

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/126825/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Al-Khouja, Maya, Weinstein, Netta and Legate, Nicole 2021. Long-term mental health correlates of social supportive relationships in a lesbian, gay, and bisexual sample. *Psychology and Sexuality* 12 (3) , pp. 180-192. 10.1080/19419899.2019.1687580

Publishers page: <http://dx.doi.org/10.1080/19419899.2019.1687580>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Long-Term Mental Health Correlates of Social Supportive Relationships in a Lesbian, Gay,
and Bisexual Sample

Maya Al-Khouja, B.S.

Netta Weinstein, PhD

Cardiff University

Nicole Legate, PhD

Illinois Institute of Technology

Corresponding author Maya Al-Khouja can be reached at al-khoujama@cardiff.ac.uk

Abstract

Social support cultivates mental health, but little is known about how social support is experienced in individuals with a stigmatized identity, such as those who identify as lesbian, gay, or bisexual (LGB). The present study explored how specific elements of social support: reliance, feeling understood, and support for self-expression, experienced within parent, friend, and romantic relationships, relate to long-term mental health in an LGB sample. Responses were provided across two years by individuals who self-identified as gay, lesbian or bisexual in the nationally-representative dataset - *Understanding Society, the UK Household Longitudinal Study* (UKHLS). We predicted that having close relationships higher in social support would be linked to better general mental health two years after support was measured. Models partially supported hypotheses: broadly speaking, social support from friends, family, and romantic partners associated significantly with mental health measured at baseline and two years later, when relationships were considered separately. Of these, support for self-expression as provided by families were most robust even in models with conservative baseline and other relationship controls.

Long-Term Mental Health Correlates of Social Support in a Lesbian, Gay, and Bisexual Sample

Supportive relationships are essential for mental health (Ryan & Deci, 2017), and may be particularly beneficial for those with a stigmatized identity (Weinstein, Legate, Ryan, Sedikides, & Cozzolino, 2017). For example, supportive connections with family, friends, and partners promote the mental health of lesbian, gay, and bisexual (LGB) individuals (Masini & Barrett, 2008; Keleher, Wei, & Liao, 2010), who otherwise report lower mental health than their straight counterparts (Meyer, 2003). While extensive evidence points to the role of social support – the experience of help and care provided by others (Uchino, Cacioppo, & Kiecolt-Glaser, 1996) – on mental health, little is known about what components of social support are most important in the general population or in the LGB population, specifically. It is important to build this understanding since different qualities of social support may make distinct contributions to mental health (Goldsmith & Fitch, 1997; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). The present paper explores three theoretically informed ways in which social support may be experienced: through opportunities for self-expression, feeling understood by others, and the ability to rely on others. Further, in this paper we test the links of these three forms of social support with long-term mental health in a large sample of LGB participants.

Understanding factors that promote the mental health of LGB individuals is important given the health disparities faced by this population. Meta-analytic data shows that sexual minorities face disparities across a variety of mental health concerns (King et al., 2008). Specifically, LGB samples have been shown to have at least a 1.5-times higher risk of mental illness including depression and anxiety, with lifetime risk of suicide attempts at twice the rates of heterosexuals. These mental health disparities are also evidenced in research within LGB populations (e.g., Bostwick, Boyd, Hughes, & McCabe, 2010; Chakraborty, McManus,

Brugha, Bebbington, & King, 2011; Cochran & Mays, 2009; Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013).

LGB health disparities may be due to *minority stress* – or the stress sexual minorities face related to prejudice and stigma, for example, through discrimination at work or when in public (Meyer, 2003). As these stressors tend to be relational in nature, it is critical to understand the extent to which other supportive and accepting relationships can promote mental health of individuals subject to them (Green & Mitchell, 2008). In line with this view, research on LGB health and relationships shows that a potent source of minority stress is a lack of relational support. For example, perceiving rejection from caregivers has been linked to more depression, suicide attempts, drug use and sexual risk-taking behaviours in LGB adolescents (e.g., Rosario, Schrimshaw, & Hunter, 2009; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Moreover, adolescents whose parents rejected their sexual orientation show more drug use, depression, suicide attempts and risky sexual behaviours later on as adults suggesting a long-term impact (Ryan, C., Huebner, Diaz, & Sanchez, 2009). Beyond rejecting versus accepting reactions to coming out as LGB, social support from important others, more broadly, has been linked to better mental health outcomes among sexual minorities, such as lower depression, anxiety, and substance use (Kwon, 2010; Lehavot & Simoni, 2011). Yet this research does little to explore the nature of social support provided to LGB individuals, and herein, we explore ways that LGB individuals can feel social support – namely the extent to which they experience close others as reliable sources of support, as supporting self-expression, and in terms of feeling understood by close others.

Aspects of Social Support

One important indicator of social support identified in the literature is *reliance*, the feeling one can count on others to provide consistent emotional and instrumental support (Ognibene & Collins, 1998). In healthy relationships, individuals feel they can rely on others for emotional support, with implications for mental health (Lynch, 2013; Ryan et al., 2005).

In further work, reliance has been argued to underlie trusting relationships (Jiang, Henneberg, & Naudé, 2011; Rempel, Holmes, & Zanna, 1985), and is key to how trusting relationships foster mental health (Lewicki & Bunkerm 1995). In fact, the feeling that one can rely on others signifies healthy attachment in close relationships (Cassidy & Shaver, 2002). To our knowledge, little to no work has examined reliance specifically in the LGB population, except for one study finding that gay men with AIDS tended to rely more on friends than family for their AIDS-related care (Johnson, Stall, & Smith, 1995). We were thus interested to understand the extent reliance on family, friends, and one's partner would link to mental health in LGB persons, or whether reliance within certain relationships may be especially important.

