ABSTRACT

Title of thesis: LGBTQ COMMUNITY BELONGING AND INVOLVEMENT AS PREDICTORS OF SEXUAL MINORITIES' WELL-BEING

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Sexual minorities (SM; i.e., lesbian, gay, bisexual, queer, and asexual+) experience high rates of discrimination and stigma, which account for mental health disparities based on sexual orientation (Cochran, 2001; Meyer, 2003). A growing body of research suggests that LGBTQ community may be a source of resilience. This thesis examines two ways that SM can interact with and experience LGBTQ community: LGBTQ community belonging (a subjective sense of belonging or being a part of LGBTQ community; Frost & Meyer, 2012; Puckett et al., 2015) and community involvement (engagement in LGBTQ nightlife, social clubs, politics, and community sports; Foster-Gimbel et al., 2020).

Across two time points over an approximately 6.5 week period, 171 SM completed surveys assessing LGBTQ community belonging and community involvement, psychological well-being (depression, anxiety, loneliness, positive affect, and satisfaction with life), perceived social support, and internalized stigma. Analyses focused on (a) relations between community variables (belonging and involvement) and well-being over time, and (b) the potential mediating roles of social support and internalized stigma in these relations. Most hypothesized relations

between community variables and future well-being did not emerge. However, results supported associations between community involvement and future satisfaction with life, even after controlling for LGBTQ community belonging. Results also suggested that specific types of community involvement related in unique ways to facets of well-being in the future. Results did not support any of the hypothesized mediated relationships.

LGBTQ COMMUNITY BELONGING AND INVOLVEMENT AS PREDICTORS OF SEXUAL MINORITIES' WELL-BEING

by

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Introduction

Having a community that shares one's identities may be an important source of resilience, in particular for those who experience stigma, such as sexual minorities (SM; Frost & Meyer, 2003). This thesis focuses on two approaches that research has taken in studying the role of LGBTQ community as a source of resilience. One approach has focused on a feeling or subjective sense of belonging to community, which has been associated with many positive psychosocial outcomes (e.g., decreased depression, loneliness, and anxiety; Baumeister & Leary, 1995; Frost & Meyer, 2012; Li et al., 2015; McLaren et al., 2008; Petruzzella et al., 2019; Sanscartier & MacDonald, 2019). Another approach has focused on community involvement, which is contrasted with belonging by its focus on *behavior* (as opposed to a subjective sense of belonging) and involvement with aspects of LGBTQ community and culture, including attending LGBTQ nightlife, engaging in LGBTQ political activism, and being a part of LGBTQ social clubs and sports leagues (Foster-Gimbel et al., 2020; Ramirez-Valles, 2002). Community involvement has also been associated with some well-being variables (Doyle & Molix, 2014; Frable et al., 1997; Li et al., 2015; Puckett et al., 2015; Ramirez-Valles et al., 2005). However, it seems that most of the research on community involvement has focused on physical health behaviors or outcomes (e.g., alcohol and substance use, safe sex practices; Demant et al., 2018; Kippax et al., 1992). Consequently, less is known about potential associations between indicators of psychosocial well-being and community involvement.

Research on community belonging and involvement has some limitations and opportunities. First, relatively few studies have examined community belonging and involvement concurrently in relation to various facets of well-being, so it is unclear whether belonging or

involvement uniquely relate to well-being variables. Second, community involvement has seldom been examined in relation to basic affective facets of mental health; instead, research has focused more on outcomes such as sexual risk taking (Kippax et al., 1992), alcohol and substance use (Demant et al., 2018), and body image dissatisfaction (Doyle & Engeln, 2014; Hospers & Jansen, 2005; Tiggemann et al., 2007). Third, much, if not all, of the research examining community belonging and involvement has been cross-sectional, which limits the ability to make causal inferences. For example, a sense of LGBTQ community belonging may decrease depression, but being depressed may make it harder to feel community belonging. As such, the nature of the relationship is unclear. Finally, few studies have examined mechanisms of relations between belonging, involvement, and well-being.

The current study was designed to address these limitations. LGBTQ community belonging and involvement were examined as predictors of psychosocial well-being over a 6.5 week period. Perceived social support and internalized stigma were tested as possible mediators of the hypothesized links between community variables and well-being. The following sections highlight empirical evidence for community belonging and involvement as distinct constructs and discuss how each are associated with facets of well-being.

Definitions of LGBTQ Community Belonging and Involvement

A sense of belonging to community is a fundamental human need (Baumeister & Leary, 1995). In LGBTQ research, belonging has been investigated in a number of ways. Early research highlighted how categorical group membership (i.e., sexual identity labels) could facilitate a shared set of culture and sense of closeness between members of a given group (i.e., collective identification; Ashmore et al., 2004). Out of this research came efforts to investigate individual

differences in the strength of LGBTQ people's relationship to the community. This has been operationalized in many ways, including feelings of belonging to and a bond with the community (e.g., McLaren et al., 2008), positive evaluation of the community and one's community membership (e.g., Frost & Meyer, 2012), and a belief that one shares values and goals with community members as well as an awareness of mutual, emotional influence between members (e.g., Lin & Israel, 2012). Some have posited dimensions of a higher order construct. For example, Frost and Meyer (2012) developed a popular measure that operationalizes community connectedness as a higher order variable based on a) feelings of closeness to the community, b) positive evaluation of the community and one's community membership, and c) a sense of solidarity in addressing problems facing the community.

Despite the value of these multiple conceptualizations of community connection or belonging, the focus in the present study will be on LGBTQ community belonging (i.e., the sense that one belongs to and fits within with LGBTQ community). The term LGBTQ community belonging will be used, henceforth, to refer to constructs used in studies that generally reflect this subjective sense of belonging, and this review of the literature will note when studies use broader constructs (i.e., community connectedness).

Focusing more narrowly on this variable offers several potential benefits. First, it is a clear and straightforward conceptualization of strength of one's relationship with the LGBTQ community. Second, some conceptualizations of the higher-order variable of community connectedness overlap with other social identity variables. For example, positive evaluation of the community and one's membership have been viewed as aspects of collective self-esteem (Luhtanen & Crocker, 1992). Given that this thesis examines the construct of internalized stigma,

using a belonging variable that excludes measurement of a sense of pride towards community allows for such examination. Finally, a narrow focus on belonging provides an opportunity to connect findings with literature on belongingness.

LGBTQ community involvement represents a distinct variable from LGBTQ community belonging that is rooted in social-psychological conceptualizations of identity-relevant *behavior*. For example, Ashmore et al. (2004) discussed *behavioral involvement*, defined as "the degree to which [people engage] in actions that directly implicate the collective identity category in question" (p. 83). LGBTQ community involvement has been conceptualized in a number of ways, including (a) consuming queer media; (b) attending pride marches, online LGBTQ support groups, bars, and nightclubs; (c) volunteering in LGBTQ and HIV/AIDS advocacy organizations and GSAs; and (d) engaging in LGBTQ social networks (Craney et al., 2018; Demant et al., 2018; Lambe et al., 2017; Jackson, 2017; Ramirez-Valles et al., 2005; Ramirez-Valles et al., 2010). Studies often differ on which aspects of involvement they focus on, and findings may differ between studies in part due to varying conceptualizations of involvement (see Foster-Gimbel et al., 2020 for review). A recent effort established a broad measure of community involvement (Foster-Gimbel et al., 2020). The current study will use this measure and operationalization of community involvement as engagement in *LGBTQ nightlife, media consumption, political activism,* and *community activities* (e.g., LGBTQ sports leagues).

In LGBTQ research, the population of focus in any given study matters given the heterogeneity of experiences between subgroups in the LGBTQ community (e.g., status as monosexual vs plurisexual, female vs male vs nonbinary, cisgender vs transgender). For example, meaningful differences in experiences exist between bisexual and monosexual (i.e.,

gay, lesbian) individuals. Bisexual people tend to feel less LGBTQ community connectedness or belonging than lesbian women and gay men (Balsam & Mohr, 2007; Lin & Israel, 2012; Kertzner et al., 2009), possibly due to experiencing stigma within and outside LGBTQ community (Lambe et al., 2017) and perhaps identifying with and feeling belonging towards heterosexual communities as well. Consequently, well-being may differ for bisexual people. However, given that a) a broad aim of the current study is to examine the unique relations between belonging, involvement, and well-being, and b) few reasons, as of now, exist to examine one group over another in regards to the broad, posed questions, sub-group analyses are outside of the current study's scope, and the sample will include various sexual minority identities—nonetheless, potential group differences warrant further investigation. Finally, the current study aims to examine belonging and involvement in the context of SM. While transgender individuals may also identify as SM and are included in the current study, assertions about belonging and involvement with regards to trans identity are not, per se, the focus.

Theory and Findings: How LGBTQ Community Belonging and Involvement Influence Mental Health

Theory suggests some pathways through which LGBTQ community belonging may increase well-being in SM. First, higher levels of belonging may make SM more likely to make positive self-comparisons with in-group members as opposed, or at least in addition, to negative comparisons with the majority group (i.e., heterosexuals; Meyer, 2003). Such comparisons may decrease internalized stigma as members come to view their sexual identity more positively instead of wishing they were heterosexual, which may lead to increased well-being. Second,

LGBTQ community belonging may lead to perceptions of increased social support, which, in turn, may also increase well-being (Cohen, 2004).

Indeed, research suggests that a sense of LGBTQ community belonging may be positively associated with well-being, as informed by studies that examined a subjective sense of belonging to LGBTQ community. For example, research has demonstrated a negative relationship between community belonging and depression in gay men (McLaren et al., 2008; Morris, 2015) and lesbians (McLaren, 2009), though the role of belonging to the general community and lesbian or gay community and its relation to depression differed between SM men and women.

Additionally, studies that examined the construct of community connectedness may suggest some possible belonging—well-being associations, as belonging is a component of community connectedness (a higher-order construct). Interestingly, there are mixed findings with regards to the community connectedness—depression link. Some studies revealed an inverse association between community connectedness and depression (Petruzzella et al., 2019; Puckett et al., 2015), and others found no relationship (Frost & Meyer, 2012; Kaniuka et al., 2019), which may be in part accounted for by sample characteristics. Petruzzella et al. (2019) found that community connectedness only negatively predicted depression for racial minority participants when compared to white participants. Another explanation may be that belonging and community connectedness are related to depression in unique ways.

Nonetheless, community connectedness research may also suggest possible relationships between belonging and other well-being variables that have not yet been tested. For example, community connectedness has been inversely associated with an indicator of anxiety (i.e.,

psychological distress; Puckett et al., 2015). Although, while another study examined the construct of identity affirmation (i.e., a sense of belonging *and* pride; Ghavami et al., 2011) in relation to anxiety, it is unclear what the relation may be between simply a sense of LGBTQ community belonging (as opposed to overall community connectedness) and anxiety.

In addition to depression and anxiety, other research identified an association between LGBTQ community belonging and loneliness in gay and bisexual men (Li et al., 2015). This study, however, examined belonging with a single item measure. The potential relationship between belongingness and loneliness could be further examined with a broader measure of LGBTQ community belonging used by other studies (McLaren, 2009; McLaren et al., 2008; Morris, 2015). Thus, it seems that LGBTQ community belonging may be associated with various facets of well-being, and that testing these potential associations with a more widely used measure of belonging may clarify relationships.

Finally, questions also remain with regards to associations between belonging and other indicators of well-being such satisfaction with life and positive affect as it appears no other studies have examined such relations. The current study aims to further an understanding of the relations between LGBTQ community belonging and various facets of well-being in a broad sample of SM.

Community involvement has also been hypothesized to be positively related to well-being through a number of proposed mechanisms (Meyer, 2003). First, community involvement may provide opportunities for individuals to reduce internalized stigma by "adopt[ing] some of the group's self-enhancing attitudes, values, and structures" (Meyer, 2003, p. 6). Additionally, community involvement may facilitate feelings of belonging to LGBTQ community, which may

more proximally relate to perceptions of well-being through tonic effects. Finally, community involvement may lead to experienced and perceived social support (Petruzzella et al., 2019), which has strong, direct relations with well-being (Cohen, 2004). Yet, despite reasons to believe that community involvement may be related to increased well-being, little is known as research has primarily examined community involvement in relation to aspects of behavioral health, including sexual risk taking (Flores et al., 2009; Herek & Glunt, 1995; Kippax et al., 1992; Lelutiu-Weinberger et al., 2013; Ramirez-Valles et al., 2010), alcohol and substance use (Demant et al., 2018; Feinstein et al., 2017), and body image dissatisfaction (Davids et al., 2015; Doyle & Engeln, 2014; Tiggemann et al., 2007).

While some studies examined involvement—well-being relationships and found positive associations with self-esteem (Doyle & Molix, 2014; Frable et al., 1997; Ramirez-Valles et al., 2005) and negative associations with loneliness (Li et al., 2015), depression, and anxiety (Puckett et al., 2015; Ramirez-Vallez et al., 2005), findings may have been limited to the populations and specific types of community involvement studied. For example, Ramirez-Vallez et al. (2005) focused on HIV positive gay men and measured community involvement as participation in political and health resources related to HIV/AIDS (Ramirez-Vallez et al., 2005). Focusing on participation in political and health resources related to HIV/AIDS provides valuable information about the impact of these types of involvement on well-being, but there other ways to conceptualize community involvement. In fact, studies have used various measures of community involvement that vastly differ in behavioral domains (see Foster-Gimbel et al., 2020 for review). Measurement variation may impact findings in part because different types of involvement (e.g., nightlife vs political involvement) may relate in unique ways to well-being.

Indeed, research has found divergent validity evidence for different types of community involvement (e.g., media consumption, political activism, nightlife, and community; Foster-Gimbel et al., 2020). When considering outcomes, community activities (e.g., being part of a gay sports team) may be negatively related to an outcome such as loneliness, whereas media consumption may not be related at all. Given this, the use of a measure of community involvement that takes into account several types of involvement may further understanding of the overall effects on well-being. As such, the current study uses a broader measure of community involvement to a) provide further evidence of construct validity and to b) connect a wider conceptualization to various facets of well-being.

Despite the possibility that community belonging and involvement may be related to aspects of well-being, it is unclear whether belonging or involvement is more proximal in these relationships. To date, no studies appear to have examined this question. One study came close (Demant et al., 2018), but the authors used a measure of community involvement that included items reflecting facets of belonging, so the role of community involvement itself was unclear.

Finally, longitudinal questions about the relationship between belonging and involvement, as well as between the community variables and well-being, remain unanswered. Community involvement may lead to a sense of belonging, as involvement with other LGBTQ people may foster feelings of belonging. The reverse may also be true, such that feeling a sense of belonging may lead to greater involvement, which authors have suggested (Petruzzella et al., 2019). The current study also aims to answer such questions.

Proposed Mediators

Although LGBTQ community belonging and involvement appear related to well-being in diverse ways, relatively little research has investigated possible mediators of these relations. Authors have suggested that social support may mediate relations, given that community involvement may increase both experiences and perceptions of social support (Kaniuka et al., 2019; Petruzzella et al., 2019; Puckett et al., 2015; Salfas et al., 2019), and that social support is strongly associated with well-being (Cohen, 2004). Indeed, SM identify social support as something they experience from LGBTQ community (Frost et al., 2016). In a study of SM Black men who participated in ballroom culture, participants identified social support as a primary expectation of engagement—"being African American, homosexual you don't really have too many options for acceptance and when you find a place where they accept you for who you are versus what you do or what lifestyle you live it's actually worthwhile" (Kubicek et al. 2013, p. 1536). Similarly, feelings of LGBTQ community belonging may lead to increased perceptions of social support. This may occur through a cognitive bias, such that when one feels greater overall levels of belonging, they may perceive greater overall social support, and this effect may be independent of experienced support. Indeed, perceptions of support and objective measures of experienced support have demonstrated weak to non-existent associations (Procidano & Heller, 1983). Furthermore, the process may be more complex, such that feelings of belonging are themselves a result of actual social interactions, in which case belonging and perceptions of social support should themselves be positively related. Where belonging is situated in a more complex model of variables is unclear, yet there exists some reasons to believe that belonging and social support should be related to each other and that increased belonging should lead to greater future perceptions of social support.

