LGBTQ+ mental health during the COVID-19 pandemic:

Testing mechanisms and moderators of risk

Sarah E. Victor, PhD

Terry H. Trieu, MA

Nicole E. Seymour, MA

Texas Tech University

Department of Psychological Sciences

Author Note

The authors have no conflicts of interest to disclose.

Correspondence concerning this article should be addressed to Sarah Victor, Box 42051, Lubbock, TX 79409-2051. Email: Sarah.Victor@ttu.edu

Draft Version 1.0, 7/16/2021. This paper has not yet been peer reviewed. Please do not reproduce without authors' permission.

Abstract

The COVID-19 pandemic has created tremendous, and unequal, burdens on mental and physical health throughout the United States. Prior work suggests that LGBTQ+ individuals have experienced disproportionate harms due to the COVID-19 pandemic, but potential mechanisms underlying these disparities remain unclear. In a large ($N = 893$) sample of U.S. LGBTQ+ adults, we examined four theoretically derived risk factors as potential contributors to depression, anxiety, and suicidal ideation during the summer of 2020. Stressors and disruptions due to the COVID-19 pandemic were common, with over 25% of participants experiencing changes in their living situation, 40% reporting interruptions in health care access, and high levels stress due to social isolation, financial concerns, and increased mental health symptoms. We found that social disconnection, disruptions in health care, financial strain, and efforts to avoid disclosing one's sexual orientation or gender identity at home were each associated with poorer mental health, with the largest effects evident for identity disclosure avoidance. Transgender and gender diverse adults reported poorer mental health overall, but gender identity did not moderate the effects of other tested risk factors. Results highlight the importance of considering LGBTQ+ mental health in the context of minority-specific stress processes, in addition to more general social determinants of health.

Keywords: COVID-19, gender identity, minority stress, mental health disparities

Public Significance Statement: The COVID-19 pandemic has created disproportionate burdens on minoritized groups, including LGBTQ+ people. Our results suggest that poor mental health among LGBTQ+ adults may be driven by both general and minority-specific stress processes, with implications for developing appropriate interventions to support LGBTQ+ well-being.

LGBTQ+ mental health during the COVID-19 pandemic:

Testing mechanisms and moderators of risk

The COVID-19 (novel coronavirus) pandemic has contributed to unprecedented social, cultural, and economic changes in the United States and around the world (Cooke et al., 2020; Singh & Singh, 2020). It is thus unsurprising that many people have experienced worsening mental health as a result of the pandemic. According to one study, the global estimated prevalence of depression in 2020 was 7 times higher than in 2017, suggesting a notable impact of the COVID-19 outbreak on people's mental health (Bueno-Notivol et al., 2021). In a large longitudinal cohort study in the United Kingdom (UK), participants experienced reduced well-being following the onset of the pandemic, and the rate of probable anxiety disorders almost doubled from pre-pandemic levels (Kwong et al., 2021). In the United States, a similarly designed study found that recent suicidal ideation increased more than fourfold over pre- to post-pandemic period (Raifman et al., 2020).

Although the COVID-19 pandemic has impacted people globally, the mental health effects of the pandemic are not equally distributed. In the UK, anxiety disorder symptoms were markedly higher for people with preexisting mental health conditions, lower socioeconomic status, worse physical health, less educational attainment, and younger age (Kwong et al., 2021); in the US, suicidal ideation and emotional distress were elevated in similar groups, as well as in minoritized racial and ethnic populations (McGinty et al., 2020; Raifman et al., 2020). These discrepancies in mental health outcomes may be associated with financial concerns and reduced access to care; in a study of diverse Chicago residents, racial and ethnic minorities were more likely than non-Hispanic white participants to report difficulties accessing food and sanitation supplies as well as telehealth mental health treatment (Ruprecht et al., 2021).

COVID-19 and Minoritized Sexual Orientation and Gender Identity Populations

In spite of broad recognition that the COVID-19 pandemic is likely to exacerbate health disparities experienced by marginalized groups, relatively little empirical work has focused on sexual orientation or gender identity as characteristics that may worsen mental health outcomes related to COVID-19. Several commentaries have called for greater efforts to collect data on sexual orientation and gender identity in ongoing COVID-19 research (Phillips et al., 2020; Salerno et al., 2020), but large cohort-based studies and government reports have not yet provided these data. The evidence that has been examined was often limited by small sample sizes and/or restrictive inclusion criteria that hamper generalizability across the sexual orientation and gender identity spectrum (hereafter referred to as LGBTQ+).