A second quality of social support, *self-expression* reflects the experience that one can freely share important feelings, thoughts and actions with others, and is likely determined in part by the reactions of others to meaningful self-disclosures of the past (Tobin, 1995). The felt ability to freely express oneself is a quality of social support shown to be important for mental health outcomes such as lower social anxiety and more self-awareness (Itzchakov, DeMarree, Kluger, & Turjeman-Levi, 2018). In addition, self-expression is a way for individuals to connect and form meaningful relationships (Bargh, McKenna, & Fitzsimons, 2002), and presumably these processes are important for mental health in close relationships where individuals hold a stigmatized identity that might give reason to inhibit self-expression (Derlega & Berg, 1987; Greene, Derlega, & Matthews, 2006).

A final quality of focus in the present investigation is feeling understood by close others, usually resulting from others taking one's perspective or point of view (Batson, Early, & Salvarani, 1997). A large body of research indicates that feeling understood has several important relationship-enhancing effects (e.g., Goldstein, Vezich, & Shapiro, 2014; Leith & Baumeister, 1998; Vaish, Carpenter, & Tomasello, 2009). Previous research within the domain of romantic relationships, for example, shows that when perspective-taking

accurately reflects the partner's feelings, relationship satisfaction increases (Franzoi, Davis, & Young, 1985; Martini, Grusec, & Bernardini, 2001). Feeling that one's perspective is being taken into consideration by others has also been shown to link to better mental health (Payton et al., 2000).

Notably, the qualities of self-expression and feeling understood are also aspects of a specific type of social support which has received empirical support in LGB populations, namely perceived autonomy support, or support for one's need for self-expression and to live in accordance with one's interests and values (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006; Ryan & Deci, 2000). As a form of autonomy support, feeling understood and support for self-expression results in individuals feeling they are living more authentically (La Guardia & Ryan, 2007; Lynch, La Guardia, & Ryan, 2009; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). Previous research has found that LGB individuals are more likely to come out to others who are autonomy-supportive (Legate, Ryan, & Weinstein, 2012; Ryan, Legate, & Weinstein, 2015), and this has short-term benefits for mental health (Beals et al., 2009; Hu et al., 2013). A growing body of work has also revealed that autonomy support from family and friends links to higher LGB mental health, both in cross-sectional research (Ryan et al., 2015; Ryan, Legate, Weinstein, & Rahman, 2017; Weinstein et al., 2017) as well as at the level of daily interactions (Legate, Ryan, & Rogge, 2017). However, to date, no research has examined the longitudinal associations of supportive relationships on LGB mental health, the relative influence of specific close relationships, or which components of supportive relationships – feeling understood or receiving encouragement to self-express – are most important over time.

The present research focuses on three specific close relationships to understand their unique and combined contributions: those with family, friends, and romantic partners. Most work on social support and mental health aggregates it across relationships (e.g., Cohen, 2004; Holt-Lunstad, Smith, & Layton, 2010; Thoits, 2011). When considering the literature

on social support within specific relationships outside the LGB domain, research within the domain of close friendships has identified that supportive friends relate to more positive affect and less negative affect (Deci et al., 2006). Likewise, children of supportive parents experience greater mental health (e.g., Chirkov & Ryan, 2001; Goldfried & Goldfried, 2001), as do individuals who have supportive romantic partners (Patrick, Knee, Canavello, & Lonsbary 2007).

Work on social support within LGB individuals, specifically, also shows that these close relationships – family, friends, and partners – link to better mental health outcomes (Graham & Barnow, 2013; Legate et al., 2012; Sheets & Mohr, 2009). For example, perceived social support in friends and family was found to be a strong predictor of mental health in a sample of bisexual college students (Sheets & Mohr, 2009). The specific contributions of social support may differ across different age groups, whereas family support in LGB adolescents has been related to future mental health outcomes (McConnell, Birkett, & Mustanski, 2016), but family support in LGB older adults may be less important for their well-being than friend and partner support (Grossman, D’Augelli, & Hershberger, 2000). Specifically, for older LGB individuals loneliness was lower with those living with a domestic partner, with their physical and mental health also being rated more positively than those who lived alone (Grossman et al., 2000). As well as making independent contributions to mental health, it may be that the combined support from parents, friends, and romantic partner relationships is the most beneficial to mental health (Ratelle, Simard, & Guay, 2013), but to date we have little understanding of the independent and combined effects of social support from different relationships to mental health.

Present Study

In the present study we analysed data collected over two years to investigate the qualities of social support from friends, family, and partners that predict mental health over time. We used the nationally representative *Understanding Society: the UK Household*

Longitudinal Study (UKHLS) dataset, with data from adults 16 and older from households across the UK; we specifically considered individuals who identified as LGB. We also used a heterosexual comparison group to test whether LGB individuals benefit from social support differently. We hypothesized that LGB individuals would benefit from social support more than the straight majority when comparing the two groups. We further hypothesized that for LGB participants, higher social support from family, friends, and romantic partners would predict general mental health up to two years later; as well as being associated with *increases* in social support across two years by controlling for baseline levels. We further explored which qualities of social support are most important but had no a priori hypotheses concerning the qualities or relationships that would be most important. Finally, we considered whether relationships would show additive or substituting effects such that support within one relation buffered or, alternatively, supplemented social support (or the lack of it) within others.