Internalized stigma may also mediate relations between LGBTQ community belonging, involvement, and well-being, such that feelings of belonging towards LGBTQ community may reduce internalized stigma. When one feels more connected to other LGBTQ people, they may internalize a more positive sense of identity, as a result of possibly having close relationships with others that change their negative assumptions about being an LGBTQ person. A similar rationale was put forth by Meyer (2003). Indeed, internalized stigma seems to be negatively associated with LGBTQ community belonging (Sanscartier & MacDonald, 2019). Furthermore, internalized stigma has been associated with mental health concerns such as low self-esteem, guilt, shame, and depression (Berg et al., 2016).

The relationship between belonging and internalized stigma may also be bidirectional, as other authors have suggested. Puckett et al. (2015) found that internalized homonegativity no longer predicted psychological distress when controlling for belonging (community connectedness), suggesting that decreases in internalized homonegativity may more likely lead to increases in belonging rather than the other way around (Puckett et al., 2015). The current study will investigate the hypothesis that belonging will lead to reductions in internalized stigma given a strong theoretical rationale, but the reverse may be true as well.

Contact with other similarly-stigmatized people has been suggested to decrease self-stigma (Frable et al., 1998; Puckett et al., 2015). As such, internalized stigma may also mediate relations between community involvement and well-being. There may be several pathways through which this relationship may occur, such as sharing information about LGBTQ culture, encountering supportive LGBTQ individuals, and engaging with various groups (such as pride

alliances). Thus, it seems likely that greater involvement should decrease levels of internalized stigma.

Internalized stigma has been conceptualized in a number of ways, including internalized homonegativity (e.g., Feinstein et al., 2012), internalized binegativity (e.g., Sarno et al., 2020), and internalized transphobia/transnegativity (e.g., Israel, 2020; Veale et al., 2021), depending on the population studied and research questions. Each conceptualization represents unique constructs. However, a broad, inclusive conceptualization of stigma is employed for practical reasons in the current study given the broad sample (gay people will not experience binegativity, but bisexual people may experience heterosexism).

Present Study

LGBTQ community belonging and community involvement have been found to be positively related to various indicators of well-being across a number of studies. Yet, for all the value of accrued knowledge in this growing area of research, a review of this literature highlights a number of questions that have been seldom explored in research on the ways SM experience and benefit from LGBTQ community. For example, the great majority of studies—perhaps all—have been cross-sectional, limiting knowledge about direction of influence between belonging and involvement and well-being. Similarly, few studies have simultaneously examined belonging and involvement and their unique associations with diverse indicators of well-being. Finally, only a small handful of studies have tested potential mechanisms through which belonging and involvement may influence well-being. The current addresses these gaps in knowledge examining data on (a) community variables (community belonging and community involvement), (b) diverse aspects of well-being (depression, loneliness, anxiety, satisfaction with

life, and positive affect), and (c) potential mediators (internalized stigma and perceived social support) of the link between community (belonging and involvement) and well-being variables across two time points from a diverse sample of SM participants.

One basic question that has not yet been addressed with any rigor is whether community LGBTQ community belonging and involvement actually increase well-being. Although the positive associations observed in cross-sectional studies are certainly consistent with this notion, the associations could also indicate that positive, affective well-being promotes involvement and a sense of belonging. The present study addresses this limitation by examining the relation between community variables and future well-being (controlling for initial well-being). These data make it possible to test questions about direction of influence with greater rigor than is possible with cross-sectional data. All hypotheses and research questions concern predictive relations between variables over a 6.5-week period; all references to 'future' observations of a variable concern scores at Time 2.

Hypothesis 1. LGBTQ community belonging will be negatively related to future (a) depression, (b) loneliness, and (c) anxiety and positively related to future (d) satisfaction with life and (e) positive affect.

Hypothesis 2. LGBTQ community involvement will be negatively related to future (a) depression, (b) loneliness, and (c) anxiety and positively related to future (d) satisfaction with life and (e) positive affect.

Research Question 1. Will LGBTQ community belonging and involvement each explain unique variance in future (a) depression, (b) loneliness, (c) anxiety, (d) satisfaction with life, and (e) positive affect?

Research Question 2. Will types of community involvement (e.g., nightlife, media, community activities, and political activism) demonstrate unique relationships with future (a) depression, (b) loneliness, (c) anxiety, (d) satisfaction with life, and (e) positive affect?

A number of propositions have been advanced regarding mechanisms underlying the proposed link between community variables and well-being, yet few studies have tested such propositions—with some receiving no empirical investigation. Furthermore, although mediated processes are, by definition, temporal, no studies in this area have tested indirect effects using data from more than one time point. Longitudinal data can increase understanding of how community-related processes unfold over time, as well as which variables are more proximal or central to well-being.

Several mediation propositions were investigated in the present study. Perhaps most basic is the notion, discussed above, that community belonging and community involvement may each serve as mechanisms through which the other impacts well-being:

Hypothesis 3. LGBTQ community belonging will be positively related to future community involvement, which, in turn, will be negatively related to future (a) depression, (b) loneliness, and (c) anxiety and positively related to future (d) satisfaction with life and (e) positive affect. Thus, belonging will have an indirect effect on well-being through involvement.

Hypothesis 4. Community involvement will be positively related to future belonging, which, in turn, will be negatively related to future (a) depression, (b) loneliness, and (c)

anxiety and positively related to future (d) satisfaction with life and (e) positive affect. Thus, involvement will have an indirect effect on well-being through belonging.

Both internalized stigma and perceived social support have been proposed as potential mediators of the link between community variables and well-being as discussed above, though these propositions have received little empirical attention:

Hypothesis 5. LGBTQ community belonging will be negatively related to future internalized stigma, which, in turn, will be positively related to future (a) depression, (b) loneliness, (c) anxiety, and negatively related to future (d) satisfaction with life and (e) positive affect. Thus, belonging will have an indirect effect on well-being through internalized stigma.

Hypothesis 6. Community involvement will be negatively related to future internalized stigma, which, in turn, will be positively related to future (a) depression, (b) loneliness, (c) anxiety, and negatively related to future (d) satisfaction with life and (e) positive affect. Thus, involvement will have an indirect effect on well-being through internalized stigma.

Hypothesis 7. LGBTQ community belonging will be positively related to future social support, which, in turn, will be negatively related to future (a) depression, (b) loneliness, and (c) anxiety, and positively related to future (d) satisfaction with life and (e) positive affect. Thus, belonging will have an indirect effect on well-being through social support.

Hypothesis 8. Community involvement will be positively related to future social support, which, in turn, will be negatively related to future (a) depression, (b) loneliness, (c)

anxiety, and positively related to future (d) satisfaction with life and (e) positive affect. Thus, involvement will have an indirect effect on well-being through social support.

Method

Participants

The full sample of participants totaled 171, which represents all people who completed the first survey and provided data that were determined to be valid. The mean age was 25.40 (*SD* = 4.77) and ranged from 18 to 35. Participants identified as male (*n* = 37, 21.6%), female (*n* = 76, 44.4%), non-binary (*n* = 42, 24.6%), third gender (*n* = 1, 0.6%), genderqueer (*n* = 6, 3.5%), and other (*n* = 9, 5.3%). Participants identified as cisgender (*n* = 95, 55.6%) and transgender (*n* = 76, 44.4%). Regarding sexual orientation, participants identified as lesbian (*n* = 50, 29.2%), gay (*n* = 32, 18.7%), bisexual (*n* = 50, 29.2%), pansexual (*n* = 31, 18.1%), queer (*n* = 51, 29.8%), asexual (*n* = 18, 10.5%), and other (*n* = 13, 7.6%). Participants identified their racial/ethnic identity as white (*n* = 89, 52.0%), multiracial/multiethnic (*n* = 45, 26.3%), Black (*n* = 13, 7.6%), East Asian (*n* = 8, 4.7%), South Asian (*n* = 6, 3.5%), Hispanic/Latinx (*n* = 5, 2.9%), Southeast Asian (*n* = 2, 1.2%), Native Hawaiian/Pacific Islander (*n* = 2, 1.2%), and Middle Eastern (*n* = 1, 0.6%).

Procedure

Participants were recruited via LGBTQ-oriented listservs and social media (e.g., Facebook and Instagram), through which an eligibility survey link was provided. Those who were interested took the eligibility survey. Responses were examined for a) meeting inclusion criteria (e.g., living in the U.S.; being 18-35 years of age; and identifying as lesbian, gay, bisexual, queer, asexual, or another non-heterosexual identity), and passing qualitative response

items, which included asking participants a couple questions in order to exclude bot (i.e., non-human) respondents. The first question asked respondents how many unicorns they had seen in their lifetime. If respondents reported 0, or an answer that seemed qualitatively to be “human” (e.g., "unfortunately none” or “only the ones on my wallpaper”), they were retained. If respondents simply reported a non-zero number, they were considered ineligible. The second question asked respondents to describe their sexual orientation. Similarly, responses were qualitatively judged to be bots if they were a) irrelevant to the question (e.g., “I like red cars”) or if b) multiple survey responses matched each other and seemed unlikely to belong to multiple, unique respondents. For example, if multiple participants’ answers were “gay,” they were not necessarily deemed ineligible, but if multiple participants’ responses were lengthy and identical, then they were deemed ineligible. Overall, those who provided eligibility survey responses that a) met inclusion criteria and b) seemed to be human were invited via an email containing a link to complete a Qualtrics Time 1 survey.

A total of 712 responses to the Time 1 survey were collected. A number of steps were taken to ensure data quality. First, Time 1 responses to the Attentive Responding Scale were analyzed using predetermined cutoff scores (Maniaci & Rogge, 2014). After analyzing responses to the Attentive Responding Scale items, 490 survey responses were eliminated, resulting in 222 remaining. Then, 32 responses that contained no survey data including email addresses were removed, resulting in 190 responses. Finally, participant age was compared between the eligibility survey and Time 1 survey. A total of 18 participants had ages that differed by a unit greater than 1 (i.e., not accounted for by having a birthday in between the eligibly survey and Time 1 survey) and were dropped, resulting in 172 retained responses.

Survey respondents at Time 1 with data that appeared attentive and valid were compensated $3 via Tango (a third party website) where they could select their choice of gift card. These same respondents were also invited to take the Time 2 survey approximately six weeks later via an emailed link. Procedures to ensure data quality for Time 2 responses were the same as those used for Time 1 responses. A total of 146 responses were originally collected at Time 2. Following an analysis of data from the Attentive Responding Scale, 17 responses were removed and 129 were retained. After removing 9 responses that contained no email addresses, 120 responses were retained. Two more responses were removed for the following reasons: one participant did not respond to any survey items and another experienced reported technical difficulties with Qualtrics. In the second incident, the participant emailed the primary investigator (PI) and reported that the survey crashed early on. The PI resent the link to the participant and they completed it. Removing these two survey responses resulted in a total of 118 responses. As a final validity check, respondent age was compared between the Time 1 survey and Time 2 survey. Respondents who reported different ages between the eligibility, Time 1, and Time 2 surveys were dropped, except for participants whose age had increased only by a unit of 1 (i.e., those who may have had a birthday between either the eligibility and Time 1 surveys or the Time 1 and Time 2 surveys). A total of 8 respondents were removed from Time 2 and 1 from Time 1 for this reason. In total, responses from 171 participants were kept from Time 1 and 110 from Time 2. The 110 respondents to the Time 2 survey were sent a link to Tango where they could accept a $6 gift card of their choice.

Participant responses to both surveys were linked using email addresses, which were then removed from the primary data file and stored in a separate file for confidentiality. Participant

responses in the primary data file were given an ID number in place of email to link responses between the Time 1 survey and Time 2 survey. Following completion of data collection, participants who reported complete and attentive data for both the Time 1 and Time 2 survey were randomly selected to win one of three $20 gift cards of their choice on Tango. Winners were selected by using a random number generator that was accessed by searching "random number generator" on google's search engine and corresponding the generated number with participants' unique ID.

Measures

Demographic Form

Participants completed a baseline survey of demographic questions, including age, sexual orientation, gender, SES, race/ethnicity, employment status, political identity, and level of education (see Appendix A).

LGBTQ Community Belonging. LGBTQ community belonging was measured using the Sense of Belonging Scale that has been adapted in previous studies to measure a sense of belonging to LGBTQ community (Hagerty & Patusky, 1995; McLaren, 2009; Appendix B). Participants responded to eighteen items that indicate a feeling of belonging with LGBTQ community ("People accept me in the LGBTQ+ community"). Some items were reverse coded ("I wonder if I really fit in the LGBTQ+ community"). Participants responded to items with a Likert-scale ranging from 1 (strongly disagree) to 4 (strongly agree). Items were scored by averaging all responses, with possible scores ranging from 1-4; high scores indicate high levels of LGBTQ community belonging.

Scores on this scale evidenced high internal consistency in the current study at Time 1 (Cronbach's α = 0.90) and Time 2 (Cronbach's α = 0.93), and prior research has reported similar reliability coefficients (Cronbach's α = 0.96; Morris et al., 2015). Prior research has also reported validity evidence such that belonging was negatively associated with depressive symptoms for gay men (McLaren, 2009) and lesbian women (Morris et al., 2015).

Community Involvement. Community involvement was measured using The Gay Community Involvement Index (GCII; Foster-Gimbel et al., 2020; Appendix C). Twenty items assessed involvement with LGBTQ community in four domains (wording was changed from "gay" to "LGBTQ"): Community Activities ("I do volunteer work in the LGBTQ community"), Queer Media ("I read blogs and other online content focused on the LGBTQ community"), Nightlife ("I hang out in places where I know I can socialize with other LGBTQ people"), and Political Activism ("I participate in political activism related to LGBTQ issues"). Participants indicated their agreement with each statement on Likert-scale ranging from 1 (strongly disagree) to 7 (strongly agree). Scores were averaged, ranging from 1-7, with high scores indicating high levels of community involvement.

Internal reliability for the total scale was high in the measure development study (Cronbach's α = 0.84 - 0.86 for the four subscales) as well as in the current study at Time 1 (Cronbach's α = 0.90) and Time 2 (Cronbach's α = 0.91). Internal reliability was similarly high for the subscales at Time 1 (Community Activities α = 0.90, Media α = 0.74, Nightlife α = 0.81, and Activism α = 0.83) and Time 2 (Community Activities α = 0.91, Media α = 0.79, Nightlife α = 0.81, and Activism α = 0.89). The overall scale evidenced validity in the measure development study by predicting associations with measures of perceived discrimination and self-esteem,

which research has suggested are positively related with involvement in LGBTQ community (Doyle & Molix, 2014; Foster-Gimbel et al., 2020).

Scores on the DCII also evidenced divergent validity in the measure development study: The Nightlife and Political Activism subscales predicted risky sexual behavior differently, suggesting that each subscale represented a distinct type of community involvement—something prior research has not explicitly examined but has suggested may be important given divergent findings from measures that differ in relevant item content (see Foster-Gimbel et al., 2020 for review).

Internalized Stigma. Internalized stigma was measured with the Private Collective Self-Esteem subscale of the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992; see Appendix D). Across four items, participants responded with a Likert-scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to questions such as, "I often regretted I am an LGBQ person." The addition of "over the past month" was included as an anchor to reflect the nature of this variable as a mediator having taken place prior to the measurement of the dependent variables. Scores were averaged, ranging from 1-5, with high scores indicating high internalized stigma.

The Private Collective Self-Esteem subscale of the Collective Self-Esteem Scale evidence high internal reliability in the current study at Time 1 (Cronbach's $\alpha = 0.82$) and Time 2 (Cronbach's $\alpha = 0.82$). In previous research, this subscale has been negatively associated with a measure of self-stigma (Longares et al., 2016). In this case, higher scores on collective self esteem indicated lower self-stigma. Thus, a negative association between self-stigma and collective self esteem indicates validity for the use of the subscale in the current study (i.e., higher scores indicate greater internalized stigma).

