, family acceptance, family support, and LGB social contact did mediate the effect of being bisexual on well-being (Preacher & Hayes, 2008).

## DISCUSSION

The current study tested the added-burden hypothesis of minority social stress theory as it pertains to LGB youth and young adults. We predicted that being religious, young, and bisexual would each augment the stress stemming from being a member of a sexual minority and lead to poorer mental

health. The findings support the hypothesis only with respect to being bisexual and adolescence: bisexuals showed lower well-being than gays and lesbians, and younger participants showed greater distress than their older counterparts. Put differently, the findings highlight the particular vulnerability of bisexuals and adolescent LGBs.

These findings are consistent with those of previous studies of LGBs. Studies carried out in the United States similarly show that bisexuals suffer from poorer mental health than lesbians and gays (Rosario et al., 2001; Russell & Consolacion, 2003) and that younger cohorts have lower social well-being than older cohorts (Kertzner et al., 2009). Although society today—both in Israel and the United States—shows a greater tolerance toward LGBs than it did in the past, progress in Israel appears to have been too rapid and possibly not enough to make a marked reduction in the mental health consequences of being a sexual-minority person in the case of our younger study participants (Pizmony-Levy et al., 2009). This finding raises questions about claims that being a sexual minority no longer impacts upon the mental health of young individuals (Cohler & Hammack, 2007; Savin-Williams, 2005). In this study, the association between younger age and mental distress remained significant, even when mediators were added to the models tested, suggesting a strong influence of age on mental health. The fact that significant sexual orientation milestones today occur at younger ages than in the past (Savin-Williams, 2007; Floyd & Stein, 2002) does not necessarily mean that this phenomenon has a positive effect on their mental health. In fact, our findings show that sexual orientation disclosure in Israel, although occurring at similar ages as in U.S. samples (Savin-Williams, 2005), increases with the subject's age, and did not predict youths' well-being or mental distress (Figure 3). Findings also show that bisexuality is correlated with adolescence, which may indicate that, among younger sexual minorities, bisexual identity is more common than among older sexual minorities. Given that both bisexuality and adolescence were associated with lower mental health outcomes, this makes bisexual youth even more vulnerable compared to other sexual minorities and age cohorts.

The vulnerability of bisexuals, as documented in various studies (see Browster & Moradi, 2010 for review), was supported in this study's findings. Being bisexual was associated with lower levels of family support and acceptance, disclosure, and connectedness to the LGB community,

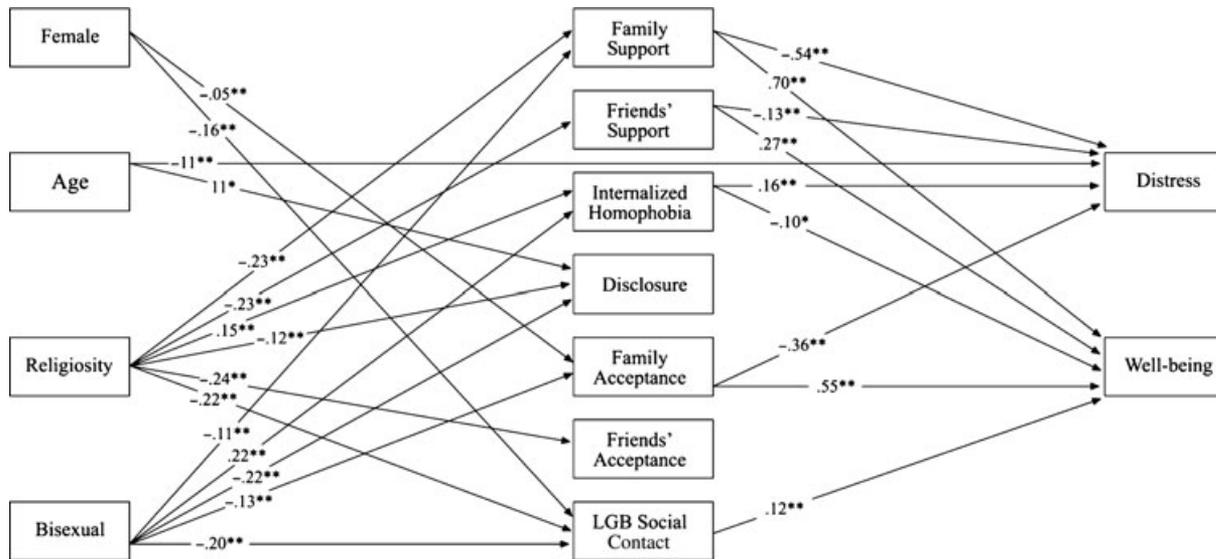


FIGURE 3 Results of an SEM model for minority stressors and coping resources mediation between social statuses and mental health among lesbian, gay, and bisexual (LGB) youth and young adults ( $N = 461$ ). Only significant relationships are presented. To simplify the figure, we do not present covariances among variables, although they were tested. Numbers represent standardized path coefficients obtained from bootstrapping using 10,000 samples. \* $p < .05$ ; \*\* $p < .01$ .