Methods

Participants and Procedure

Beginning in 2009, the *Understanding Society: the UK Household Longitudinal Study* (UKHLS) dataset collected data annually for six years from adults aged 16 years and older from almost 40,000 households across the UK. Our interest was in participants who self-identified as lesbian/gay or bisexual at wave three (2011; when sexual orientation was measured), and who responded to waves two (2010; when social support within close relationships was measured) and four (2012; the last year most of the participants who responded in wave two reported their mental health). This yielded 882 LGB individuals for our final sample. Access to the full dataset, participant sampling methods, data collection procedures, and response rates at each wave are freely available at <https://www.understandingsociety.ac.uk> (University of Essex, 2009-2015; Buck & McFall, 2011; Lynn, 2009). Our data was comprised of participants who reported being lesbian/gay or

bisexual in wave three, the first year in which sexual orientation was assessed. Sexual orientation was asked of all adults who consented to complete the self-reported survey provided in 2011. Within the subset of 882 LGB participants, 448 were male (50.8%) and 434 were female (49.2%); of these, 476 (54%) reported being 'gay/lesbian' and 406 (46%) reported being 'bisexual'. At wave three, the mean age of our sample was 38 years and ages ranged from 16 years to 86 years. Of the 582 participants who responded with their ethnicity, 55.1% reported having a British or 'any other white' background, with the next largest ethnic groups being Pakistani (2.6%), and African (2.2%).

To match the LGB sample in scope, a random sample of 600 straight participants was also taken from the original dataset and used as a comparison group. From this, 268 (44.7%) were straight males and 332 (55.3%) were straight females. At wave three, ages ranged from 16 to 93, with a mean age of 46. Of the 369 who responded with their ethnic group, 85.1% reported having a British or 'any other white' background, with the next largest ethnic groups being Indian (3.3%), and Bangladeshi (1.6%) participants.

Materials

Social support. Participants reported perceived social support received from each of three relationship types – family, friends, and partner. Items for each relationship type evaluated aspects of social support within these close relationships: “Understands the way I feel” (i.e., feeling understood), “Can rely on” (i.e., reliance) and “Can talk about my worries with” (i.e., self-expression). The three items for each relationship type (with nine items total) were answered on a scale ranging from (1) “*a lot*” to (4) “*not at all.*” Items were reverse scored so that higher scores reflect more social support from family, friends, and partners for ease of interpretation. The three items showed good reliability across relationships: partner/spouse ($\alpha = .84$), family ($\alpha = .84$), and friends ($\alpha = .84$), suggesting that these different dimensions of social support have internal consistency, along with each reflecting a different quality of social support which is informative in its own right.

General mental health. The General Health Questionnaire 12-item (GHQ-12) measures experiences reflecting general mental health (GHQ; Goldberg, 1972; Hankins, 2008; Ye, 2009). Respondents rate the frequency they had experienced symptoms of mental health and the absence of it (e.g., were able to concentrate, lost sleep, made effective decisions). The GHQ provides a reliable measure of general mental health that correlates highly with other measures of mental health (MHI-5; Hoeymans, Garssen, Westert, & Verhaak, 2004; McCabe, Thomas, Brazier, & Coleman, 1996), and has been shown to measure both positive and negative aspects of mental health in balance (Hu, Stewart-Brown, Twigg, & Weich, 2007). For each question, four response categories were presented to produce a total score with a range of 0–36 (Goldberg & Williams, 2006), where lower values were indicative of better general mental health. Within the UKHLS dataset we examined the GHQ-12, administered at baseline (2010) and two years later (2012) ($\alpha = .93$).

Results

Preliminary Analyses

Social support was measured at baseline (wave two assessed in 2010) and general mental health was measured at baseline and two years later (at wave four in 2012). Correlations for LGB participants between age, sex, sexual orientation (gay/lesbian vs bisexual), reported social support (family, friends, and partner), and general mental health at baseline and two years later are depicted in Table 1. Perceived social support from family members correlated positively with social support from friends ($r(608) = .28, p < .001$), and with support from partners ($r(324) = .20, p < .001$). When correlating support from friends and support from partners, the link was smaller but still significant ($r(324) = .12, p = .035$). Sexual orientation (gay/lesbian coded 0, bisexual coded 1) was not linked with perceived social support from friends or family, but being bisexual was negatively correlated with

partner support ($r(335) = -.164, p = .002$). General mental health at both baseline and 2 years correlated highly with all three social support relationships.¹

Focusing more closely on the specific experiences of LGB participants in our sample, preliminary regression analyses regressed general mental health onto social support received within each of three relationships for LGB individuals, separately, for baseline and two years later in an initial set of models. Social support across relationships was conducted separately because the sample size for those who reported on romantic partners was much smaller ($n = 337$ vs. $n = 644$ for friends and $n = 628$ for family), presumably because only a subset of participants had romantic partners. Findings, controlling for age, orientation and gender, are presented in Table 2. These initial models showed social support from each of the three relationships associated significantly to GHQ at both waves, suggesting that supportive close relationships were important for mental health both immediately and over the long-term.

Primary Models

Do LGB individuals benefit from social support differently than those who identify as heterosexual? A first regression model explored whether effects of social support would be different between heterosexual and LGB participants by comparing our LGB sample to our straight sample. Controlling for baseline levels of mental health, age, and gender, by defining them as covariates within our model, we looked for interaction effects between straight and LGB populations for each of the social support relationships, analysed separately. No interaction effects were found for any of the relationships; family ($\beta = .02, p = .622$), friend ($\beta = .03, p = .270$), and partner support ($\beta = -.07, p = .071$). However, the current paper is concerned with the experiences of LGB individuals and thus we isolated this subpopulation from the general population in the rest of our analyses.