Social Support. Social support was measured using the Social Provisions Scale (SPS; Cutrona & Russell, 1987; Appendix E). This scale assesses, with 24 items, six domains of social support: Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, and Opportunity for Nurturance. An overarching support factor was found in the measure development study, and the total scale score was used in the current study. Participants rated their agreement with various statements (e.g., "There are people I can depend on to help me if I really need it") on a Likert-scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Some items were reverse scored. Scores were averaged, ranging from 1-4, with a high score indicating high perceived social support.

Scores on this scale evidenced good internal stability in the current study at Time 1 (Cronbach's $\alpha = 0.92$) and Time 2 (Cronbach's $\alpha = 0.93$), as well as in a sample of LGB adults (Cronbach's $\alpha = 0.92$; Yakushko, 2005). Validity evidence was provided in both the measure development studies (e.g., positively associated with satisfaction with social support and negatively with depression and neuroticism; Cutrona & Russell, 1987) and in a sample of LGB adults (e.g., positively associated with self-esteem; Yakushko, 2005).

Anxiety. Anxiety was measured using the Generalized Anxiety Disorder-7 Scale (GAD-7; Spitzer et al., 2006, Appendix F), which was developed using participant interviews and DSM-IV criteria. Participants responded to seven questions, rating how often over the past two weeks they have felt certain feelings (e.g., "Feeling nervous, anxious or on edge," "Worrying too much about different things"), on a Likert-scale ranging from 0 (not at all) to 3 (nearly every day). Scores were averaged, ranging from 0-3, with high scores indicating high levels of anxiety.

Scores on this scale evidenced good reliability in the current study at Time 1 (Cronbach's α = 0.93) and Time 2 (Cronbach's α = 0.93) and in a large (*N* = 43,632) sample of LGBTQ college students (Cronbach's α = 0.91; Borgogna et al., 2019). It has also demonstrated validity in general populations, such that scores were positively associated with the Beck Anxiety Inventory, participant reported sick days, and number of clinic visits (Spitzer et al., 2006).

Depression. Depression was measured using The Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977, see Appendix G). This scale was developed to measure prior-week depression severity in the general population with twenty items (e.g., "I felt I could not get going"). Participants responded with how often they felt such feelings on a four point Likert-scale, ranging from 1 (rarely or none of the time) to 4 (most or all of the time). Responses were averaged, with possible scores ranging from 1-4, and high scores indicating high levels of depression.

In the current sample, this scale evidenced high reliability at Time 1 (Cronbach's α = 0.94) and Time 2 (Cronbach's α = 0.96). In measure development, this scale evidenced high internal consistency and high inter-item correlations among a priori factors of depression (Radloff, 1977). This scale also evidenced reliability in a study of SM adults (α = 0.93; Mohr & Kendra, 2011). Validity evidence for the scale is strong in both general populations and in LGBTQ adults. Among general adult populations, this scale strongly discriminated between inpatient and general population samples, as well as between inpatient samples differing in psychiatric severity (Radloff, 1977). It was also highly correlated with self-report measures of depression, interviewer ratings, and severity of negative life events in the past year. In a sample

of LGBT adults in Nebraska, the scale was moderately correlated with level of suicidal ideation (Irwin et al., 2014).

Loneliness. Loneliness was measured using the ten item Revised UCLA Loneliness Scale Short Form (Russell, 1996; Appendix H). Participants respond to items (e.g., "How often do you feel left out?") on a Likert-scale ranging from 1 (never) to 4 (always). Scores were averaged, with totals ranging from 1-4, with high scores indicating high levels of loneliness. This measure demonstrated good internal consistency in a study of SM adults (Cronbach's $\alpha = 0.90$) and in the current study at Time 1 (Cronbach's $\alpha = 0.94$) and Time 2 (Cronbach's $\alpha = 0.93$). It demonstrated validity in a sample of SM and heterosexual adults where it was moderately correlated with depression (Feinstein et al., 2015).

Satisfaction With Life. Satisfaction with life was measured using the five item Satisfaction With Life Scale (Diener et al., 1985; Appendix I). Participants responded to items (e.g., "in most ways my life is close to my ideal") on a Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores were averaged, ranging from 1-5, with higher scores indicating a higher degree of overall satisfaction with life. This measure demonstrated good internal consistency in previous research with SM (Cronbach's $\alpha = 0.96$; Michaels et al., 2019) and in the current study at both Time 1 (Cronbach's $\alpha = 0.88$) and Time 2 (Cronbach's $\alpha = 0.90$). Previous research with SM has established validity evidence for this scale, such that it was negatively associated with depression ($r = -.49$; Ngamake et al., 2014) and loneliness ($r = -.63$; Keleher et al., 2010).

Positive affect. Positive affect was measured using the positive affect subscale of the Positive and Negative Affect Schedule (Watson et al., 1988). Participants responded to items (e.g., “Proud,” “Determined”) indicating their level of agreement with a Likert scale as to how often they felt those items over the previous two weeks. Responses ranged from 1 (Very slightly or not at all) to 5 (Extremely). Total scores were averaged, with high scores indicating a high level of positive affect. This scale demonstrated high reliability in previous research with SM (Cronbach's α ranging from 0.85 to 0.91 in a daily diary study spanning 10 days) as well as in the current study at Time 1 (Cronbach's α = 0.88) and Time 2 (Cronbach's α = 0.92). Previous research has demonstrated validity evidence, such that this scale was negatively associated with heterosexist discrimination (r = -.18; Conlin et al., 2019) and positively associated with Satisfaction with Life (r = .65; Conlin et al., 2019).

Inattentive Responding. The Attentive Responding Scale (ARS-18; Maniaci & Rogge, 2014) was used to screen data for inattentive responding. The ARS-18 is scored for two subscales: a 6-item infrequency subscale and a 12-item inconsistency subscale (consisting of 6 item pairs). For the infrequency subscale, participants responded on a 5-point Likert scale ranging from 1 (not at all true) to 5 (very true) to items expected to produce highly skewed response distributions (e.g., “My favorite subject is agronomy” or the reverse-scored “I don’t like getting speeding tickets”). Items are reversed scored as needed so that high scores on all items reflect highly infrequent responses; a total score is produced by summing item scores. For the inconsistency subscale, participants are presented with pairs of items with nearly identical content (e.g., “I enjoy relaxing in my free time” and “In my time off I like to relax”) and asked to respond to each item on a 5-point Likert scale 1 (not at all true) to 5 (very true). One item from

each pair is presented near the beginning of the survey and the remaining items are presented near the end. A total score is created by summing absolute differences of scores within pairs. Response operating curve analyses suggested optimal cut-scores of 7.5 and 6.5 for the infrequency and inconsistency subscales, respectively. Participants who exceed these cut scores are treated as having provided inattentive data. Across several studies, Maniaci and Rogge (2014) demonstrated superior sensitivity of the ARS to inattentive responding when compared to existing measures. Further, screening participants using the ARS-18 was demonstrated to effectively improve the quality of data subsequently analyzed and thus increase the statistical power of analyses (for an average power gain of 5%; see Appendix I).

Data Management and Analysis

To manage the associated substantial missing data rate due to attrition, all models were estimated using full information maximum likelihood (FIML). FIML estimation allows researchers to use all available data while producing parameter estimates that are less biased and more efficient than those produced from other common strategies such as listwise deletion (Enders, 2008). To further improve estimation, auxiliary variables were included in each of the main models. As noted by Enders (2008), missing information can be recovered by including in models variables that are correlated with either missingness itself or with the variable for which there is substantial missing data.

Both of these types of correlates were included in the present study. First, the Time 1 measurement for the mediator and outcome variables was included in each of the main models. These measurements were all moderately to strongly correlated with the respective Time 2 measurements of the same variable. Second, two unique predictors of missingness from Time 1

were identified and included in the model using the auxiliary variable feature of Mplus. The first predictor was the measure of social support used in the present study. The second predictor was a variable included in the survey but not examined in the present study: a measure of body checking (Cash, 2018). These variables were selected by running a stepwise logistic regression in which all Time 1 variables were entered as predictors of Time 2 survey response. The social support and body checking variables were the only variables that emerged as unique predictors of whether valid responses were provided for the second survey.

Multiple regression models were used to test Hypotheses 1 and 2, as well as Research Question 1, all of which concern the association between community variables and future well-being. For example, LGBTQ belonging and depression assessed at Time 1 were entered as predictors of depression at Time 2. In this example, the inferential test of the regression coefficient was used to determine whether there was support for the hypothesis that LGBTQ community belonging is positively related to future depression. In all cases, initial levels of the well-being variable were included as a predictor of the same variable measured at the second timepoint. All analyses were performed using Mplus software Version 8 (Muthėn & Muthėn, 2017).

More complex path models were used to test the remaining hypotheses, which concern indirect effects. For example, to test Hypothesis 3a, LGBTQ community belonging was modeled as a predictor of future community involvement and depression; community involvement, in turn, was modeled as a predictor of depression. Initial levels of community involvement and depression were included in the model as predictors of the future assessments of these variables (e.g., initial depression predicted future depression). Finally, all exogenous variables—initial

levels of belonging, involvement, and depression—were allowed to covary with one another. Indirect effects were tested by generating a 95% Monte Carlo confidence interval of the effect, which has been found to offer a favorable compromise regarding concerns about Type I and Type II errors relative to most other approaches for testing indirect effects (Valente et al., 2016).

Results

The mean time between survey responses was approximately 6.5 weeks (M = 44.56 days; *SD* = 3.23). Participants reported levels of LGBTQ community belonging, community involvement, internalized stigma, social support, depression, loneliness, anxiety, positive affect, and satisfaction with life. Means for all variables were relatively distributed around the mid-point between min and max values, except for internalized stigma which evidenced low mean scores. Means, standard deviations, and bivariate correlations for variables are in Table 1. Additionally, distributions for all variables were relatively normal, except for internalized stigma which was positively skewed. A logarithmic transformation was performed on internalized stigma.

Results for Hypotheses 1-2 and Research Questions 1-2 are in Table 2 and depicted in Figure 1. Hypotheses 1 and 2 posited that LGBTQ community belonging and involvement, respectively, would predict future well-being (loneliness, depression, anxiety, satisfaction with life, and positive affect). After controlling for initial levels of well-being, however, no support was found for Hypothesis 1. Similarly no support was found for Hypothesis 2, with one exception: Initial community involvement did positively predict future well-being in terms of satisfaction with life, (B = 0.25, SE = 0.10, p = .009). The focus of Research Question 1 was on whether the predicted relations between community and well-being variables would still hold when both community variables were tested as simultaneous predictors of well-being. Results for

models including both LGBTQ community belonging and community involvement mirrored those for analyses examining the community variables individually. The only statistically significant effect was the positive relation between initial community involvement and future satisfaction with life, which persisted despite controlling for initial LGBTQ community belonging and initial satisfaction with life ($B = 0.22$, $SE = 0.11$, $p = .043$).

Research Question 2 asked whether different types of community involvement would demonstrate unique relationships with facets of future well-being. Future anxiety was positively predicted by initial activism ($B = .22$, $SE = .08$, $p = .006$) and nightlife ($B = .16$, $SE = .08$, $p = .039$); future depression was positively predicted by initial activism ($B = .12$, $SE = .06$, $p = .034$); and future satisfaction with life was positively predicted by initial community activities ($B = .20$, $SE = .06$, $p = .002$). However, no significant effects were observed for media consumption or for loneliness and positive affect.

Several mediated relationships were hypothesized (Hypotheses 3-8; see Table 3 and Figures 2-3). Hypotheses 3 and 4 predicted that LGBTQ community belonging and involvement would mediate relations between the other and well-being. However, results did not support these assertions (ps > .05). Similarly, Hypotheses 5-8 predicted that internalized stigma and social support would mediate relations between the community variables and well-being. However, results did not support mediation by internalized stigma or social support in the relationship between belonging or involvement and well-being (ps > .05). Thus, no support was found for any of the mediation hypotheses.

However, in some cases path a or path b of a given indirect relationship was significant (see Table 3). For example, belonging at Time 1 predicted internalized stigma at Time 2 in all of

the mediated relationships where internalized stigma was hypothesized to mediate the relationship between belonging and well-being. Similarly, belonging inversely predicted loneliness when belonging was the mediator between community involvement and loneliness. Finally, social support emerged as a significant mediator between involvement and loneliness (path b), and involvement and positive affect (path b).

Discussion

The present study examined the impact of two community variables (LGBTQ community belonging and community involvement) on various facets of well-being (depression, anxiety, loneliness, satisfaction with life, and positive affect). Studies have suggested that these community variables are associated with positive psychosocial well-being (Doyle & Molix, 2014; Frable et al., 1997; Frost & Meyer, 2012; Lambe et al., 2017; Li et al., 2015; McLaren et al., 2008; Ramirez-Valles et al., 2005). However, much, if not all, of that research has been cross-sectional, leaving questions about direction of influence between community and well-being variables. Furthermore, little research has examined possible mechanisms of community—well-being relationships. The current study addressed these limitations by examining possible relationships over two timepoints and testing two potential mediators (social support and internalized stigma).

Results supported the hypothesis that community involvement would lead to changes in satisfaction with life, as well as provided evidence for the unique relationships between types of community involvement and facets of future well-being. However, results did not support any of the hypothesized relationships over time (a) between LGBTQ community belonging and well-being; (b) between overall community involvement and well-being (except for satisfaction with

life); or (c) for any of the hypothesized mediated relationships. Analyses did, however, reveal a pattern of cross-sectional findings between the community variables and well-being similar to those of existing studies. The following sections discuss these findings.

LGBTQ Community Belonging

It was hypothesized that LGBTQ community belonging would predict future well-being. However, a mixed pattern of findings emerged. Despite theoretical suggestions that belonging would predict changes in future satisfaction with life and positive affect, no support was found. To the author's knowledge, this is the first study to specifically examine belonging in relation to positive affect and satisfaction with life. However, despite nonsignificant longitudinal results, cross sectional analyses (at both time points) revealed that belonging positively predicted satisfaction with life and positive affect.

A similar pattern of findings emerged for depression. Results did not support the hypothesis that belonging would inversely predict future depression levels. However, cross sectional results did mirror other studies' findings (McLaren, 2009; McLaren et al., 2008; Morris et al., 2015), such that belonging and depression were inversely related at both time points. One possible explanation may be that depression could have a proximal effect on one's level of felt belonging in the moment rather than belonging impacting future depression. The Broaden and Build Theory of Positive Emotions may support this assertion (Fredrickson, 2001). According to theory, one's momentary mood state may bias their cognitions or assessment about other areas of their life. For example, when one is more depressed, they may be less able to recall instances where they felt a sense of belonging, and they may biased towards feeling and reporting lower levels of belonging. However, it is also possible that depression may predict future belonging. I

examined this possibility by performing an exploratory analysis and found that depression did predict decreases in future belonging. Thus, cross-sectional and longitudinal findings suggest that depression may impact reported levels of belonging in the moment and in the future, contrary to the hypothesized directions.

It also is possible that belonging impacts depression but over a different period of time than what the study examined (6.5 weeks). Such a time period may be shorter (e.g., a couple of weeks) if changes in depression tend to return to a mean level over longer periods of time. Alternatively, this time period may be longer if depression takes longer to change, particularly in response to changes in belonging. It seems unclear what an ideal length of time to measure depression may be in the context of the current study. Such questions have implications for measurement in future studies as well as the potential impacts of any clinical interventions on belonging (i.e., length of time to affect changes in depression).

Additionally, it is possible that the length of time participants have identified as LGBTQ (which the current study did not measure) may have impacted findings. It is possible that greater degrees of change in belonging had occurred prior to study measurement, such that participants may have felt higher levels of belonging for some time. Consequently, there may have been ceiling effects for belonging, which theoretically could have limited any possible changes in depression as a result.