and higher levels of internalized homophobia. As hypothesized, the direct impact of bisexuality on mental health was significantly attenuated when the mediating role of minority stressors (family acceptance and disclosure) and coping resources (family support and connectedness to the LGB community) were taken into account—suggesting that bisexuality is associated to lower well-being mainly due to high levels of these stressors and lower levels of coping resources. These findings are consistent with minority stress theory (Meyer, 2003), and are important to consider with respect to bisexual youth and young adults, both in research and therapeutic practice (to be discussed later).

The finding that female gender did not predict poorer mental health is consistent with recent studies on minority stress theory, which showed that, with the exception of depression, there was little difference in the mental health of sexual-minority women and men (Kertzner et al., 2009; Meyer, 2007). Our findings support the conclusion that gender per se does not constitute an added burden on mental health among LGBs (Kertzner et al., 2009).

The finding that religiosity did not predict poorer mental health ran counter to our study hypothesis. This may be a statistical artifact, given that most of the study participants were secular and that the number of religious and traditional participants was too small for differences in mental

health to show up in the statistical analysis. Our findings may be explained, though, by the fact that religious coping mechanisms were found in various studies to be associated with positive mental health and to be a positive coping resource in dealing with stressful life events (Koenig, 2001; Pargament, Koenig, & Perez, 2000). Although it is very difficult to sample religious LGB youths, future studies should make an effort to include them in sufficient numbers, and to further assess the role of religious coping strategies in the lives of sexual minorities. However, the findings did demonstrate the vulnerability of LGB youth and young adults with high levels of religiosity: religiosity was associated with lower levels of family and friends' support and acceptance, lower levels of disclosure, and higher levels of internalized homophobia. The strongest associations were found with regard to the societal components (family and friends' support and acceptance)—suggesting that the added burden of being both LGB and holding religious faith is due first and foremost to the response of their family and friends to this dual identity.

We did not find support for the hypothesis that coping resources moderate the effects of minority stressors on mental health—rather, we found that coping resources have a direct association with mental health. Family support and acceptance, friends' support, and internalized homophobia were associated with both mental distress and well-being, while connection with the LGB

community was associated with well-being. The strong impact of family support and acceptance on mental health components underlines the significance of family in the lives of LGB youth. Scholars writing about LGB adults have argued that family relations have little bearing on their lives as sexual minority (e.g., Green, 2000). Weston (1991) has even gone as far as to contend that LGBs create a “family of choice” consisting of close and supportive friends. Our findings, however, indicate that just as friends are crucial to LGBs’ mental health, so are the support and acceptance of their families. Indeed, our findings are consistent with studies of LGB youths in the United States, which similarly pointed to the importance of family reactions to their adolescents’ sexual orientation (D’Augelli, 2006; LaSala, 2010; Savin-Williams, 2001). The importance of the support of family and friends to the mental health of LGB youths may be explained both by the well-documented contribution of social support to the mental health of individuals across a range of ages and life situations (e.g., Manne, Taylor, Dougherty, & Kemeny, 1997), and by the particular need of young people for the support and acceptance of their families and friends in their developmental tasks (Crosnoe, 2000). The importance of internalized homophobia and of family acceptance and support may also be a reflection of the importance of family values and connections in Israeli culture.