¹ For straight participants, correlations were found between all three types of social support: family and friends ($r(469) = .394, p < .001$); family and partner ($r(325) = .240, p < .001$); and friends and partner ($r(325) = .134, p = .016$). Likewise, general mental health at both baseline and 2 years correlated highly with all three social support relationships.

Does social support change mental health of LGB individuals across time? Our primary regression model simultaneously defined all three relationships predicting general mental health two years later to understand their independent contributions, while controlling for baseline levels of mental health by defining it as a covariate in the model. This analysis thus examined unique contributions of relationship specific social support to changes in mental health over time in our LGB subsample. Findings showed that social support from family members related to mental health two years later, even when controlling for age, sexual orientation, baseline levels of GHQ and support from other relationships ($\beta = -.17, p = .003$). Friend and partner support did not show this effect when controlling for baseline GHQ and the other relationships ($\beta = -.10, p = .084$; $\beta = -.00, p = .964$, respectively). In other words, family social support was the only relationship that independently linked to increases in general mental health across a period of two years²

Which aspect of social support most robustly changes mental health of LGB individuals across time? To further understand the nature of the link between social support and mental health, we explored the three qualities of social support as independent predictors. Given that family was the only relationship that uniquely linked to better mental health across two years, we examined how much each of the qualities of family social support predicted changes in mental health two years later, controlling for baseline mental health. This regression analysis showed self-expression was the only factor to significantly predict increases in mental health over the two-year period ($\beta = -.13, p = .035$). The effect of self-expression did not differ as a function of age, gender, or sexual orientation ($ps > .861$). Neither reliance nor feeling understood linked to changes in mental health ($\beta = .03, p = .643$;

² In this model, age and orientation covariates were found to be significant in predicting GHQ two years later. Age related to better mental health ($\beta = -.134, p = .012$), whereas bisexual participants demonstrated poorer mental health than gay and lesbian ones ($\beta = .160, p = .003$)

$\beta = -.01, p = .784$), nor did they interact with age, gender, or sexual orientation ($ps > .480$), in this conservative model.

Does social support within different relationships have additive effects? Finally, we investigated whether social support from each of the three close relationships (family, friends, partner) has additive benefits, or, alternatively, that in the absence of one source of social support, another would compensate for long-term mental health. When controlling for baseline mental health in our regression model, two-way interactions between family and friends ($\beta = -.01, p = .086$), family and partner ($\beta = -.02, p = .680$), and partner and friends ($\beta = .01, p = .842$), and a three-way interaction between all three relationships ($\beta = -.03, p = .569$), showed no significant evidence in favour of additive or substitute effects.

Discussion

This work adds to the existing literature on the mental health benefits of social support for individuals who identify as LGB. We hypothesized that social support in close relationships (family, friends, and partner) would relate to increases in mental health in LGB individuals over a two-year period. Results partially supported this hypothesis, and highlighted which quality (namely, support for self-expression) and which relationship (namely, with family) predicted long-term mental health most robustly. By doing so, the current study advanced a broader understanding that social support may be beneficial for LGB individuals, seeking a more nuanced understanding of its impact over the long term.

When social support experienced within close relationships was modelled separately, all three relationships – those with family, friends, and partners – predicted better mental health over time. Yet when competing for shared variance in a simultaneous model, only social support from family emerged as a significant predictor of mental health over time. Thus, it may be that social support from family is most critical for LGB individuals, though this should be interpreted with caution as only individuals reporting on family, friends, and a romantic partner (in other words, approximately half of the sample) were included in this

conservative analysis. Nonetheless, these results speak to the importance of social support provided by families for LGB individuals across the lifespan. This finding is in line with, and informs, previous research suggesting that family relationships are especially important for well-being in LGB samples (Ryan et al., 2010). One reason for this may be the family's critical role in shaping early development (e.g., Ryan et al., 2009; Shilo & Savaya, 2011), particularly in terms of developing a positive LGB identity (reference omitted for blind review). It is also consistent with previous research on autonomy support in family relationships within the general population, showing that parents' autonomy support predicts higher levels of self-esteem and lower anxiety in adolescents and young adults (Chirkov & Ryan, 2001; Goldfried & Goldfried, 2001). The present results illustrated family support as an important source of general mental health for those who identify as LGB, and importantly, that the mental health benefits of being supported by family are sustained throughout adulthood, a finding which suggests the importance of family-based interventions for improving the well-being of sexual minorities even in adulthood.

We further considered three specific qualities of family social support to identify the aspects of support that are particularly important for this LGB sample. When the three qualities of social support were tested simultaneously, self-expression proved to be the most meaningful predictor of mental health two years later. This finding elaborates on previous assertions that self-expression is important for relationship building and may therefore promote mental health and well-being (Derlaga & Berg, 1987; Greene, Derlaga, & Matthews, 2006). Additionally, a body of research suggests the need for disclosure and being "out" is important for LGB individuals' mental health (e.g., Schrimshaw, Siegel, Downing, & Parsons, 2013; Legate, Ryan, & Weinstein, 2012). The present results aligned with these two insights by identifying that self-expression is important for LGB individuals; further, this study connected self-expression to better mental health over the long term.

However, it is worth bearing in mind that our measure of self-expression as well as other aspects of social support was limited, as each aspect was tested using a single item. In this study, self-expression was operationalized in terms of expressing one's worries, which presumably took place in the context of attentive interactions. Yet, future work should further investigate these aspects of social support using a more detailed measure to gain a wider view of what is important for well-being.