Previous research has examined belonging and depression. Findings have been mixed, for which one possible reason may be how belonging has been conceptualized from study to study. Studies that focused on a sense of belonging have consistently reported inverse relationships between belonging and depression (McLaren, 2009; McLaren et al., 2008), compared to studies

that focused on community connectedness, which have reported a range of findings, including no association in some cases (e.g., Frost & Meyer, 2012) and inverse relationships in other cases (Petruzzella et al., 2019; Puckett et al., 2015)—though it may be difficult to make strong claims regarding the role of measurement given the relatively few studies that have examined belonging, connectedness, and depression. Differences in findings may also be explained by sample characteristics. For example, Petruzzella et al. (2019) found a moderated relationship between community connectedness and internalizing symptoms (i.e., depression and anxiety) such that there was a significant and negative relationship for non-white participants compared to no relationship for white participants. Additionally, the many studies mentioned in the literature review (e.g., McLaren, 2009; McLaren et al., 2008) examined Australian participants, whereas the current study examined participants living in the U.S. Thus, it is possible that geographical and cultural considerations may explain differences in the relationship between belonging and depression, as may the racial and ethnic makeup of any given participant sample.

In addition to depression, results did not support longitudinal relations among LGBTQ community belonging and anxiety or loneliness. However, cross-sectional analyses from both time points did reveal inverse relationships between belonging and anxiety and loneliness, which is consistent with previous studies employing a range of belonging operationalizations (Frost & Meyer, 2012; Li et al., 2015; Petruzzella et al., 2019; Puckett et al., 2015). It was surprising, however, that changes in belonging did not lead to changes in loneliness, given prior theoretical and empirical support (McLaren, 2009; McNamara et al., 2021; Meyer, 2003). In response, alternative pathways were examined.

Exploratory analyses examined whether loneliness or anxiety would lead to changes in future belonging (reverse directionality). Results showed that neither loneliness ($p = 0.054$) nor anxiety ($p = 0.085$) lead to lower future belonging. However, results for loneliness were marginally significant. While the current study cannot make such claims, it could be that loneliness may lead to changes in LGBTQ community belonging as opposed to the reverse. Furthermore, loneliness in the moment may lead to possible cognitive and emotional narrowing of one's sense of LGBTQ community belonging, as suggested by the Broaden and Build Theory of Positive Emotion (Fredrickson, 2001). Additionally, this theory suggests that individuals may act in response to certain mood states in ways that reinforce those mood states. Thus, if one feels higher levels of loneliness, theoretically they may reach out to other LGBTQ people or interact with LGBTQ community less often, which may contribute to lower feelings of LGBTQ community belonging. Although an exploratory analysis did not reveal that loneliness predicted future community involvement, future work should further examine such possible associations.

While theoretical explanations may provide context for the lack of support for the current study's longitudinal hypotheses, other factors such as methodological and statistical considerations may be important to consider as well. First, the significant attrition between both time points may have contributed to a range of type II errors. After removing inattentive responses, the sample size from Time 2 ($N = 110$) was only 64% of that from Time 1 ($N = 171$), which may have led to insufficient power. Second, the time period of 6.5 weeks may not have been long enough to capture any changes in the outcome variables. In fact, the correlation between LGBTQ community belonging at Time 1 and Time 2 was high ($r = 0.84$, $p < .001$), as was for community involvement at Time 1 and Time 2 ($r = 0.81$, $p < .001$), suggesting that the

variables remained fairly consistent between both timepoints. This time period was in part a result of study constraints and, in many ways, an *a priori* hypothesis given the lack of research indicating how these variables may relate to each other over various periods of time. Thus, it may be the case that belonging does, in fact, have an impact on various facets of well-being that may have been captured with a larger sample size at Time 2 and a study design that utilized a longer period of time, or even multiple lengths of time between data collection.

Community Involvement

Findings did, however, support the hypothesis that changes in community involvement would predict future well-being. Results suggested that overall community involvement lead to higher levels of future satisfaction with life—even when controlling for initial LGBTQ community belonging—yet overall community involvement did not predict future anxiety, depression, loneliness, or positive affect. Furthermore, results revealed an interesting pattern of findings with regards to relationships between *types* of community involvement and facets of well-being, which supports the recommendation that researchers recognize how various types of involvement may impact outcome variables differently (Foster-Gimbel et al., 2020). The pattern of findings may also provide some insight into possible reasons why initial involvement predicted greater future satisfaction with life.

Future satisfaction with life was positively predicted only by Community Activities (i.e., membership in LGBTQ sports leagues and social clubs). It makes some intuitive sense that interacting with other people may increase one's satisfaction with life. By being a part of an LGBTQ sports team or book club, one may feel that they are part of something bigger than themselves, perhaps lending a sense of meaning and, thus, higher overall satisfaction with life.

Additionally, social interactions that occur in different types of community activities (e.g., LGBTQ sports or book club) may play a role in increasing satisfaction with life. It may be that, as a result of spending more time around other LGBTQ people in this way, one experiences less discrimination and stigma—both of which predict decreased affective well-being (Feinstein et al., 2012; Meyer, 2003) and possibly satisfaction with life.

The finding that Community Activities predicted future satisfaction with life mirrors past findings in the literature. Frable et al. (1997) found that for gay men (a) the amount of leisure time spent socializing with other gay men and (b) the number of gay male friends one had positively predicted a well-being measure that included satisfaction with life and with specific roles (e.g., work, leisure time, and friendship). One worthwhile question future research may consider is whether the benefits of engaging in similar social activities with others who share social identities may produce benefits in well-being above and beyond simply engaging in social activities with others.

Involvement conceptualized as social interaction (which has overlap with Community Activities) has also been examined in the context of depression and found to be protective. Lambe et al. (2017) examined social interaction with other LGBTQ people (i.e., involvement) as a buffer of the association between the discrimination and depression among bisexual women. Involvement moderated the relationship, such that it was weaker at higher levels of involvement. While Lambe et al. (2017) did not hypothesize a direct relationship between involvement and depression, it underlined a rationale that community involvement may be inversely related with future depression, given its protective effects. However, involvement and depression in the current study were only inversely related at the cross-sectional level.

Other types of involvement showed unique associations with facets of well-being in the current study, which may underscore the importance of treating community involvement as a collection of different activities in addition to an overarching construct (Foster-Gimbel et al., 2020). In the current study, Nightlife and Activism both predicted higher levels of future anxiety. For the Nightlife—anxiety relationship, there may be a number of possible explanations. In particular for gay men, it may be that involvement in LGBTQ nightlife is related to anxiety through body image dissatisfaction, which has been linked to mental health concerns such as depression (Blashill et al., 2016; Davids et al., 2015). Furthermore, Davids et al. (2015) found that community involvement predicted body image dissatisfaction, and this relationship was mediated by sexual objectification experiences, which may also increase anxiety. However, these explanations may not hold for all groups within the LGBTQ community.

The relationship between Nightlife and anxiety for female, non-binary, and trans SM in the current sample may differ from that of cisgender SM men, and study results may in part be a result of the gender distribution in the current study sample. Although subgroup analyses were not performed (in part due to the sample size), research suggests that subgroups, such as bisexual individuals, experience stigma within the LGBTQ community (Lambe et al., 2017; Pollitt & Roberts, 2021). Similar experiences may occur for lesbian, trans and non-binary participants. As such, LGBTQ nightlife spaces may actually be anxiety-inducing experiences (in addition to being safe spaces) in ways they may not be for cisgender, gay men. Furthermore, given that the current sample was very racially and ethnically diverse, it is also possible that participants experience racism within LGBTQ nightlife spaces that may increase overall levels of anxiety (Battle & Crum, 2007).

Regarding the Activism—anxiety and depression relationships, it may be that the work of LGBTQ activism may be chronically stressful for participants, thus increasing anxiety and depression. However, associations between Activism and hedonic measures of well-being are limited in the types of assertions they can make (i.e., how activism impacts one's overall well-being). There may be associations between activism and eudaimonic facets of well-being that are important to consider. For example, one may feel an increased level of anxiety and depression but also a sense of meaning, as other authors have investigated (Szymanski et al., 2021). Furthermore, the relationship may be explained by anti-LGBTQ discrimination (encountered as a result of activism), which may itself predict anxiety and depression. Thus, by controlling for a third variable such as discrimination, these relationships may become nonsignificant.

Although not a goal of the current study, data did support divergent validity for types of involvement in the community involvement measure (Foster-Gimbel et al., 2020). A central argument by Foster-Gimbel et al. (2020) was that different types of community involvement may impact well-being in unique ways, and that this is a limitation of past research given that researchers tend to differ on the types of involvement they measure—making it difficult to make overarching claims about relationships between overall community involvement and various outcomes. The current study supported this idea by revealing that types of involvement related to facets of well-being in unique ways. Results suggested that both Activism and Nightlife lead to increased anxiety, only Activism lead to increased depression, and Community Activities lead to increased satisfaction with life.

Overall, results provided mixed support for questions about longitudinal associations. However, cross sectional analyses at both time points revealed a pattern of results that were

similar to those of previous studies. At Time 1, LGBTQ community belonging was related to positive affect and satisfaction with life, and inversely related to loneliness, depression and anxiety; at Time 2, findings were similar (i.e., significant and in the same direction). Additionally, community involvement at Time 1 was related to positive affect and satisfaction with life, and inversely related to depression, anxiety, and loneliness. At Time 2, findings were similar except that involvement and anxiety were not related. Thus, results from the present study were largely consistent with that of previous research (Frable et al., 1997; Frost & Meyer, 2012; Li et al., 2015; McLaren, 2009; McLaren et al., 2008; Petruzzella et al., 2019; Puckett et al., 2015; Ramirez-Valles et al., 2005). However, with the exception of community involvement and satisfaction with life—as well as with types of involvement and various facets of well-being—support was not gathered for the hypothesized, longitudinal relationships that may have suggested causality or direction of influence (involvement leading to changes in well-being).

Similar to the lack of longitudinal findings between LGBTQ community belonging and well-being, attrition between timepoints may have played a role with regards to community involvement. However, other factors may account for the lack of findings, too. For example, it may be that community involvement only has an impact on depression when the type of involvement is well matched with the source of one's depression. For example, Ramirez-Valles et al. (2005) found that community involvement, conceptualized as involvement in HIV/AIDS activism, was inversely related to depression in a sample of HIV positive, Latino, gay men. Past research has suggested that the degree of overlap between a stressor and a support has an impact on the strength of the relationship between them (Cohen, 2004). Whereas the levels of depression may have been uniquely related to one's status as HIV+ in the study by Ramirez-Valles et al.

(2005), activism and community involvement related to HIV/AIDS may have addressed it, possibly through a sense of problem-focused coping or social support gained through engagement in shared activities with similar others. As such, it is possible that the involvement—depression link may be more likely to be observed when the type of involvement meaningfully addresses the source of depression.

Limitations

The proposed study has some limitations. First, the measures used were retrospective. Participants responded to measures often based on their experiences over the past week(s) or few days, as was the case with depression, loneliness, and anxiety. As such, reported scores may contain a greater degree of error as compared to other study methods such as daily diary designs, which require participants to respond to items daily over a period of several days, thereby reducing memory bias (e.g., Gunthert, & Wenze, 2012). However, given the two time point nature of the current study, and that measures asked for retrospective data over a period of one month at the most, any errors in recall may have been limited.

Second, while collecting data over two time points allowed for inferences about directionality and change, it was also limited with regards to mediation hypotheses. Ideally, all variables would be collected over three time points: the predictor variable would be analyzed from Time 1, the mediator variable from Time 2, and the outcome variable from Time 3—consistent with the idea of predictor causes mediator causes outcome. With only two time points, the predictor variables were analyzed from Time 1 and the mediator and outcome variables from Time 2. Moreover, the lack of longitudinal research on LGBTQ community belonging and involvement made it difficult to anticipate the time period over which these variables may impact

well-being. A period of approximately two months was used on the basis of resource (e.g., time) constraints; however, it is possible that longer periods of time were needed for community variables to exert their effects on well-being.

Third, and relatedly, another limitation may be the modified phrasing of certain measures. Given that the study used a two time-point design as opposed to three, the phrasing of measure items that captured mediating variables was manipulated to be consistent with the idea of mediation. For example, the anchor of "over the past month" was added to the internalized stigma measure. The idea was that when participants responded to the community variables at Time 1 and the mediator and outcome variables at Time 2, the internalized stigma measure (mediator) was capturing data retrospectively that occurred during the month period before the outcome variables, which were phrased to capture the participant's current level of well-being. (In cases where well-being was also retrospective, such as depression, the time period was by design shorter than the mediator, e.g., two weeks). As a result of modifying measure language, some of the cross sectional results may be less valid.

Fourth, data were collected during the Covid-19 pandemic, which may have affected data in unexpected ways. In particular, the pandemic may have affected community involvement. It is possible that the availability of certain types of involvement such as LGBTQ sports leagues was decreased as compared to pre-pandemic times. Additionally, participants may not have been able to engage in LGBTQ nightlife and some other community activities involving close social contact in ways similar to times preceding the Covid-19 pandemic. Moreover, even though data were collected over periods where nightlife did resume, it is impossible to tell how the access to nightlife may have differed for participants in any given region of the U.S. Importantly, there

may be individual differences in comfort level to pursue nightlife during the pandemic that may be associated in some ways with the outcome variables of interest (e.g., anxiety). Finally, the pandemic has impacted the mental health of many communities (Xiong et al., 2020), in particular for many minority communities, including the LGBTQ community (Gibson et al., 2021); this may have overpowered any effects of community involvement on well-being. Thus, results may not be as generalizable as they would be in non-pandemic times.

Fifth, as mentioned previously, attrition and missing data at Time 2 may have contributed to the lack of longitudinal findings. While I cannot claim how a lower attrition rate would have impacted findings, it is possible that a more complete dataset at Time 2 may have allowed for fewer, potential type II errors, especially given marginally significant findings in some cases.

Finally, important sample differences exist between this study and others that have examined similar variables (e.g., Frost & Meyer, 2012; McLaren, 2009). Notably, the current study sample contained a greater-than-typical degree of trans and non-binary identifying participants. While these participants also identified with a sexual minority identity, their experiences may differ in ways from cisgender sexual minority participants. For example, they may experience more stigma from not only the general community but also other sexual minority people, in a way similar to how bisexual people experience stigma from monosexual people within the LGBTQ community (Pollitt & Roberts, 2021). As such, the impacts of belonging and involvement on facets of well-being, as well as the process by which these impacts may occur, may differ between cisgender and trans and non-binary participants. For trans and non-binary participants, belonging to the LGBTQ community as a whole, as well as involvement in it, may

confer benefits and risks of stigma and discrimination. Thus, the current study's findings may be less generalizable to the LGBTQ community as a whole and should be interpreted with caution.

Despite the stated limitations, the current study provided additional evidence that supported findings from previous studies, such as significant, cross-sectional associations between LGBTQ community belonging and depression, loneliness, and anxiety. Additionally, this study tested previously unexamined variables in relation to belonging, including positive affect and satisfaction with life. In addition to belonging, the present study provided much needed knowledge in terms of relation between community involvement and affective and cognitive measures of well-being. Despite a lack of longitudinal findings, results provided insight into possible relationships between involvement and well-being.

Implications and Future Directions

The findings presented in this study offer a number of implications and directions for future research. First, the strongest implications arise from statistically significant results suggesting that community involvement does indeed lead to higher future satisfaction with life. Furthermore, as authors have suggested (Foster-Gimbel et al., 2020), specific aspects of community involvement lead to various facets of well-being, in positive and negative ways. In the current study, Community Activities led to increased satisfaction with life. Conversely, other aspects of involvement, such as Nightlife and Activism, lead to increased anxiety but not satisfaction with life, and Activism lead to increased depression. Given this more granular understanding, clinicians working with SM clients could benefit from assessing a client's given level of involvement in LGBTQ community. Moreover, beyond specific diagnostic labels (e.g., depression and anxiety), clinicians should explore the individual meanings of a client's level of

activism. Additionally, future research should take into account different aspects of community involvement, given their unique relationships with various outcomes.

In light of the high degree of attrition in the current study, future studies should use a larger sample size in order to increase the chance of detecting possible relationships between variables over time. Additionally, future studies should employ different lengths of time in between data collection. While the ideal length of time between variables needed to observe change is not clear, different attempts could elucidate necessary time differences and provide a roadmap for future studies. Given that many cross sectional findings were significant, and that theory supports the hypothesized relationships, the community variables may yet predict future aspects of well-being, and different study designs may elucidate such relationships.