Prior to the COVID-19 pandemic, disparities in mental health among minoritized gender and sexual identity populations has been well-documented. Compared to their heterosexual counterparts, lesbian, gay, and bisexual (LGB) respondents are more likely to report depression and mental distress (Gonzales & Henning-Smith, 2017), substance use (Schuler et al., 2019), and non-suicidal self-injury (Liu et al., 2019). Additionally, compared to their cisgender counterparts, transgender respondents have higher odds of depression (Su et al., 2016) and non-suicidal self-injury (Liu et al., 2019). Of great import, LGBTQ+ people have higher reported rates of attempted suicide than cisgender/heterosexual individuals (di Giacomo et al., 2018). Large population-based studies suggest that the lifetime prevalence of attempted suicide is 4% for heterosexual adults, compared to 11% for LGB individuals (Hottes et al., 2016); transgender individuals have an even higher reported suicide attempt rate, at 41% (Grant et al., 2011). In spite of these findings, there is limited data collection regarding gender and sexuality in health care and research settings, which has impeded understanding of LGBTQ+-specific physical and

mental health care needs (Haas & Lane, 2015; Streed et al., 2020), and extant work documenting health disparities evidence among LGBTQ+ individuals has not translated into improved clinical care (Cahill & Makadon, 2013).

The largest recent studies examining the consequences of the COVID-19 pandemic on LGBTQ+ communities were focused solely on people with minoritized sexual identities. In an online sample of adult men who have sex with men in the US ($N = 1051$, Sanchez et al., 2020), a range of negative outcomes were reported, including increased anxiety (73%), decreased quality of life (69%), less connection to friends (56%), and loss of employment due to COVID-19 (19%). In a sample of lesbian, gay, or bisexual adults in Hong Kong ($N = 857$; Suen et al., 2020), nearly one-third of respondents reported experiencing symptoms consistent with probable clinical depression, and over one-fourth reported experiencing symptoms consistent with probable generalized anxiety disorder.

Extending on this work, Rodriguez-Seijas and colleagues (2020) directly compared LGBTQ+ individuals to cisgender and heterosexual adults in the US, finding that LGBTQ+ participants reported significantly elevated depression, but not stress or worry, compared to cisgender/heterosexual participants (Rodriguez-Seijas et al., 2020). Additionally, a study of LGBTQ+ college students found that almost two-thirds of participants reported frequent mental distress, and 13% were unable to access mental health care due to stay at home orders (Gonzales et al., 2020).

These findings highlight the disproportionate toll that the COVID-19 pandemic has had on LGBTQ+ individuals; however, the mechanisms underlying these associations are less clear. In this study, we will examine four possible contributors to disparities: social distancing, reduced

health care accessibility, increased experiences of minority stress, and financial/economic stressors.

Social Distancing and LGBTQ+ Mental Health

Social distancing efforts, including stay at home orders, may contribute to perceptions of loneliness (Tull et al., 2020) and thwarted belongingness (Gratz et al., 2020) in relation to others. Although some data suggest that state-wide social distancing policies do not directly impact mental health outcomes in the general population (Bryan et al., 2020), there is some evidence that they may contribute to suicide risk specifically through changes in thwarted belongingness (Gratz et al., 2020). Further, among individuals with recent suicidal ideation, perceived impact of social distancing on daily life has been positively associated with increased risk of suicidal behavior (Ammerman et al., 2021).

LGBTQ+ individuals may be at greater risk of negative outcomes due to social distancing because they are more likely to experience social ostracism, interpersonal victimization, isolation, and loneliness than their cisgender/heterosexual peers (Coulter et al., 2017; Eres et al., 2021; Myers et al., 2020). Qualitative research with LGBTQ+ youth suggests that school shutdowns and social distancing have reduced access to supportive friends and staff at school, as well as LGBTQ+-serving organizations in the community (Fish et al., 2020). Quantitative data support these patterns; in one study, 60% of adults with minoritized sexual identities reported that the COVID-19 pandemic had reduced their social contact with friends, and 35% reported reduced connection to the LGBTQ+ community (Suen et al., 2020). Other US-based research suggests that social distancing may be associated with lower community pride in LGBTQ+ emerging adults (Scroggs et al., 2020) and that LGBTQ+ individuals are more likely to feel alone or isolated than cisgender/heterosexual adults (Ruprecht et al., 2021).