Research extending this work from the general population to the potentially vulnerable population shows LGB individuals who are socially supported have higher well-being, including lower levels of depression and anxiety, and greater self-esteem (Detrie & Lease, 2007; Ryan, Legate, Weinstein, & Rahman, 2017). Further, LGB individuals also tend to be more "out," so that social support also assists those with higher internalized homophobia (Ryan et al., 2017). Comparing our LGB subsample to a subsample of straight participants, we found no difference in social support affecting general mental health two years later for any of the social supportive relationships. This result tells us that social support is equally important across populations differentiated by their sexual orientation. Outside the LGB context, longitudinal work has suggested that parents' support for adolescents' autonomy links to self-esteem years later (e.g., Allen, Hauser, Bell, & O'Connor, 1994), and similarly support plays a critical role in promoting healthy acceptance of one's identity in the general population (Deci & Ryan, 2012). This study integrated these two bodies of work by testing effects in an LGB sample over a period of two years, while also considering social support in the context of close relationships with friends, family, and romantic partners.

Future research should extend this study to understanding social support and mental health in other contexts, for example the workplace, where LGB individuals may be less likely to be "out" (Ragins, Singh, & Cornwell, 2007). Previous research on support within professional relationships has shown to have short term benefits to well-being (e.g., Baard, Deci, & Ryan, 2004; Chirkov & Ryan, 2001; Deci, Schwartz, Sheinman, & Ryan, 1981;

Ryan & Deci, 2017; Williams, Grow, Freedman, Ryan, & Deci, 1996). These professional relationships (e.g. teacher-student, manager-employee, or doctor-patient) contribute to mental health, but this effect has not been tested over time. These results demonstrate the potential for long-term benefits of supportive relationships, which may also apply to those in professional settings.

Findings may further help inform why clinical interventions that use modes of self-expression (e.g. music and art therapy), help patients process emotions and facilitate higher self-esteem, better coping skills, and enhance physical well-being (e.g. Robb, 1996; Stephenson, 2006). Interventions that encourage social support, including support for self-expression, in LGB individuals would provide causal evidence for the present model and an impactful resource for this population. In support of this, exploratory interventions to encourage individuals to seek out socially supportive contexts show benefits to mental health in other vulnerable populations (Weinstein, Khabbaz, & Legate, 2016). In addition, although our focus was on the contributions of supportive relationships to mental health two years later, future research should consider if physical health is also impacted over time.

Some limitations of this study merit consideration. First, an important limitation of this study is the use of correlational data, which limits our confidence in making causal conclusions despite some mitigation through controlling for baseline mental health. Although controls for, and moderation by, age, gender, and sexual orientation were tested, future research may examine other lifestyle and demographic factors which may impact our results. Yet the present findings corroborate and enhance previous research on social support and well-being, which gives reason to believe further longitudinal research in this area is warranted to determine long-term links between support and LGB well-being. Thus, the present study is the first to highlight that social support in the form of opportunities for self-expression, which is received within close relationships and particularly families, might be important to the mental health of LGB individuals over the long-term.

References

- Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent-family interactions as predictors of adolescent ego development and self-esteem. *Child development, 65*(1), 179-194.
- Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of parents' conditional regard: A self-determination theory analysis. *Journal of Personality, 72*, 47-88.
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of applied social psychology, 34*(10), 2045-2068.
- Bargh, J. A., McKenna, K. Y., & Fitzsimons, G. M. (2002). Can you see the real me? Activation and expression of the "true self" on the Internet. *Journal of social issues, 58*(1), 33-48.
- Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imaging how you would feel. *Personality and social psychology bulletin, 23*(7), 751-758.
- Beals, K. P., Peplau, L. A., & Gable, S. L. (2009). Stigma management and well-being: The role of perceived social support, emotional processing, and suppression. *Personality and Social Psychology Bulletin, 35*(7), 867-879.
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. *American journal of public health, 100*(3), 468-475.
- Buck, N., & McFall, S. (2011). Understanding Society: design overview. *Longitudinal and Life Course Studies, 3*(1), 5-17.
- Cassidy, J., & Shaver, P. R. (Eds.). (2002). *Handbook of attachment: Theory, research, and clinical applications*. Rough Guides.

- Chakraborty, A., McManus, S., Brugha, T. S., Bebbington, P., & King, M. (2011). Mental health of the non-heterosexual population of England. *The British Journal of Psychiatry, 198*(2), 143-148.
- Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and US adolescents: Common effects on well-being and academic motivation. *Journal of cross-cultural psychology, 32*(5), 618-635.
- Cochran, S. D., & Mays, V. M. (2009). Burden of psychiatric morbidity among lesbian, gay, and bisexual individuals in the California Quality of Life Survey. *Journal of abnormal psychology, 118*(3), 647.
- Cohen, S. (2004). Social relationships and health. *American psychologist, 59*(8), 676.
- Cole, S. W., Kemeny, M. E., Taylor, S. E., & Visscher, B. R. (1996). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology, 15*(4), 243.
- Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin, 32*(3), 313-327.
- Deci, E. L., Schwartz, A. J., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adults' orientations toward control versus autonomy with children: Reflections on intrinsic motivation and perceived competence. *Journal of educational Psychology, 73*(5), 642.
- Derlaga, V. J., & Berg, J. H. (Eds.). (1987). *Self-disclosure: Theory, research, and therapy*. Springer Science & Business Media.
- Detrie, P. M., & Lease, S. H. (2007). The relation of social support, connectedness, and collective self-esteem to the psychological well-being of lesbian, gay, and bisexual youth. *Journal of Homosexuality, 53*(4), 173-199.

- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, 29(1), 94-122.
- Franzoi, S. L., Davis, M. H., & Young, R. D. (1985). The effects of private self-consciousness and perspective taking on satisfaction in close relationships. *Journal of Personality and Social Psychology*, 48(6), 1584.
- Fredriksen-Goldsen, K. I., Kim, H. J., Barkan, S. E., Muraco, A., & Hoy-Ellis, C. P. (2013). Health disparities among lesbian, gay, and bisexual older adults: Results from a population-based study. *American journal of public health*, 103(10), 1802-1809.
- Goldberg, D. P. (1972). *The detection of psychiatric illness by questionnaire: A technique for the identification and assessment of non-psychotic illness*. Oxford University Press.
- Goldberg, D., & Williams, P. (2006). *A user's guide to the General Health Questionnaire*. GL assessment.
- Goldfried, M. R., & Goldfried, A. P. (2001). The importance of parental support in the lives of gay, lesbian, and bisexual individuals. *Journal of Clinical Psychology*, 57(5), 681-693.
- Goldsmith, D. J., & Fitch, K. (1997). The normative context of advice as social support. *Human communication research*, 23(4), 454-476.
- Goldstein, N. J., Vezich, I. S., & Shapiro, J. R. (2014). Perceived perspective taking: When others walk in our shoes. *Journal of personality and social psychology*, 106(6), 941.
- Graham, J. M., & Barnow, Z. B. (2013). Stress and social support in gay, lesbian, and heterosexual couples: Direct effects and buffering models. *Journal of Family Psychology*, 27(4), 569-578.
- Green, R. J., & Mitchell, V. (2008). Gay and lesbian couples in therapy: Minority stress, relational ambiguity, and families of choice. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (pp. 662-680). New York, NY, US: Guilford Press.

- Greene, K., Derlega, V. J., & Mathews, A. (2006). Self-disclosure in personal relationships. *The Cambridge handbook of personal relationships*, 409-427.
- Grossman, A. H., D'Augelli, A. R., & Hershberger, S. L. (2000). Social support networks of lesbian, gay, and bisexual adults 60 years of age and older. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 55(3), P171-P179.
- Hankins, M. (2008). The reliability of the twelve-item general health questionnaire (GHQ-12) under realistic assumptions. *BMC public health*, 8(1), 355.
- Hoeymans, N., Garssen, A. A., Westert, G. P., & Verhaak, P. F. (2004). Measuring mental health of the Dutch population: a comparison of the GHQ-12 and the MHI-5. *Health and quality of life outcomes*, 2(1), 23.
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS medicine*, 7(7), e1000316.
- Hu, X., Wang, Y., & Wu, C. H. (2013). Acceptance concern and life satisfaction for Chinese LGBs: The mediating role of self-concealment. *Social indicators research*, 114(2), 687-701.
- Hu, Y., Stewart-Brown, S., Twigg, L., & Weich, S. (2007). Can the 12-item General Health Questionnaire be used to measure positive mental health?. *Psychological medicine*, 37(7), 1005-1013.
- Itzchakov, G., DeMarree, K. G., Kluger, A. N., & Turjeman-Levi, Y. (2018). The listener sets the tone: high-quality listening increases attitude clarity and behavior-intention consequences. *Personality and Social Psychology Bulletin*, 44(5), 762-778.
- Jiang, Z., Henneberg, S. C., & Naudé, P. (2011). The importance of trust vis-à-vis reliance in business relationships: some international findings. *International Marketing Review*, 28(4), 318-339.
- Johnston, D., Stall, R., & Smith, K. (1995). Reliance by gay men and intravenous drug users on friends and family for AIDS-related care. *AIDS care*, 7(3), 307-320.

- Joireman, J. A., Needham, T. L., & Cummings, A. L. (2002). Relationships between dimensions of attachment and empathy. *North American Journal of Psychology*, 4(1), 63-80.
- Keleher, J., Wei, M., & Liao, K. Y. H. (2010). Attachment, positive feelings about being a lesbian, perceived general support, and well-being. *Journal of Social and Clinical Psychology*, 29(8), 847-873.
- Knee, C. R., Canevello, A., Bush, A. L., & Cook, A. (2008). Relationship-contingent self-esteem and the ups and downs of romantic relationships. *Journal of personality and social psychology*, 95(3), 608.
- Kwon, P. (2013). Resilience in lesbian, gay, and bisexual individuals. *Personality and Social Psychology Review*, 17(4), 371-383.
- La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology*, 49, 201–209.
- La Guardia, J. G., & Ryan, R. M. (2007). Why identities fluctuate: Variability in traits as a function of situational variations in autonomy support. *Journal of Personality*, 75(6), 1205-1228.
- Legate, N., Ryan, R. M., & Rogge, R. D. (2017). Daily Autonomy Support and Sexual Identity Disclosure Predicts Daily Mental and Physical Health Outcomes. *Personality and Social Psychology Bulletin*, 43(6), 860-873.
- Legate, N., Ryan, R. M., & Weinstein, N. (2012). Is coming out always a “good thing”? Exploring the relations of autonomy support, outness, and wellness for lesbian, gay, and bisexual individuals. *Social Psychological and Personality Science*, 3(2), 145-152.
- Lehavot, K., & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *Journal of consulting and clinical psychology*, 79(2), 159.