Finally, future studies should examine group differences based on gender and race, which the current study was not designed to do. The atypical distribution of gender among participants, as well as a sample size too small to adequately examine group differences among gender, limited an understanding of how the relationships among variables may differ for various groups (e.g., sexual orientation, gender, race) of participants. As such, future studies should employ larger sample sizes with deliberate sampling strategies in order to examine group differences; future studies may even examine just one subset of the LGBTQ community in order to ask more granular, specific questions. This may be especially important given differences in experience discussed in this study, as well as empirical evidence that differences in levels of belonging, as well as the processes by which belonging may impact well-being, may exist between groups within the LGBTQ community (McLaren & Castillo, 2021). Additionally, future suites may

experimentally manipulate variables such as community involvement in the form of community activities or media consumption and examine the impacts on facets of future well-being.

Extended Literature Review

Sexual minorities (SM) experience high rates of discrimination and stigma, which account for sexual orientation health disparities in mental health (Cochran, 2001; Meyer, 2003). Meyer's model of minority stress (MST) offers explanations for how minority stress impacts mental health outcomes in SM (Meyer, 2003). Minority stress is conceptualized along a continuum ranging from distal (external to the person) or proximal (internal to the person). Distal stressors include societal and enacted stigma, and proximal stressors include expectations of rejection, concealment of identity, and internalized homonegativity.

MST has posited factors that may support SM in coping with manifestations of minority stress (Meyer, 2003; 2015), and this thesis focuses on two approaches to examine the role of LGBTQ community as a source of resilience. One approach has focused on a feeling or subjective sense of belonging to community—henceforth called community belonging—which has been associated with many positive psychosocial outcomes (e.g., Frost & Meyer, 2012; Li, Hubach, & Dodge, 2015; McLaren et al., 2008; Petruzzella et al., 2019; Sanscartier & MacDonald, 2019). Another approach has focused on community involvement, which is unique to belonging with its focus on *behavior* (as opposed to feelings), and involvement with aspects of LGBTQ community and culture, including attending LGBTQ nightlife, engaging in LGBTQ political activism, and being a part of LGBTQ social clubs and sports leagues (Foster-Gimbel et al., 2020) These two variables, belonging and involvement, are distinguished by a focus on a sense of cognitive/affective belonging vs behavioral engagement (i.e., involvement), respectively.

Meyer's (2003) model of sexual minority stress features community belonging and involvement as buffers of the impacts of minority stress on well-being (Rogers et al., 2020). However, authors have also examined direct effects of community belonging and involvement on well-being (Li et al., 2015; McLaren et al., 2008, Petruzzella et al., 2019). Research has found that community belonging and community involvement are generally related to higher subjective well-being (Frost & Meyer, 2012; Li et al., 2015; McLaren et al., 2008; Petruzzella et al., 2019; Sanscartier & MacDonald, 2019), with some exceptions: body image dissatisfaction (Levesque & Vichesky, 2006; Tiggemann et al., 2007) and alcohol consumption (Demant et al., 2018; Baiocco et al., 2010) have been linked to higher levels of community belonging and involvement, which may be accounted for by community cultural norms for ideal body types and drinking within LGBTQ spaces.

In much of this research, community belonging and involvement have been studied separately, but both constructs overlap conceptually and may be positively associated (Frost & Meyer, 2012; Lin & Israel, 2012). The conceptual overlap raises interesting questions such as (a) *How do community belonging and involvement independently predict mental health?*, and (b) *How are the two community variables empirically related to each other, including over time*? Additionally, little work has explored causal mechanisms linking these community variables with well-being. Suggestions have been put forth such as internalized stigma and social support (Puckett et al., 2015), but no studies to date have tested such assertions.

As such, the current study focuses on community belonging and community involvement and seeks to (a) clarify how each uniquely predicts aspects of well-being (depression, anxiety, loneliness, positive affect, and satisfaction with life), (b) test proposed mechanisms underlying

the relation between these community variables and well-being, and (c) study the relation between community belonging and community involvement. In the next sections, I will (a) discuss theory, (b) review conceptualizations of community belonging and community involvement, and (c) review research regarding associations between community belonging, involvement and various facets of well-being.

Theory

Stressors

Meyer's (2003) articulation of minority stress theory (MST) provides a model for how minority stress leads to poor mental health outcomes in SM. Minority stress is described as a form of stress that minority individuals (e.g., racial, sexual) experience that is distinct from general stress in a few ways: It is (a) additive to normal, everyday stress (e.g., paying the bills or general work stressors); (b) chronic (i.e., minority stressors are generally continuous from one day to the next and are not unique, individual, one-off experiences); and (c) socially based (i.e., they result from social values and systemic biases). Meyer (2003) further describes different types of minority stress, including a) experienced discrimination and societal stigma, b) internalized stigma, c) expectations of rejection, and d) concealment of identity. He places these types into two categories: a) distal (i.e., external to the individual; includes discrimination and societal stigma) and b) proximal (i.e., is internal to the person; includes expectations of rejection, concealment of identity, and internalized stigma).

SM experience distal minority stress in many forms. In a review, Katz-Wise and Hyde (2012) reported that SM experience work discrimination, verbal harassment, and physical assault. Compounding the harm, SM internalize anti-LGBTQ societal attitudes (Berg et al.,

2016). This internalized stigma is associated with reduced well-being (e.g., increased depression and decreased self-esteem; see Berg et al., 2016 for review). Internalized stigma is also associated with other maladaptive behaviors such as substance and alcohol use, which also predict worse well-being (Hatzenbuehler et al., 2009). Thus, sources of minority stress are pervasive, and can lead to reduced well-being through, directly and through mechanisms such as internalized stigma.

Protective Factors

While anti-LGBTQ attitudes have decreased over the past two decades, the effects on mental health have not. To that end, MST also offers explanations for how resources can buffer the effects of minority stress on well-being. The current study will examine how SM feel a sense of belonging to and participate in LGBTQ community. This focus is contrasted with other perspective that examine individual coping resources such as emotion regulation or cognitive reframing (e.g., Hatzenbuehler, 2009), and exist outside of frameworks such as locus of control or personal mastery (see Meyer, 2013 for review). That being said, it is important to note that the role of LGBTQ community may lead to processes such as cognitive reframing or emotion regulation, but these variables are not a focus of the current study.

Meyer (2003; 2015) outlined reasons that LGBTQ community may benefit well-being, including (a) allowing SM to reframe negative anti-LGBTQ stigma and discrimination experiences (e.g., "this event happened to me as a result of bias, not because *I* or *my identity* is wrong"), and (b) evaluating oneself in comparison with LGBTQ group norms as opposed to mainstream societal ones (e.g., seeing that LGBTQ people like me can thrive and having role models).

However, the current study deviates from Meyer's (2003) minority stress model in its focus on direct effects and mediation models, as opposed to moderation (i.e., how community buffers the effects of minority stressors on mental health). Similarly, a number of studies have focused on direct effects of LGBTQ community variables on well-being (Doyle & Molix, 2014; Frable et al., 1997; Frost & Meyer, 2012; Li et al., 2015; Petruzzella et al., 2019; Puckett et al., 2015; Ramirez-Valles et al., 2005).

Thus, the current study will examine (a) how community variables are directly related to well-being, (b) explore mechanisms underlying these associations, (c) and will do so over two time points to assess for directionality of influence. This next section will provide an overview of these community variables, including (a) conceptual and (b) measurement considerations, and (c) empirical associations with psychosocial facets of well-being.

Overview of LGBTQ Community Belonging and Involvement

How Is Community Defined? Community can consist of different levels as noted by Woolwine (2000), including (a) an imagined community, (b) institutions, and (c) the social connections in that community. It is possible that each of these levels impact SM in unique ways. For example, feeling a sense of belonging to an imagined, global LGBTQ community may impact well-being differently than feeling a sense of belonging to individual people that are part of that community. For example, Hanley and McLaren (2015) examined such distinctions among lesbians and three different levels of lesbian community (broad, organizational, and friendship) and how each moderated the relationship between body image dissatisfaction and depressive symptoms. Organizational and friendship levels were stronger moderators (i.e., weakened the relationship)

than the institutional level, suggesting that each type of community conferred unique benefits or strength of protection.

Similarly, when a physical LGBTQ community is not present, such as in rural areas (Li et al., 2015), SM may still benefit from feeling a sense of belonging to an imagined, global LGBTQ community. While some authors have used location specific language around LGBTQ community (Frost & Meyer, 2012), others (Kaniuka et al., 2019; Petruzzella et al., 2019) have adapted existing measures to be applicable to any geographic location, which is consistent with other measures that assess a global construct of community or an imagined community (Lin & Israel, 2012; Sarno & Mohr, 2019).

Finally, while the current study focuses on SM, the phrase LGBTQ community will be used when talking about community generally and in instruments given to participants. In LGBTQ research, the population of focus in any given study matters given the heterogeneity of experiences between subgroups in the LGBTQ community (e.g., status as monosexual vs plurisexual, female vs male vs nonbinary, cisgender vs transgender). For example, meaningful differences in experiences exist between bisexual and monosexual (i.e., gay, lesbian) individuals. Bisexual people tend to feel less community belonging than lesbian women and gay men (Balsam & Mohr, 2007; Kertzner et al., 2009; Lin & Israel, 2012), possibly due to experiencing stigma within and outside of LGBTQ community (Lambe et al., 2017). Consequently, well-being may differ for bisexual people as well as other groups. However, given that a) a broad aim of the current study is to examine the unique relations between belonging, involvement, and well-being, and b) few reasons, as of now, exist to examine one group over another in regards to these broad questions, sub-group analyses are outside of the current study's scope, and the sample will

include various sexual minority identities—nonetheless, potential group differences warrant further investigation. Finally, the current study aims to examine belonging and involvement in the context of SM. While transgender individuals may also identify as SM and are included in the current study, assertions about community belonging and involvement with regards to trans identity are not, per se, the focus. (For a review on the state of the literature with regards to terminology and the tensions between political and methodological considerations in the usage of LGBQ vs LGBTQ, please see Moradi et al., 2009).

LGBTQ Community Belonging.

Overview.

In examining the role of community in the well-being of members, authors have taken various approaches. In studying the psychological sense of belonging or relation to communities—including the LGBTQ community—authors have asserted different variables that range in the breadth of the latent constructs they purport to measure. For example, at a very broad level, Lin and Israel (2012) presented evidence for a five factor construct of relation to community. Its factors included a) Influence (i.e., the degree to which a person feels they can influence or be influenced by other LGBT people, b) Shared Emotional Connection (i.e., the degree to which one perceives emotional connection between other LGBT people), c) Membership (i.e., the degree to which one feels they belong to and are a part of LGBT community), d) Needs Fulfillment (i.e., the degree to which one feels helped by and helps the LGBT community), and e) Communities Existence (i.e., the degree to which one believes that LGBT community exists for all LGBT people).

Other approaches have taken a narrower focus. In the case of racial and ethnic minorities, Phinney (1992) attempted to measure the strength of ethnic identity and developed a scale assessing three factors: Affirmation and Belonging (i.e., feelings of pride and belonging to the group), Identity Achievement (i.e., clarity around the meaning or implications of an identity toward one's life), and Ethnic Behaviors (i.e., behaviors that ethnic minorities engage in that implicate the group identity). Similarly, Sarno and Mohr (2019) applied Phinney's (1992) model and found evidence for similar domains in SM's experience of community: Affective Pride, Cognitive Clarity, and Behavioral Engagement, respectively.

Perhaps one of the most widely used variables in measuring the relations between the LGBTQ community and its members is community connectedness, which can be defined as SM's (a) feelings of belonging, (b) pride, and (c) sense of ideological solidarity towards the LGBTQ community (Frost & Meyer, 2012). Frost and Meyer (2012) gathered data from a racially- and socioeconomically-diverse sample of 396 SM participants. They discovered a three factor structure in their construct: Closeness (a sense of belonging to community), Positivity (a sense of pride and positivity towards being a part of community), and Problem-Focused (a sense of collective responsibility in problems affecting LGBT community and an endorsement of collective political action). The third factor, Problem-Focused, has at times been interpreted as behavioral (community) involvement, but it more likely represents attitudes towards involvement. Findings from this study were similar to other attempts to measure community connectedness or collective identification, and they suggested a good fit for the definition laid out by Frost and Meyer (2012), that community connectedness represents "the convergence of individuals' desires to belong to a larger collective, establish a mutually influential relationship

with that collective, satisfy their individual needs and be rewarded through their collective affiliation, and construct a shared emotional connection" (p. 36).

Community connectedness represents a higher-order variable and has its roots in earlier literature that focused on how individuals enact and express their identity in community, and how they connect to and engage with that community. One such earlier framework—collective identification—involves a belief in categorical group membership (e.g., gay, straight) that facilitates a shared set of culture and sense of closeness to and between members of a group (Ashmore et al., 2004). In the context of LGBTQ individuals, collective identification may involve (a) identifying with a sexual identity label (e.g., gay, lesbian, bisexual), (b) holding a public and private evaluation of one's identity, (c) feeling a degree of attachment and sense of connection to LGBTQ community, (d) engaging with culturally-related aspects of LGBTQ community, and (e) having a sense of shared traits, ideology, and narrative.

Despite the value of these multiple conceptualizations of community connection or belonging, the focus in the present study will be on community belonging (i.e., the sense that one belongs to and fits within with LGBTQ community). Some studies have focused on a sense of belonging to LGBTQ community in contrast to higher-order variables (McLaren et al., 2008; McLaren, 2009). The term community belonging will be used, henceforth, to refer to constructs used in studies that generally reflect a subjective sense of belonging, and this review of the literature will note when studies use higher-order constructs (e.g., community connectedness).

Focusing more narrowly on community belonging offers several potential benefits. First, it is a clear and straightforward conceptualization of the strength of one's relationship with the LGBTQ community. Second, some conceptualizations of the higher-order variable of community

connectedness overlap with other social identity variables. For example, positive evaluation of the community and one's membership have been viewed as aspects of collective self-esteem (Luhtanen & Crocker, 1992). Given that this thesis also examines the construct of internalized stigma (using a subscale of collective self-esteem), using a belonging variable that excludes measurement of a sense of pride towards community allows for such examinations. Finally, a narrow focus on community belonging provides an opportunity to connect findings with the literature on belongingness. The next section will discuss research findings in the literature between various community belonging and well-being. Studies that examined community connectedness will also be discussed as they suggest possible relationships between community belonging and well-being.

Associations with mental health. MST posits that LGBTQ community can be beneficial to SM's mental health in a number of ways: reframing minority stress events, offering alternative group norms, and providing social support and belonging from other LGBTQ people. As such feeling a sense of belonging to LGBTQ community may increase well-being. This section will discuss associations between community belonging and well-being.

Research has measured indicators of psychosocial well-being such as depression, anxiety (McLaren, 2009; McLaren et al., 2008; Petruzzella et al., 2019), psychological distress (Puckett et al., 2015), and loneliness (Li, Hubach, & Dodge, 2015) in relation to community belonging (and related variables). Much of this research suggests that LGBTQ community is associated with higher well-being. However, generalization can be difficult to draw between studies given a) the use of various belonging and belonging-adjacent variables (Frost & Meyer, 2012; Li, Hubach, & Dodge, 2015) and b) the lack of longitudinal and experimental work. For example, in

the case of mostly cross-sectional work, it is unclear whether community belonging decreases feelings of depression, or whether depression makes it more difficult to feel connected to community. Both are possible, and the current study aims to examine this relationship.

Studies suggest a negative relationship between community belonging and depression (McLaren et al., 2008; McLaren, 2009; Petruzzella et al., 2019; Puckett et al., 2015). One study (McLaren et al., 2008) measured a sense of belonging to gay community, general community (outside of LGBTQ community), and depression in a sample of 137 gay, Australian men, ages 19-69. It was hypothesized that levels of belonging would negatively predict depression. The authors tested additive models (unique variance in depression explained by feelings of belonging to general community and gay male community), as well as meditation and moderation models. Results suggested that a sense of belonging to gay community negatively predicted depression, independently of a sense of belonging to general community. Mediation models followed a similar pattern. Overall, findings suggested that a sense of belonging to gay community, at least for gay men, is negatively related to depression.