Our study’s findings offer a new perspective on the coping resources components within the detailed model proposed by Meyer (2003): For LGB youths—as distinct from adults—support from family and friends, family acceptance, and connectedness to the LGB community may have a direct rather than moderating effect on mental health. These findings suggest that, in the case of LGB youth and young adults, a resilience-risk continuum may explain the impacts of social stressors and coping resources on mental health. As suggested by Ingram and Price (2001), resilience and vulnerability represent opposite ends of a continuum, whereby resilience (which in the case of LGBs includes social support and connectedness to the LGB community) is the set of protective factors that make a person resistant to the detrimental effects of stressors. In addition, the present study focused on the day-to-day perceptions of acceptance, rejection, and support by family and friends, rather than the societal and familial victimization of LGB youth and young adults that is often highlighted in research on LGB youth (D’Augelli, 2006; Floyd, Stein, Harter, Allison, & Nye, 1999; Ryan

et al., 2009). The findings show that these, too, have substantial effects on LGB youths’ mental health. While emphasizing these daily experiences of LGB youth in societal and familial settings, it should be noted that the current study focused on only a part of the minority stress model. Further research that assesses both daily experiences and victimization and harassment experiences is needed to determine the impact of each of these components on the lives of LGB youth and young adults.

This study has several limitations. Given its cross-sectional design, our attributions of causality must be taken with caution. Although our explanations are rooted in theory and research, and the SEMs suggest causality, alternative explanations cannot be ruled out, and plausible alternative models may fit the data as well or better than the models we tested. Moreover, our findings may not be generalizable to all sexual-minority youth. Although our sample contained a similar number of males and females and individuals of diverse sexual orientations, the study participants were fairly homogeneous in religiosity (most were secular). As previously stated, this sample characteristic may have influenced our ability to detect the effects of religiosity on mental health. Furthermore, although our goal was to evaluate minority stress theory in Israel, using an exclusively Israeli sample makes it difficult to probe the effects of societal factors. It is therefore important to compare LGB youths from different countries and cultures. The measure of sexual orientation, although broadly used in research on sexual minorities (Sell, 2007), defines bisexuality in relation to gay or lesbian and heterosexual identity, which may have sent a message to participants that bisexuality is defined only in relation to other identities (that said, it should be noted that participants were offered a precise “bisexual” alternative to define their sexual orientation). Furthermore, the fact that this measure did not include other identities (such as “queer,” “questioning”) limits our ability to refer to the full diversity of identities that may represent within LGB youth and young adults, and may have discouraged some participants from taking part in the study. In addition, this study focused on family and heterosexual friends as support providers. Although these are often described in the literature as the main support providers affecting the lives of youth and young adults (Crosnoe, 2000; Smokowski et al., 2000), future research should assess, in addition, LGB friends’ support and its influences on mental health.

## CONCLUSIONS AND IMPLICATIONS

### Theoretical Conclusions

Overall, our findings underscore the importance of assessing different social subgroups within LGB samples to gain a richer understanding of sexual minorities. In terms of added burden as postulated in minority stress theory, it is also important to assess adolescent cohorts, as well as young adults and adults, and to consider the social characteristics of the social environment where the study takes place. The significance of younger age as a developmental stage, in which family and friends are central to the developmental tasks of adolescents (Crosnoe, 2000; Smokowski et al., 2000), was borne out in the current study's findings. More specifically, when assessing stressors relating to LGB youth and young adults, the support of family and friends, as well as opportunities for friendships within the LGB community, have a potential of being both stressors (when family and friends relations are undermining) and resilience factors, directly affecting mental health. The additive hypothesis of minority stress theory—namely, that the added burden of belonging to a minority within a minority, or to two minorities at once (e.g., bisexuals or LGB adolescents) adversely affects health outcomes—suggests that researchers should pay attention to the complex identities and social statuses when assessing sexual minorities.

### Practical Implications

LGB adolescents and young adults, and the subgroups of bisexuals and sexual minorities in the religious sector, have special therapeutic and social needs that should be taken into account. Specifically, our findings highlight the importance of family acceptance and support, the support of friends, and internalized homophobia as a focus of professional assessment, and intervention in a bid to improve LGB youths' mental health, and the importance of social connections to the LGBT community to improve their well-being. These emphases should lead professionals to initiate family interventions when dealing with sexual orientation issues in adolescents and young adults, and social interventions aimed at creating support networks to meet the needs of LGB youth. The findings call for particular professional attention to be focused specifically on bisexual youths and young adults as well as sexual minorities in religious communities. These subgroups are often ignored in therapy and professional interventions and may have special needs that

should be addressed. The present study's findings could help professionals to set psychotherapy goals and to plan social programs aimed at helping bisexual youths in their self-acceptance of their sexual orientation, and finding supporting environments both within the LGBT community and among family who can support their identity. As for religious sexual minorities, professionals should account for cultural and faith issues pertaining to self-acceptance of sexual orientation when developing familial and social interventions.

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