- Leith, K. P., & Baumeister, R. F. (1998). Empathy, shame, guilt, and narratives of interpersonal conflicts: Guilt-prone people are better at perspective taking. *Journal of personality, 66*(1), 1-37.
- Lewicki, R. J., & Bunker, B. B. (1995). Trust in relationships. *Administrative Science Quarterly, 5*(1), 583-601.
- Lynch, M. F. (2013). Attachment, autonomy, and emotional reliance: A multilevel model. *Journal of Counseling & Development, 91*(3), 301-312.
- Lynch, M. F., La Guardia, J. G., & Ryan, R. M. (2009). On being yourself in different cultures: Ideal and actual self-concept, autonomy support, and well-being in China, Russia, and the United States. *The Journal of Positive Psychology, 4*(4), 290-304.
- Lynn, P. (2009). Sample design for understanding society. *Underst. Soc. Work. Pap. Ser, 2009*.
- Martini, T. S., Grusec, J. E., & Bernardini, S. C. (2001). Effects of interpersonal control, perspective taking, and attributions on older mothers' and adult daughters' satisfaction with their helping relationships. *Journal of Family Psychology, 15*(4), 688.
- Masini, B. E., & Barrett, H. A. (2008). Social support as a predictor of psychological and physical well-being and lifestyle in lesbian, gay, and bisexual adults aged 50 and over. *Journal of Gay & Lesbian Social Services, 20*(1-2), 91-110.
- McCabe, C. J., Thomas, K. J., Brazier, J. E., & Coleman, P. (1996). Measuring the mental health status of a population: A comparison of the GHQ-12 and the SF-36 (MHI-5). *The British Journal of Psychiatry, 169*(4), 517-521.
- McConnell, E. A., Birkett, M., & Mustanski, B. (2016). Families matter: Social support and mental health trajectories among lesbian, gay, bisexual, and transgender youth. *Journal of Adolescent Health, 59*(6), 674-680.

- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological bulletin*, 129(5), 674.
- Ognibene, T. C., & Collins, N. L. (1998). Adult attachment styles, perceived social support and coping strategies. *Journal of Social and Personal Relationships*, 15(3), 323-345.
- Pachankis, J. E. (2007). The psychological implications of concealing a stigma: a cognitive-affective-behavioral model. *Psychological bulletin*, 133(2), 328.
- Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: a self-determination theory perspective. *Journal of personality and social psychology*, 92(3), 434.
- Payton, J. W., Wardlaw, D. M., Graczyk, P. A., Bloodworth, M. R., Tompsett, C. J., & Weissberg, R. P. (2000). Social and emotional learning: A framework for promoting mental health and reducing risk behavior in children and youth. *Journal of school health*, 70(5), 179-185.
- Pennebaker, J. W., & Chung, C. K. (2011). Expressive writing: Connections to physical and mental health. *Oxford handbook of health psychology*, 417-437.
- Ragins, B. R., Singh, R., & Cornwell, J. M. (2007). Making the invisible visible: Fear and disclosure of sexual orientation at work. *Journal of Applied Psychology*, 92(4), 1103.
- Ratelle, C. F., Simard, K., & Guay, F. (2013). University students' subjective well-being: The role of autonomy support from parents, friends, and the romantic partner. *Journal of Happiness Studies*, 14(3), 893-910.
- Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of personality and social psychology*, 49(1), 95.
- Robb, S. L. (1996). Techniques in song writing: Restoring emotional and physical well being in adolescents who have been traumatically injured. *Music Therapy Perspectives*, 14(1), 30-37.

- Rosario, M., Schrimshaw, E. W., & Hunter, J. (2009). Disclosure of sexual orientation and subsequent substance use and abuse among lesbian, gay, and bisexual youths: critical role of disclosure reactions. *Psychology of Addictive Behaviors, 23*(1), 175.
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics, 123*(1), 346-352.
- Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing, 23*(4), 205-213.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology, 25*(1), 54-67.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
- Ryan, R. M., Kuhl, J., & Deci, E. L. (1997). Nature and autonomy: An organizational view of social and neurobiological aspects of self-regulation in behavior and development. *Development and psychopathology, 9*(4), 701-728.
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V. I., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and culture. *Personal Relationships, 12*, 146-163.
- Ryan, W. S., Legate, N., & Weinstein, N. (2015). Coming out as lesbian, gay, or bisexual: The lasting impact of initial disclosure experiences. *Self and Identity, 14*(5), 549-569.
- Ryan, W. S., Legate, N., Weinstein, N., & Rahman, Q. (2017). Autonomy support fosters lesbian, gay, and bisexual identity disclosure and wellness, especially for those with internalized homophobia. *Journal of Social Issues, 73*(2), 289-306.

- Schrimshaw, E. W., Siegel, K., Downing Jr, M. J., & Parsons, J. T. (2013). Disclosure and concealment of sexual orientation and the mental health of non-gay-identified, behaviorally bisexual men. *Journal of consulting and clinical psychology, 81*(1), 141.
- Sheets, R. L., Jr., & Mohr, J. J. (2009). Perceived social support from friends and family and psychosocial functioning in bisexual young adult college students. *Journal of Counseling Psychology, 56*(1), 152-163.
- Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. *Journal of personality and social psychology, 73*(6), 1380.
- Shilo, G., & Savaya, R. (2011). Effects of family and friend support on LGB youths' mental health and sexual orientation milestones. *Family Relations, 60*(3), 318-330.
- Stephenson, R. C. (2006). Promoting self-expression through art therapy. *Generations, 30*(1), 24-26.
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of health and social behavior, 52*(2), 145-161.
- Tobin, J. (1995). The irony of self-expression. *American Journal of Education, 103*(3), 233-258.
- Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1996). The relationship between social support and physiological processes: a review with emphasis on underlying mechanisms and implications for health. *Psychological bulletin, 119*(3), 488.
- University of Essex. Institute for Social and Economic Research, NatCen Social Research and Kantar Public, [producers]: Understanding Society: Waves 1-6, 2009-2015 [computer file]. 8th Edition. Colchester, Essex: UK Data Service [distributor], November 2016. SN: 6614

- Vaish, A., Carpenter, M., & Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental psychology, 45*(2), 534.
- Weinstein, N., Khabbaz, F., & Legate, N. (2016). Enhancing need satisfaction to reduce psychological distress in Syrian refugees. *Journal of consulting and clinical psychology, 84*(7), 645.
- Weinstein, N., Legate, N., Ryan, W. S., Sedikides, C., & Cozzolino, P. J. (2017). Autonomy support for conflictual and stigmatized identities: Effects on ownership and well-being. *Journal of Counseling Psychology, 64*(5), 584.
- Ye, S. (2009). Factor structure of the General Health Questionnaire (GHQ-12): The role of wording effects. *Personality and Individual Differences, 46*(2), 197-201.