A similar study found different results for lesbian participants. In a sample of 178 lesbian, Australian women, ages 18-63, McLaren (2009) used the same measures and method as McLaren et al. (2008). Findings differed in that that a sense of belonging to lesbian community did not predict depression independent of general community. Interestingly, however, belonging to lesbian community did moderate the relationship between belonging to general community and depression, such that the participants who felt the most depressed also felt the most belonging to lesbian community and general community. The authors noted that feeling a sense of belonging to both lesbian and general community may create tension and lead to, or at least

not protect from, feelings of depression. It is also possible that a sense of belonging to LGBTQ community may impact gay men and lesbian women differently.

Other studies examined the role of LGBTQ community among multiple groups of SM (e.g., gay, lesbian, bisexual) through the construct of community connectedness. Frost and Meyer (2012) examined the relation between community connectedness and depression and found that they were not related. This finding was consistent across all groups within the study (e.g., White, Black, and Latino participants, as well as male- and female-identified). Similarly, Kaniuka et al. (2019) found no relationship between community connectedness and depression. The authors noted that their results may be due to the fact that people who feel more connected are also more likely to be "out" (i.e., having disclosed their sexual identity), and may experience more discrimination which may increase depression. This suggests the possible value of measuring outness and levels of *experienced distal minority stress* as mediators of the relationship between community connectedness and mental health. Other authors have offered explanations for the nonsignificant relationship between community connectedness and depression. For example, Kaniuka et al. (2019) suggested that community connectedness may offer protection against the worst effects of minority stress (e.g., suicidality) but not depression or depressed mood.

Community connectedness may also have marginal effects on depression, and, thus, findings may differ between studies based on sample characteristics. One study examined race as a moderator of the community connectedness—depression relationship. A study of 147 gay men in New York City measured the relationship between community connectedness and internalizing symptoms (i.e., anxiety and depression; Petruzzella et al., 2019). Results indicated that community connectedness negatively predicted internalizing symptoms but not equally for all

participants. Moderators of this relationship included a) self-reported level of "femininity," b) identity centrality, and c) racial identity, such that connectedness and depression were significantly and inversely related for those who rated themselves as more feminine, whose sexual minority identity was more central to them, and for non-white participants.

There are several possible explanations for the moderating role of race, many of which are outside the scope of this review. However, given that LGBTQ people of color report feeling alienated from their racial minority communities (Ghabrial, 2017), it is possible that LGBTQ community then becomes more salient, and thus differences in levels of community connectedness are more impactful on outcomes such as depression. Similarly, those who report a higher level of community connectedness may experience a buffering effect of community connectedness on the impacts of racism on depression, accounting for greater variance in depression.

Finally, a key difference between studies that found significant vs non-significant findings for depression may be the choice of examining community connectedness vs belonging as a construct. Studies that focused on a sense of belonging to LGBTQ community found significant results (McLaren, 2009; McLaren, Jude, & McLachlan, 2008), whereas a focused on a broader sense of community connectedness has been associated with mixed findings between studies (Frost & Meyer, 2012; Kaniuka et al., 2019; Petruzzella et al., 2019; Puckett et al., 2015). It may be that a sense of belongingness is a more likely predictor of depression, whereas constructs (e.g., community connectedness) that include aspects such as ideological solidarity may introduce the possibility of a tendency towards political activism, which may introduce new forms of stress and positively predict depression (Craney et al., 2018). Nonetheless, studies that

examined community connectedness are included in this review as they suggest possible directions for community belonging research, in particular with variables not yet examined alongside community belonging.

For example, community belonging may also impact other indicators of well-being such as loneliness and anxiety. Puckett et al. (2015) found that community connectedness negatively predicted both depression and anxiety. The authors tested a meditation hypothesis, where community connectedness mediated the relationship between internalized homonegativity (a form of minority stress defined as an internalization of societal anti-LGBTQ attitudes; Meyer, 2003) and psychological distress. In this study, SM who were higher in internalized homonegativity felt less connected to LGBTQ community, and, thus, felt higher levels of psychological distress.

Additionally, little research has examined the relationship between LGBTQ community belonging and loneliness. One study found that a sense of connection to gay and bisexual men's community inversely predicted loneliness in a sample of gay and bisexual men in rural Indiana (Li, Hubach, and Dodge, 2015). The role of community belonging may be especially salient for rural SM who have less access to other LGBTQ people and community resources (Barrett & Pollack, 2005). However, this study was limited in that it examined belonging with a single item measure ("You feel you're part of Bloomington's and surrounding areas gay or bisexual men's community"). Furthermore, it is possible that this item captures a construct closer to perceived fit rather than a sense of belonging. Thus, the current study aims to use a more in-depth belonging measure (i.e., with more items), thus possibly discovering stronger evidence that community belonging is negatively associated with and leads to decreased loneliness. Additionally, Li et al.

(2015) only examined the role of community belonging among gay and bisexual men. The current study aims to study the role of community belonging among multiple groups of SM.

Overall, research suggests that a sense of belonging to LGBTQ community may predict increased well-being. Belonging may also predict lower levels of depression and anxiety, but findings are unclear or mixed (Frost & Meyer, 2012; Kaniuka et al., 2019; McLaren, 2009; McLaren et al., 2008; Petruzzella et al., 2019; Puckett et al., 2015). Furthermore, little work has focused on loneliness, though empirical evidence and theory suggest loneliness should be inversely related to belonging (Li et al., 2015). Thus, the current study aims to examine associations between community belonging and various facets of well-being (depression, anxiety, loneliness, positive affect, and satisfaction with life).

Community Involvement.

Belonging and community involvement are often used interchangeably, and authors (Petruzzella et al., 2019; Puckett et al., 2015) have suggested that belonging may imply a level of involvement. However, while likely positively related, involvement represents a distinct construct from belonging (and related constructs such as community connectedness). Furthermore, delineating between a cognitive/affective variable and a behavioral one allows for a practical analysis of associations between *doing* and *feeling*. For example, if SM feel a higher sense of belonging to LGBTQ community, they may be more likely to be involved with community (e.g., going to LGBTQ-oriented social clubs and volunteering in LGBTQ political causes), or vice versa. Such associations may explain links between community and well-being. However, little work has examined both belonging and involvement as separate constructs or the links between involvement and well-being.

MST provides some rationale for why community involvement may increase well-being (Meyer, 2003; 2015). First, being around similarly-stigmatized others may allow for fewer experiences of discrimination and for reappraisal of experienced discriminatory events and internalized stigma. Second, spending time with other LGBTQ people may increase feelings of community belonging. Extending the causal chain, authors have suggested that involvement may then lead to experiences of social support and greater feelings of community belonging and well-being (Petruzzella et al., 2019).

The current study aims to test such assertions to contribute to an understanding of how community involvement impacts well-being. In the following sections, I will discuss conceptual issues regarding community involvement, followed by a review of empirical findings. Finally, I willing highlight limitations and opportunities in the existing literature. Then I will discuss potential mediators that may explain possible relationships between community involvement and well-being.

Overview. Community involvement represents a distinct variable from community belonging that is rooted in social-psychological conceptualizations of identity-relevant *behavior*. A previous example of this contract is *behavioral involvement*, defined as "the degree to which [people engage] in actions that directly implicate the collective identity category in question" (Ashmore et al., 2004, p. 83). Community involvement has been conceptualized in various ways, including (a) consuming queer media; (b) attending pride marches and online LGBTQ support groups, bars, and nightclubs; (c) volunteering in LGBTQ and HIV/AIDS advocacy organizations and GSAs; and (d) engaging in LGBTQ social networks (Craney et al., 2018; Demant et al., 2018; Lambe et al., 2017; Jackson, 2017; Ramirez-Valles et al., 2005; Ramirez-Valles et al.,

2010). However, studies differ on which aspects of involvement they focus on, and findings may differ between studies in part due to varying involvement conceptualizations (see Foster-Gimbel et al., 2020 for review).

The difficulty in developing a valid measure of community involvement invokes the question of what constitutes involvement. Does it make sense to conceptualize involvement as an overarching propensity to interact with LGBTQ people and resources? Woolwine (2000) provides a helpful discussion of levels of community, including the imagined community, institutions, and social connections. The level of imagined community may pertain more to belonging—SM may feel a sense of belonging to a global LGBTQ community even if their social circle includes few, if any, LGBTQ people. However, at the level of institutions, LGBTQ community can be represented by and comprised of political, cultural, and social service organizations (e.g., PFLAG, The Human Rights Campaign, The Trevor Project); the creations of those organizations such as political initiatives and pride marches; and LGBTQ oriented bars and clubs. Finally, the third level represents social connections with other LGBTQ friends and romantic partners. These levels can overlap (e.g., interacting with an LGBTQ-oriented organization may also involve interacting on the level of individual social connections). Research has investigated involvement at various levels (Baiocco et al., 2010; Demant et al., 2018; Kippax et al., 1992; Lambe et al., 2017; Levesque & Vichesky, 2006; Puckett et al., 2015; Ramirez-Valles et al., 2005).

Given the lack of a uniform measure of community involvement, Foster-Gimbel et al. (2020) developed the Gay Community Involvement Index (GCII). The goal of this measure was to create a psychometrically valid community involvement measure so as to capture different

types of involvement. The authors conducted two studies, the goals of which, respectively, were to (a) examine the psychometric properties of generated items and (b) to administer a reduced set of items to a second sample to then test convergent and divergent validity. Exploratory factor analysis revealed four subscales that corresponded to types of involvement measured in previous studies: (a) Community Activities (e.g., volunteering at LGBTQ organizations, being a member of a LGBTQ organization or sports team), (b) Media (e.g., watching LGBTQ TV or reading LGBTQ blogs catered towards LGBTQ people), (c) Nightlife (e.g., going to LGBTQ bars), and (d) LGBTQ Political Activism.

Use of this measure may better facilitate efforts to understand how community involvement impacts well-being. For example, researchers can examine associations between each type of involvement (e.g., nightlife vs political activism) and various outcomes (e.g., depression). In fact, Foster-Gimbel et al. (2020) provided evidence that different types of involvement (Nightlife and Political Activism) related in unique ways to various outcomes (sexual risk behavior). However, it is unknown how community involvement, overall or specific types, relate to facets of well-being, given that the authors examined collective self-esteem and body image surveillance but did not measure psychosocial elements of well-being (e.g., depression, anxiety, loneliness). Overall, use of this scale may give researchers greater confidence in findings and allow for greater ability to examine the impacts of different types of community involvement on various outcomes. The current study will use this measure and operationalization of community involvement as engagement in *LGBTQ nightlife, media consumption, political activism,* and *community activities*.

Associations with well-being.

Despite differences in how community involvement has been conceptualized and measured, studies have revealed associations between involvement and various outcomes, primarily with regards to sexual risk behavior (Kippax et al., 1992), alcohol use (Demant et al., 2018), and body image (Doyle & Engeln, 2014; Hospers & Jansen, 2005; Tiggemann et al., 2007). Very little research, however, has examined community involvement and psychosocial well-being.

Studies that examined well-being suggest that community involvement is associated with increased self-esteem (Doyle & Molix, 2014; Frable et al., 1997; Ramirez-Valles et al., 2005), decreased loneliness (Li et al., 2015), and decreased psychological distress (Frable et al., 1997). Such findings raise important questions. For example, are associations between well-being and community involvement consistent across types of involvement (e.g., nightlife vs political activism)? Additionally, what is the role of community involvement alongside community belonging in predicting well-being? The last point is unclear and worth investigating, given conceptual and empirical overlap between belonging and involvement.

Some research has focused on the benefits of community involvement measured as social engagement with other gay and bisexual men. One study (Frable et al., 1997) of 825 gay and bisexual men in Chicago measured community involvement with two questions: (1) How much of your leisure time socializing is with gay men? and (2) How many of your friends are gay? Participants responded by rating a Likert-type scale ranging from 1 (none or almost none) to 5 (all or almost all). Results suggested that community involvement was negatively associated with psychological distress and positively associated with well-being (a composite variable that measured satisfaction with (a) life and (b) specific roles (e.g., work, leisure time, and friendship).

Other research that has measured community involvement as social engagement suggests protective effects against depression. Another study (Lambe et al., 2017) found that high levels of community involvement buffered the relationship between experienced discrimination and depression in a sample of bisexual women. Community involvement was measured by asking participants, "How often do you spend time with others from an LGBT/queer community (for example, attending LGBT festivals, events, or other participating [sic] in LGBT social networks)?" and "How often do you spend time with others from a bisexual community?" Though this study used a moderation hypothesis, results suggested that high levels of involvement (2-3 times per week to daily) weakened the relationship between binegativity and depression. Thus, involvement seems to protect against depression, similar to other studies (Ramirez-Valles et al., 2005). However, Lambe et al. (2017) examined moderation as opposed to direct effects, and findings may be unique to the bisexual community. Thus, the current study aims to examine the impact of multiple types of community involvement on well-being in a sample of SM comprising multiple groups (e.g., lesbian, gay, bisexual, queer).

Community involvement may also be important in increasing psychosocial well-being for especially marginalized subgroups of SM (e.g., HIV+ gay and bisexual men) that share experiences that are stigmatized from both general society and other LGBTQ people (Herek & Glunt, 1995). In light of research suggesting that social support is more effective when it meets the needs of a given stressor (e.g., other HIV+ gay and bisexual men supporting each other; Cohen, 2004), social support that matches the source of stress (e.g., HIV-AIDS stigma and support from other HIV positive LGBTQ people) may be particularly impactful on well-being. It may be that social support gained from community involvement facilitates increased well-being.

Another study supports this assertion. Ramirez-Valles et al. (2005) examined a sample of 155 HIV positive, Latino, gay men from NYC and Washington, D.C., and found that community involvement, measured as volunteering and activist work with an AIDS organization, was inversely related to depression. Participants were asked, "Have you participated as a volunteer or activist in an AIDS organization or event during the past 12 months?" They responded using a yes/no format and reported their frequency of participation, ranging from 1 (once a year) to 5 (once a week). Similar to Frable et al. (1997), results suggested that community involvement negatively predicted depression (and loneliness). However, while this study suggests that community involvement was related to higher well-being for this sample of HIV+ Latino, gay men, it is unclear whether other types of community involvement would have been similarly beneficial.

Analogous to the increased marginalization that HIV positive LGBTQ people face (Herek, 2002), SM living in rural areas may have fewer LGBTQ role models and experience higher pressures to conform to heteronormative culture (Williams et al., 2005). Li et al. (2015) found that for gay men living in rural Indiana, community involvement, measured as recency of accessing community resources (e.g., "a social group/club for gay people") and time spent socializing with other gay men negatively predicted loneliness. Additionally, this relationship was mediated by a feeling of belonging to gay community, which provides support for measuring belonging and involvement simultaneously to explore each as a mechanism between the other and well-being. The role of community involvement in loneliness can be explored further, and it may be useful to examine whether different types of community involvement are uniquely related to these facets of well-being, which comprises a goal of the current study.

In summary, research suggests community involvement is linked with increased well-being in samples of gay and bisexual men (Frable et al., 1997; Ramirez-Valles et al., 2005), and bisexual women (Lambe et al., 2017). However, given that differences have been observed in outcomes (e.g., sexual risk behavior) based on the type of community involvement being measured (e.g., advocacy vs nightlife attendance; Flores et al., 2009; Ramirez-Valles et al., 2010), similar differences may emerge for psychosocial well-being variables when other types of community involvement are taken into account, such as media consumption and community social activities (e.g., volunteering for an LGBTQ sports team). Thus, the current study aims to increase understanding of how community involvement is related to multiple facets of well-being.