LGBTQ+ Access to Health Care

Accessibility of mental and physical health care has been dramatically reduced and changed as a result of the COVID-19 pandemic (Patel et al., 2021), especially for those who experience barriers to telehealth services (Lin et al., 2018). Given that LGBTQ+ individuals are more likely to have received a mental health diagnosis (Russell & Fish, 2016) and to seek out mental health treatment (Cadigan et al., 2019) relative to cisgender/heterosexual people, changes in health care accessibility may disproportionately impact LGBTQ+ individuals, especially given the paucity of mental health providers with competency in treating LGBTQ+ people (Nowaskie et al., 2020). Additionally, engaging in treatment from home through telehealth services may be difficult for LGBTQ+ individuals, as they may lack a private space to conduct telehealth services while living with people who disapprove of their sexual orientation or gender identity (Fish et al., 2020). Further, transgender and gender diverse (TGD) individuals often receive gender-affirming medical interventions, such as hormone therapy, which is likely to be interrupted due to COVID-19 (van der Miesen et al., 2020). Gender-affirming care itself is known to improve mental health outcomes in TGD people, and lack of access may itself contribute to additional health disparities (Hughto et al., 2020).

Although not extensively studied to date, there is some evidence that disparities in access to health care exist for LGBTQ+ individuals and have negative implications for their well-being. Among adults recruited from the Chicago area, participants with minoritized sexual identities were more likely to have a mental health provider than heterosexual participants, but in spite of this, were less likely to have access to telehealth mental health care (Ruprecht et al., 2021). Among LGBTQ+ college students, those who were unable to access mental health care due to

social distancing orders reported higher levels of distress than LGBTQ+ college students whose care was not impacted (Gonzales et al., 2020).

Minority Stress and LGBTQ+ Mental Health

Minority stress can be conceptualized as experiences that contribute to poor physical and mental health outcomes in members of marginalized groups (Meyer, 2003). Although originally developed in relation to minoritized racial groups (Williams, 1999), minority stress theories have since been extended to sexual orientation (Meyer, 2003) and gender identity (Testa et al., 2015). In this context, minority stress can include both internal processes (internalized homophobia/transphobia, concealment of one's identity, fear and mistrust related to concerns about victimization) and external stressors (victimization, discrimination, rejection, and non-affirmation of one's identity). Although minority stress constructs have not been explicitly examined in relation to the impact of COVID-19 on LGBTQ+ individuals, preliminary work suggests there is cause for concern in this domain. Data from Italy suggests that increased pandemic-related unemployment predicts both decreased acceptance of LGBTQ+ individuals, and increased acceptability of discrimination towards LGBTQ+ people (Mattei et al., 2020), which is consistent with prior work indicating that economic recessions exacerbate prejudices against minoritized groups (Bianchi et al., 2018; Butz & Yogeewaran, 2011). Even if these beliefs do not lead to overt discrimination, LGBTQ+ people may be justifiably distressed over the fear of these outcomes, which itself contributes to minority stress (Casey et al., 2019).

There is also the possibility that changes in one's living and working environments may exacerbate the desire to conceal one's sexual orientation or gender identity and/or negative interactions with others as a result of one's LGBTQ+ status. This may be particularly true for younger LGBTQ+ people, who may be spending more time with unsupportive family members

due to the closures of K-12 schools and institutions of higher education (Fish et al., 2020; Gonzales et al., 2020). In fact, LGBTQ+ college students living with less supportive individuals reported greater emotional distress than LGBTQ+ students living with families with supportive or neutral views, although it is unclear whether this result is driven specifically by unsupportive family, family who are unaware of the student's LGBTQ+ identity, or both (Gonzales et al., 2020). In a mixed age sample of adults with minoritized sexual identities, family conflict related to sexual orientation was relatively uncommon (4%), but this type of conflict was a significant predictor of depressive symptoms in multivariate models and was particularly pernicious for participants who reported financial concerns (Suen et al., 2020).