Table 1*Correlations between sex, age, sexual orientation, and autonomy support in each relationship for LGB individuals*

	Mean	SD	1	2	3	4	5	6	7	8
1. Female	1.49	.50	-							
2. Age	38.34	15.72	-.10**	-						
3. Bisexual	2.46	.49	.15***	-.11***	-					
4. Autonomy Friends	3.18	.72	.07	-.09*	-.07	-				
5. Autonomy Family	2.93	.84	.05	-.03	.01	.28***	-			
6. Autonomy Partner	3.52	.66	.11*	.01	-.16**	.12*	.20***	-		
7. GHQ Baseline	2.03	.53	-.00	.01	.03	-.15***	-.17***	-.33***	-	
8. GHQ 2 Years	2.08	.59	.03	-.07	.09*	-.16***	-.19***	-.20***	.50***	-

*** $p \leq .001$ ** $p \leq .01$ * $p \leq .05$

Table 2

Regressions for GHQ in each autonomy support relationship (conducted separately) for 2 time points for LGB individuals; sex, sexual orientation and age are controlled for.

	<i>Baseline</i>				<i>2 Years</i>			
	<i>B [CI]</i>	<i>t(n)</i>	<i>p</i>	<i>r</i>	<i>B [CI]</i>	<i>t(n)</i>	<i>p</i>	<i>r</i>
GHQ								
Autonomy Friends	-0.08 [-.12, -.04]	-3.82***	.000	-.15	-0.09 [-.14, -.04]	-3.73***	.000	-.16
Autonomy Family	-0.09 [-.13, -.05]	-4.31***	.000	-.17	-0.11 [-.16, -.06]	-4.46***	.000	-.19
Autonomy Partner	-0.15 [-.20, -.10]	-5.91***	.000	-.31	-0.09 [-.16, -.03]	-3.07**	.002	-.02

*** $p \leq .001$ ** $p \leq .01$ * $p \leq .05$

Table 3

Effect sizes predicting GHQ from each autonomy support relationship (conducted separately) for 2 time points for all orientations; age is controlled for.

Baseline												
	<i>Straight Men</i> (<i>N</i> =202, 201, 154)		<i>Straight Women</i> (<i>N</i> =270, 268, 171)		<i>Gay Men</i> (<i>N</i> =217, 206, 96)		<i>Lesbian Women</i> (<i>N</i> =150, 144, 92)		<i>Bi Men</i> (<i>N</i> =119, 120, 67)		<i>Bi Women</i> (<i>N</i> =158, 158, 82)	
	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>
GHQ												
Autonomy Friends	-.04 [-.09, .02]	-.10	-.10 [-.16, -.04]	-.21	-.11 [-.20, -.01]	-.14	-.10 [-.22, .02]	-.14	-.10 [-.23, .04]	-.13	-.13 [-.24, -.02]	-.19
Autonomy Family	-.06 [-.12, -.01]	-.17	-.13 [-.20, -.06]	-.23	-.13 [-.21, -.04]	-.20	-.01 [-.11, .09]	-.02	-.14 [-.24, -.04]	-.24	-.12 [-.22, -.03]	-.20
Autonomy Partner	-.17 [-.24, -.11]	-.40	-.10 [-.16, -.03]	-.22	-.32 [-.48, -.16]	-.38	-.49 [-.74, -.24]	-.38	-.30 [-.49, -.10]	-.35	-.15 [-.33, .02]	-.19
2 Years												
	<i>Straight Men</i> (<i>N</i> =168, 168, 129)		<i>Straight Women</i> (<i>N</i> =225, 224, 149)		<i>Gay Men</i> (<i>N</i> =184, 173, 86)		<i>Lesbian Women</i> (<i>N</i> =121, 118, 79)		<i>Bi Men</i> (<i>N</i> =99, 100, 60)		<i>Bi Women</i> (<i>N</i> =122, 123, 69)	
	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>r</i>	<i>B</i> [CI]	<i>R</i>	<i>B</i> [CI]	<i>R</i>
GHQ												
Autonomy Friends	-.05 [-.11, .02]	-.11	-.07 [-.14, .00]	-.13	-.07 [-.18, .04]	-.10	-.15 [-.29, -.01]	-.19	-.05 [-.20, .10]	-.06	-.23 [-.37, -.09]	-.29
Autonomy Family	-.07 [-.14, -.00]	-.17	-.11 [-.20, -.03]	-.17	-.07 [-.16, .03]	-.12	-.10 [-.23, .02]	-.15	-.12 [-.23, -.00]	-.20	-.24 [-.37, -.11]	-.33
Autonomy Partner	-.26 [-.34, -.18]	-.49	-.10 [-.17, -.02]	-.21	-.21 [-.40, -.03]	-.24	-.17 [-.49, .15]	-.12	-.18 [-.39, .03]	-.22	-.15 [-.40, .09]	-.15