Finally, one of the most significant limitations in the literature on both community belonging and involvement is the largely, if not entirely, cross-sectional nature of analyses. Consequently, researchers cannot make causal claims as to how community belonging and involvement change well-being. It is likely that both variables increase well-being, but it is also possible that one's level of well-being may influence both their reported level of community belonging and involvement. For example, if SM are depressed, they may be more likely to report less community belonging. Additionally, they may be less likely to engage with other LGBTQ people or community. A similar dynamic may apply when SM feel increased loneliness as well. Thus, the current study aims to use longitudinal data from two time points to examine directionality of influence among variables.

Proposed Mediators

Despite limitations, research suggests that community belonging and involvement are associated with well-being, consistent with theory (Meyer, 2003). However, what might explain these relationships? Authors have proposed possible mechanisms, including internalized stigma and social support. I will expand on theoretical rationales for these two mediators and present empirical evidence to support my arguments.

Internalized stigma.

Internalized stigma (conceptualized in the current study as an internalization of heterosexism) and has been linked to decreased well-being (Meyer, 2003). In a review of 201 studies, internalized stigma was positively associated with depression, shame, guilt, and negatively associated with self-esteem (see Berg et al., 2016 for review). However, MST posits that group resources may ameliorate internalized stigma (Meyer, 2003; 2015). How does this suggestion then apply to group resources when understood as LGBTQ community belonging and involvement?

First, contact with other similarly-stigmatized people has been suggested to decrease self-stigma (Frable et al., 1998; Puckett et al., 2015). As such, internalized stigma may also mediate relations between community involvement and well-being. There may be several pathways through which this relationship occurs, such as sharing information about LGBTQ culture, encountering supportive LGBTQ individuals, and engaging with various groups (e.g., pride alliances). Thus, it seems likely that greater involvement should decrease levels of internalized stigma.

Empirical findings suggest that internalized stigma is negatively associated with community involvement in multiple domains, including nightlife, media consumption, and

political activism (Foster-Gimbel et al., 2020). Frable et al. (1997) found, in a sample of gay men, that internalized homonegativity mediated the relationship between community involvement and well-being, such that those who were more involved in the community had lower levels of internalized homonegativity, which explained higher levels of well-being.

Internalized stigma may also mediate relations between community belonging, involvement, and well-being. Feelings of belonging towards LGBTQ community may reduce internalized stigma. When one feels more connected to other LGBTQ people, they may internalize a more positive sense of identity, as a result of possibly having close relationships with others that change their negative assumptions about being an LGBTQ person. A similar rationale was put forth by Meyer (2003). Indeed, internalized stigma seems to be negatively associated with LGBTQ community belonging (Sanscartier & MacDonald, 2019). Furthermore, internalized stigma has been associated with mental health concerns such as low self-esteem, guilt, shame, and depression (Berg et al., 2016).

Others have suggested the relationship between community belonging and internalized stigma may also be bidirectional. Puckett et al. (2015) found that internalized homonegativity no longer predicted psychological distress when controlling for community connectedness, suggesting that decreases in internalized homonegativity may more likely lead to increases in belonging rather than the other way around (Puckett et al., 2015). The current study will investigate the hypothesis that belonging will lead to reductions in internalized stigma given a strong theoretical rationale, but the reverse may be true as well.

Internalized stigma has been conceptualized in a number of ways, including internalized homonegativity (e.g., Feinstein et al., 2012), internalized binegativity (e.g., Sarno et al., 2020),

and internalized transphobia/transnegativity (e.g., Israel et al., 2020; Veale et al., 2021), depending on the population studied and research questions asked. Each conceptualization represents unique constructs. However, a broad, inclusive conceptualization of internalized stigma writ large is employed for practical reasons in the current study given the broad sample (gay people will not experience binegativity, but bisexual people may experience internalized homonegativity).

Social Support.

Social support may also mediate relationships between community and well-being. Social support can be defined in a number of ways, including a) experiences of objective support, b) perception of overall support, and c) satisfaction with support (see Lakey & Cohen, 2015, for review). Research has suggested that perceptions of social support are most predictive of well-being (Procidano & Heller, 1983) and seem most appropriate for the current study, given that the questions being asked pertain to overall feelings and perceptions. LGBTQ research has followed a similar trend, measuring participants' perceptions of social support (Frost & Meyer, 2016; Sheets & Mohr, 2009).

Theory gives some indication that social support may play an indirect role in the associations between community involvement and well-being. One who is more involved with LGBTQ community, at various levels, may have more opportunities to experience social support and, thus, may perceive more social support, which may explain possible relationships with psychological well-being. Hanley and McLaren (2015) noted this possibility, suggesting that community involvement with other lesbians both in friendships and organizations and may lead to an overall higher sense of social support. However, no such intuitive explanation has been

offered for the possible impact of community belonging on social support. Petruzzella et al. (2019) suggested a more complex meditational relationship that is explained in the next subsection.

LGBTQ Community Belonging and Involvement.

Research suggests that both LGBTQ community belonging and community involvement are positively related to well-being, but it is unclear which variable is more proximal in that relationship. Given that the two community variables are likely positively related (based on findings that community connectedness is positively associated with a measure of behavioral involvement; Frost & Meyer, 2012), that each may lead to the other (i.e., feeling a sense of belonging may motivate involvement, and involvement may lead to feeling belonging), and that they are both associated with well-being, it makes sense to examine the community variables as potential mechanisms in the relationship between the each other and well-being. One study (Li et al., 2005) found that community involvement (i.e., attending social clubs for gay men) negatively predicted loneliness, but they also found evidence for a multi-mediational chain in which involvement predicted belonging which then inversely predicted loneliness. Other authors have suggested a similar dynamic (Hanley & McLaren, 2015). Thus, the current study aims to examine the community variables as mediators between each other and well-being, in addition to examining internalized stigma and social support as mechanisms between community and well-being.

Appendices

Appendix A: Demographic Form

How old are you? (text box)

Do you identify as transgender?
Yes
No

What of the following best describes your gender identity?
Male
Female
Non-binary
Gender queer
Trans man
Trans woman
Other (text box)

Which of the following best describes your race/ethnicity? (Please select all that apply)
African-American/Black
White
Hispanic/Latinx
Asian/Pacific Islander
East Asian
South Asian
Other (text box)

Which of the following best describes your sexual orientation? (Please select all that apply)
Homosexual/Gay
Bisexual
Heterosexual/Straight
Unsure/Questioning
Queer
Asexual
Other (text box)

Which of the following describes your highest level of education so far?
Professional Degree (e.g., PhD, MD)
Master's Degree
Some Graduate School Experience
Bachelor's Degree
Some Undergraduate School Experience

High School
Some High School

What is your total combined household income per year?
Less than $10,000
$10,000 - $19,999
$20,000 - $29,999
$30,000 - $39,999
$40,000 - $49,999
$50,000 - $59,999
$60,000 - $69,999
$70,000 - $79,999
$80,000 - $89,999
$90,000 - $99,999
$100,000 and above

What is your employment status (check all that apply)?
Employed full-time
Employed part-time
Self-employed
Full-time student
Part-time student
Furloughed
Unemployed
Unemployed and currently looking for work
Unemployed and NOT currently looking for work due to COVID concerns
Unemployed and NOT currently looking for work due to being retired
Unemployed and NOT currently looking for work due to being a stay-at-home parent or caregiver
Other (text box)

Which of the following best describes your political identity?
Very liberal
Mostly liberal
Moderate
Mostly conservative
Very conservative
Other (text box)

Please choose the option that best describes where you live.
Urban
Suburban
Rural

In which state do you currently reside? (Drop down menu)

Appendix B: LGBTQ Community Belonging

Please rate your level of agreement to the following items.
Scale: 1-4 (strongly disagree; strongly agree)

Items:
1. I wonder if I really fit in the LGBTQ+ community*
2. I am not sure if I fit with friends in the LGBTQ+ community*
3. I describe myself as a misfit in the LGBTQ+ community*
4. People accept me in the LGBTQ+ community
5. I am a piece of a jigsaw puzzle in the LGBTQ+ community
6. What I offer is valued in the LGBTQ+ community
7. I feel like an outsider in the LGBTQ+ community*
8. I have no place in the LGBTQ+ community*
9. I could disappear for days in the LGBTQ+ community*
10. I am the mainstream of society in the LGBTQ+ community
11. I observe life rather than participate in the LGBTQ+ community*
12. Few people would come to my funeral in the LGBTQ+ community*
13. I feel like a square peg in the LGBTQ+ community*
14. I don't really fit in the LGBTQ+ community*
15. My background and experiences are different than those in the LGBTQ+ community* 16. I do not see or call friends in the LGBTQ+ community*
17. I feel left out in the LGBTQ+ community*
18. I am not valued or important in the LGBTQ+ community*

* = reverse scored

Scoring: Responses are averaged, with possible scores ranging from 1-4 and high scores indicate high levels of LGBTQ community belonging.

Appendix C: Community Involvement

Please rate your level of agreement to the following items.

Scale: 1-5 (Strongly disagree; Strongly agree)

Items:
1. I do volunteer work in the LGBTQ+ community
2. I volunteer with LGBTQ+-focused charities or social services
3. I am involved with a sport team/organization for LGBTQ+ people
4. I spend time at a community center focused on the LGBTQ+ community
5. I am a member of an LGBTQ+ community group or organization
6. I am involved in a professional group (e.g., a business networking group) focused on the LGBTQ+ community
7. I am part of an unofficial LGBTQ+ community group (e.g., a book club, sports team, running club, etc.)
8. I watch television programs focused on an LGBTQ+ audience
9. I read blogs and other online content focused on the LGBTQ+ community
10. I watch television programs geared toward the LGBTQ+ community
11. I read magazines or newspapers geared toward the LGBTQ+ community
12. I do not read magazines or newspapers specifically focused on the LGBTQ+ communi-
13. I frequent LGBTQ+ bars/clubs
14. I hang out in places where I know I can socialize with other LGBTQ+ people I go to
15. parties where the guests tend to be other LGBTQ+ people
16. I spend time in places that are LGBTQ+ hangouts
17. I am politically active in the LGBTQ+ community
18. I participate in political activism related to LGBTQ+ issues
19. I am involved in LGBTQ+ interest activism
20. I am not involved in any political activism related to LGBTQ+ rights*

Note: * = reverse scored

Scoring: Items 12 and 20 are reverse scored. Responses are averaged, with possible scores ranging from 1-5 and high scores indicate high levels of community involvement.

Appendix D: Internalized Stigma

We are all members of different social groups or social categories. Some of such social groups or categories pertain to gender, race, religion, nationality, ethnicity, and socioeconomic class. We would like you to consider your identity as an LGBQ+ person and respond to the following statements on the basis of how you feel about the LGBTQ+ community and your membership in it. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale:

Scale: 1-5 (Strongly disagree; Strongly agree)

Items:
Over the past month...
1. I often regretted that I am an LGBQ+ person
2. I was glad to be an LGBQ+ person*
3. I often felt that LGBQ+ people were not worthwhile
4. I felt good about being an LGBQ+ person*

Note: * = reverse scored

Scoring: Items 2 and 4 are reverse scored. Responses are averaged, with possible scores ranging from 1-5 and high scores indicate high levels of internalized stigma.

Appendix E: Social Support

In answering the following questions, think about your current relationships with friends, family members, co-workers, community members, and so on. Please indicate to what extent each statement describes your relationships with other people over the past month. Use the following scale to indicate your opinion.

Scale: 1-4 (strongly disagree; strongly agree)

Items:

1. There are people I can depend on to help me if I really need it.
2. I feel that I do not have close personal relationships with other people. *
3. There is no one I can turn to for guidance in times of stress. *
4. There are people who depend on me for help.
5. There are people who enjoy the same social activities I do.
6. Other people do not view me as competent. *
7. I feel personally responsible for the well-being of another person.
8. I feel part of a group of people who share my attitudes and beliefs.
9. I do not think other people respect my skills and abilities. *
10. If something went wrong, no one would come to my assistance. *
11. I have close relationships that provide me with a sense of emotional security and well- being.
12. There is someone I could talk to about important decisions in my life.
13. I have relationships where my competence and skill are recognized.
14. There is no one who shares my interests and concerns. *
15. There is no one who really relies on me for their well-being. *
16. There is a trustworthy person I could turn to for advice if I were having problems.
17. I feel a strong emotional bond with at least one other person.
18. There is no one I can depend on for aid if I really need it. *
19. There is no one I feel comfortable talking about problems with. *
20. There are people who admire my talents and abilities.
21. I lack a feeling of intimacy with another person. *
22. There is no one who likes to do the things I do. *
23. There are people who I can count on in an emergency.
24. No one needs me to care for them. *

Note: * = reverse scored

Scoring: Items 2, 3, 6, 9, 10, 14, 15, 18, 19, 21, 22, 24 are reverse scored. Items are scored by averaging all responses, with possible scores ranging from 1-4 and high scores indicating high levels of perceived social support.

Appendix F: Anxiety

Over the past 2 weeks, how often have you been bothered by the following problems?

Scale: 1-4 (Not at all, Several days, More than half the days, Nearly every day)

Items:
1. Feeling nervous, anxious or on edge
2. Not being able to stop or control worrying
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it is hard to sit still
6. Becoming easily annoyed or irritable
7. Feeling afraid as if something awful might happen

Scoring: Responses are averaged, with possible scores ranging from 1-4 and high scores indicating high anxiety.

Appendix G: Depression

Below is a list of the ways you might have felt or behaved over the past 2 weeks. Please rate how often you have felt the following during the past 2 weeks.

Scale: 1-4 (Rarely or none of the time; Some a little of the time; Occasionally or a moderate amount of the time; Most or all of the time)

Items:

1. I was bothered by things that usually don't bother me
2. I did not feel like eating; my appetite was poor
3. Felt that I could not shake off the blues even with help from my family or friends 4. I felt that I was just as good as other people *
5. I had trouble keeping my mind on what I was doing
6. I felt depressed
7. I felt that everything I did was an effort
8. I felt hopeful about the future *
9. I thought my life had been a failure
10. I felt fearful
11. My sleep was restless
12. I was happy *
13. I talked less than usual
14. I felt lonely
15. People were unfriendly
16. I enjoyed life *
17. I had crying spells
18. I felt sad
19. I felt that people dislike me
20. I could not get "going"

Scoring: Items 4, 8, 12, and 16 are reverse scored. Responses are then averaged, with possible scores ranging from 1-4 and high scores will indicate high levels of depression.

Appendix H: Loneliness

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by answering with the following scale.

Scale: 1-4 (never, rarely, sometimes, often)

Items:

1. I feel in tune with the people around me *
2. I lack companionship
3. There is no one I can turn to
4. I do not feel alone *
5. I feel part of a group of friends *
6. I have a lot in common with the people around me *
7. I am no longer close to anyone
8. My interests and ideas are not shared by those around me 9. I am an outgoing person *
10. There are people I feel close to *
11. I feel left out
12. My social relationships are superficial
13. No one really knows me well
14. I feel isolated from others
15. I can find companionship when I want it *
16. There are people who really understand me *
17. I am unhappy being so withdrawn
18. People are around me but not with me
19. There are people I can talk to *
20. There are people I can turn to *

Note: * = reverse-scored

Scoring: Items 1, 4, 5, 6, 9, 10, 15, 16, 19, 20 are reverse scored. Responses are then averaged, with possible scores ranging from 1-4, and high scores will indicate high levels of loneliness.

Appendix I: Satisfaction With Life

Please rate your level of agreement to the following items over the past two weeks.

Scale: 5-point (strongly disagree, strongly agree)

Items:
1. In most ways my life is close to my ideal
2. The conditions of my life are excellent
3. I am satisfied with my life
4. So far I have gotten the important things I want in life
5. If I could live my life over, I would change almost nothing

Scoring: Responses were averaged, with possible scores ranging from 1-5, and high scores will indicate high levels of satisfaction with life.

Appendix J: PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have generally felt this way over the past 2 weeks.

Scale: 1-5 (Very slightly or not at all, A little, Moderately, Quite a bit, Extremely)

Items:
1. Interested
2. Excited
3. Strong
4. Enthusiastic
5. Proud
6. Alert
7. Inspired
8. Determined
9. Attentive
10. Active

Scoring: Responses are averaged, with possible scores ranging from 1-5, and high scores will indicate high levels of loneliness.

Appendix I: Inattentive Responding

Please respond with your level of agreement to the following items.

Scale: 1-5 (not at all true, very true)

Items:

In general...

1. I am an active person.
2. I have an active lifestyle.
3. I enjoy the company of my friends.
4. I like to spend time with my friends.
5. I enjoy relaxing in my free time.
6. In my time off I like to relax.
7. I am a very energetic person.
8. I have a lot of energy.
9. It frustrates me when people keep me waiting.
10. It's annoying when people are late.
11. I spend most of my time worrying.
12. I worry about things a lot.
13. I don’t like getting speeding tickets.*
14. It feels good to be appreciated.*
15. I’d rather be hated than loved.
16. I enjoy the music of Marlene Sandersfield.
17. My favorite subject is agronomy.
18. I don’t like being ridiculed or humiliated.*

Note: * = reverse-scored

Appendix K: Tables

Table 1

Descriptive Statistics and Bivariate Correlations of Main Variables

Variable	*M*	*SD*	*Min*	*Max*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Belonging (N = 171)	2.96	0.51	1.33	3.89	.33***	-.40***	.34***	-.35***	-.44***	-.30***	.24**	.26**
2. Involvement (N = 171)	3.06	0.69	1.35	4.50	—	-.07	.08	-.24**	-.17*	-.15	.32***	.23*
3. Internalized Stigma (N = 110)	1.67	0.77	1.00	4.50	—	—	-.37***	.23*	.36***	.17	-.11	-.12
4. Social Support (N = 109)	3.21	0.46	1.75	4.00	—	—	—	-.47***	-.84***	-.32***	.48***	.32***
5. Depression (N = 109)	2.19	0.67	1.05	3.70	—	—	—	—	.67***	.87***	-.70***	-.70***
6. Loneliness (N = 110)	2.13	0.57	1.05	3.45	—	—	—	—	—	.50***	-.61***	-.51***
7. Anxiety (N = 110)	2.32	0.87	1.00	4.00	—	—	—	—	—	—	-.53***	-.55***
8. Positive Affect (N = 108)	3.04	0.83	1.00	5.00	—	—	—	—	—	—	—	.66***
9. Satisfaction With Life (N = 108)	2.98	1.06	1.00	5.00	—	—	—	—	—	—	—	—

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

Note: Variables 1-2 are at Time 1, and variables 3-9 are at Time 2. Internalized stigma descriptive statistics are untransformed, whereas a logarithmic transformation was used in analyses to adjust for non-normal distribution. Correlations involving internalized stigma were based on the logarithmically transformed values. All statistics were generated using FIML estimation.

Table 2

Tests of Community Belonging and Community Involvement as Predictors of Facets of Well-Being

	Depression (T2)	Loneliness (T2)	Anxiety (T2)	Positive Affect (T2)	Life Satisfaction (T2)
Predictors	*B* (*SE*)	*B* (*SE*)	*B* (*SE*)	*B* (*SE*)	*B* (*SE*)
Hypothesis 1: Belonging as Predictor					
Outcome (T1)	0.91 (.06)***	0.82 (0.06)***	0.82 (0.07)***	0.76 (0.07)***	0.75 (0.06)***
Belonging (T1)	0.04 (0.08)	-0.07 (0.07)	0.04 (0.11)	0.01 (0.11)	0.20 (0.13)
Hypothesis 2: Involvement as Predictor					
Outcome (T1)	0.90 (0.06)***	0.84 (0.06)***	0.84 (0.06)***	0.73 (0.07)***	0.74 (0.06)***
Involvement (T1)	0.01 (0.06)	0.00 (0.05)	0.10 (0.08)	0.09 (0.09)	0.25 (0.10)**
Research Question 1: Belonging and Involvement as Predictors					
Outcome (T1)	0.91 (0.06)***	0.82 (0.06)***	0.84 (0.07)***	0.73 (0.07)***	0.74 (0.06)***
Belonging (T1)	0.04 (0.08)	-0.08 (0.07)	-0.01 (0.12)	-0.04 (0.12)	0.08 (0.14)
Involvement (T1)	-0.01 (0.06)	0.02 (0.05)	0.10 (0.09)	0.11 (0.10)	0.22 (0.11)*
Research Question 2: Types of Involvement as Predictors					
Outcome (T1)	0.88 (0.06)***	0.87 (0.06)***	0.83 (0.06)***	0.72 (0.07)***	0.75 (0.06)***
Community Activities (T1)	-0.03 (0.04)	0.00 (0.03)	-0.09 (0.05)	0.09 (0.06)	0.20 (0.06)**
Queer Media (T1)	-0.08 (0.06)	0.02 (0.05)	-0.06 (0.08)	-0.04 (0.09)	-0.12 (0.10)

Nightlife (T1)	0.02 (0.06)	0.04 (0.05)	0.16 (0.08)*	0.05 (0.09)	0.08 (0.10)
Political Activism (T1)	0.12 (0.06)*	-0.07 (0.05)	0.22 (0.08)**	-0.10 (0.09)	-0.10 (0.10)

Note: T1 = Time 1; T2 = Time 2; Outcome (T1) = T1 measurement of well-being outcome.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Tests of Indirect Effects of Community Variables on Facets of Well-Being

Predictor (T1)	Mediator (T2)	*a* path *B* (*SE*)	*b* path *B* (*SE*)	Indirect effect [95% CI]
Indirect Effects on Depression (T2)				
Belonging	Involvement	0.10 (0.10)	0.00 (.05)	[-0.01, 0.01]
Belonging	Internalized Stigma	-0.12 (0.06)*	0.05 (0.11)	[-0.04, 0.02]
Belonging	Social Support	0.05 (0.06)	-0.18 (0.09)	[-0.04, 0.01]
Involvement	Belonging	0.07 (0.05)	0.04 (0.08)	[-0.01, 0.02]
Involvement	Internalized Stigma	-0.03 (0.04)	0.02 (0.10)	[-0.01, 0.00]
Involvement	Social Support	0.01 (0.04)	-0.17 (0.09)	[-0.02, 0.02]
Indirect Effects on Loneliness (T2)				
Belonging	Involvement	0.09 (0.10)	-0.02 (0.04)	[-0.02, 0.01]
Belonging	Internalized Stigma	-0.12 (0.06)*	0.15 (0.09)	[-0.05, 0.00]
Belonging	Social Support	0.06 (0.06)	-0.67 (0.08)***	[-0.12, 0.04]
Involvement	Belonging	0.08 (0.05)	-0.26 (0.07)***	[-0.05, 0.00]
Involvement	Internalized Stigma	-0.03 (0.04)	0.16 (0.09)	[-0.02, 0.01]
Involvement	Social Support	0.01 (0.04)	-0.67 (0.08)***	[-0.06, 0.05]
Indirect Effects on Anxiety (T2)				

Belonging	Involvement	0.09 (0.10)	0.13 (0.07)	[-0.01, 0.05]
Belonging	Internalized Stigma	-0.13 (0.06)*	0.15 (0.15)	[-0.07, 0.02]
Belonging	Social Support	0.05 (0.06)	-0.04 (0.13)	[-0.03, 0.02]
Involvement	Belonging	0.07 (0.05)	-0.06 (0.11)	[-0.03, 0.01]
Involvement	Internalized Stigma	-0.03 (0.04)	0.12 (0.14)	[-0.02, 0.01]
Involvement	Social Support	0.01 (0.04)	-0.03 (0.12)	[-0.01, 0.01]
		Indirect Effects on Positive Affect (T2)		
Belonging	Involvement	0.09 (0.10)	0.13 (0.08)	[-0.01, 0.05]
Belonging	Internalized Stigma	-0.12 (0.06)*	-0.13 (0.16)	[-0.02, 0.07]
Belonging	Social Support	0.05 (0.06)	0.43 (0.14)**	[-0.03, 0.08]
Involvement	Belonging	0.07 (0.05)	0.03 (0.11)	[-0.02, 0.02]
Involvement	Internalized Stigma	-0.03 (0.04)	-0.10 (0.15)	[-0.01, 0.02]
Involvement	Social Support	0.01 (0.04)	0.43 (0.14)**	[-0.03, 0.05]
		Indirect Effects on Satisfaction with Life (T2)		
Belonging	Involvement	0.09 (0.10)	0.23 (0.09)	[-0.02, 0.08]
Belonging	Internalized Stigma	-0.12 (0.06)*	0.15 (0.19)	[-0.08, 0.03]
Belonging	Social Support	0.05 (0.60)	0.26 (0.16)	[-0.02, 0.06]
Involvement	Belonging	0.07 (0.05)	0.13 (0.13)	[-0.01, 0.04]
Involvement	Internalized Stigma	-0.03 (0.04)	0.06 (0.17)	[-0.02, 0.02]

Involvement	Social Support	0.01 (0.04)	0.27 (0.15)	[-0.02, 0.03]

Note: T1 = Time 1; T2 = Time 2. T1 measurements of mediators and outcomes were included as covariates in all analyses.

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

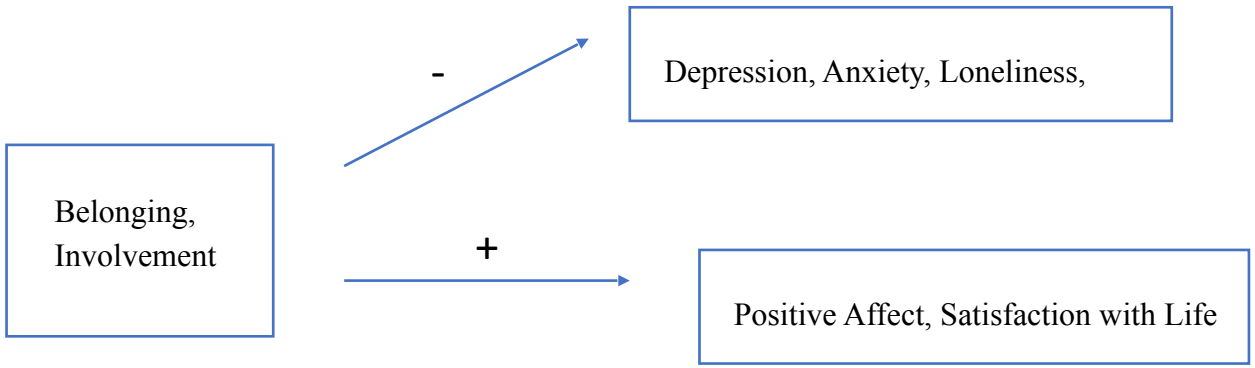

Figure 1 (Main Effects of Belonging and Involvement on Well-Being): This figure depicts community belonging and involvement as predicting various facets of well-being. The hypothesized directions were the same between belonging an involvement.

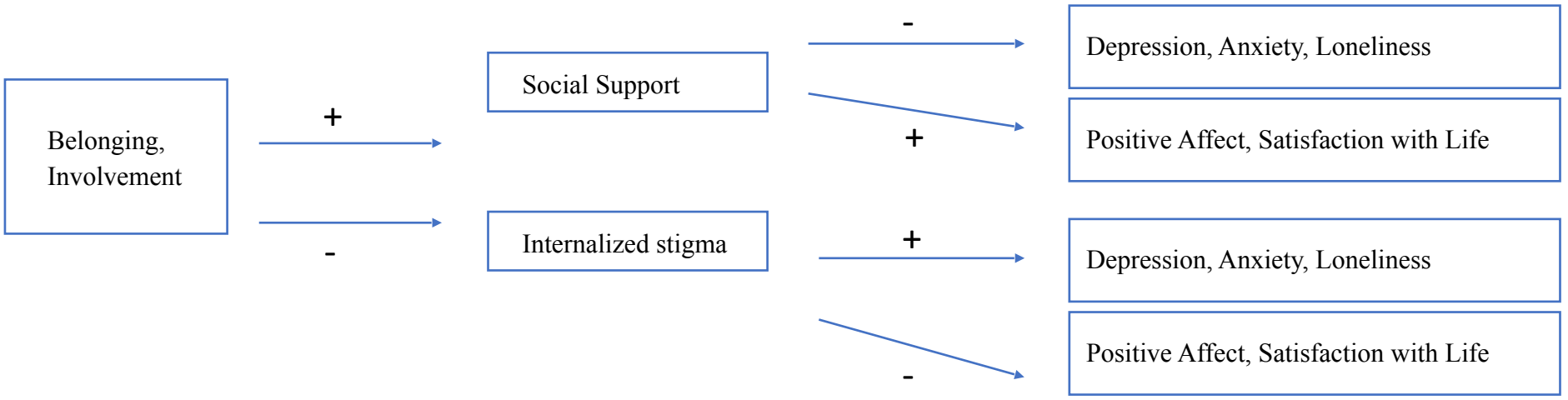

Figure 2 (Mediation Analyses Testing Social Support and Internalized Stigma): This figure depicts social support and internalized stigma as mediators of the relationship between belonging and involvement and various facets of well-being.

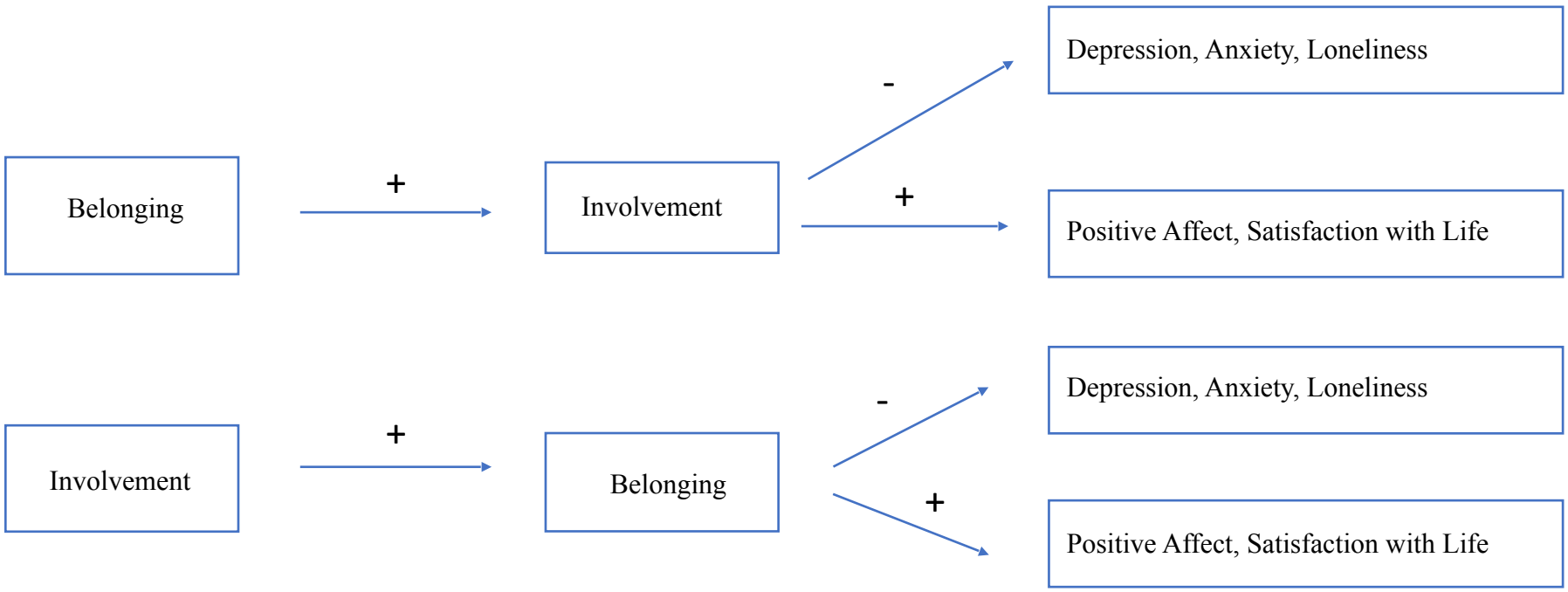

Figure 3 (Mediation Analyses Testing Belonging and Involvement): This figure depicts community belonging and involvement as mediators of the relationship between each community variable and various facets of well-being.

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