Economic Precarity and LGBTQ+ Mental Health

LGBTQ+ individuals disproportionately experience economic precarity, including unstable housing (Baams et al., 2019), fewer financial resources (Badgett, 2018), and reduced educational and occupational attainment (Aragon et al., 2014). In a study of adults with minoritized sexual identities in Hong Kong, almost half reported that the COVID-19 pandemic had a moderate to large negative impact on their finances (Suen et al., 2020); the impact may be larger in the US, which has provided far less government support for its citizens compared to other countries (Moffitt & Ziliak, 2020). Several studies have demonstrated that these factors contribute to poorer mental health during the COVID-19 pandemic (Kwong et al., 2021; McGinty et al., 2020; Raifman et al., 2020), although this has not been directly compared between LGBTQ+ and heterosexual/cisgender individuals. Given that LGBTQ+ people may be more likely to lose a job due to discrimination (Kattari et al., 2016), and have fewer financial resources, on average, to buffer against acute economic stressors (Badgett, 2018), the impact of

the COVID-19 pandemic on financial and economic security may disproportionately impact LGBTQ+ people.

Intersectional Approaches to LGBTQ+ Health Disparities

Although frequently discussed and studied as a single group, members of the LGBTQ+ community vary in myriad ways that may have implications for understanding pandemic-related health disparities. In particular, prior research has demonstrated that, compared to gay and lesbian individuals, bisexual people and other sexual minorities experience poorer mental health outcomes (Gonzales & Henning-Smith, 2017) and greater risk of suicidal thoughts and behaviors (di Giacomo et al., 2018). Transgender people also, on average, report poorer mental health than cisgender sexual minorities (Su et al., 2016), and people who identify outside the gender binary (e.g., non-binary, genderqueer) experience worse mental health than binary transgender people (Price-Feeney et al., 2020). Thus, specific subgroups that fall under the LGBTQ+ umbrella may have even greater challenges during the COVID-19 pandemic.

Most of the published research in this domain has lacked the statistical power and sample size to compare subgroups of LGBTQ+ individuals, but what has been examined supports the possibility of intragroup heterogeneity in COVID-19's impacts. Among LGBTQ+ college students, sexual minorities who did not identify as gay or lesbian reported greater distress than gay or lesbian participants, and TGD participants reported greater distress than cisgender sexual minorities (Gonzales et al., 2020). In a sample of adults with minoritized sexual identities assessed during the COVID-19 pandemic, bisexual and pansexual participants reported greater depression, but not anxiety, relative to gay and lesbian participants (Suen et al., 2020). These patterns may be due to the additional minority stress experienced by individuals who exist

outside of traditional sex and gender binaries (Lefevor et al., 2019), in part due to lack of connectedness or inclusivity within the LGBTQ+ community (Parmenter et al., 2020).

The Present Study Aims and Hypotheses

Prior studies have been limited both by small sample sizes of LGBTQ+ individuals and an inability to examine potential mechanisms that contribute to mental health disparities in response to the COVID-19 pandemic. Here, we will examine data from a large ($N = 893$) cross-sectional study of US LGBTQ+ adults collected from August to October 2020, several months into the experience of the COVID-19 pandemic in the United States. Data were collected for an ongoing study examining the relationship between minority stress, thwarted interpersonal needs, and suicidal ideation in LGBTQ+ adults, with a specific interest in the role that outness regarding one's sexual orientation or gender identity plays in moderating the association between minority stress and suicidal ideation. Participants completed measures assessing demographic characteristics, impacts of and stressors related to the COVID-19 pandemic, anxiety, depression, and suicidal ideation. In addition to providing descriptive data on the presence and impact of a variety of stressors related to COVID-19 in this population, we tested the following hypotheses:

Hypothesis 1. Social disconnection from others will be positively associated with depression, anxiety, and suicidal ideation.

Hypothesis 2. Participants who experienced a disruption in physical or mental health care due to the COVID-19 pandemic will report greater depression, anxiety, and suicidal ideation compared to participants without such interruptions.

Hypothesis 3. Greater avoidance of disclosure of one's LGBTQ+ identity to the people one lives with will predict increased depression, anxiety, and suicidal ideation.

Hypothesis 4. Financial and economic strain will be positively associated with depression, anxiety, and suicidal ideation.

Exploratory Aims. Examine whether relationships tested above differ between cisgender and TGD participants, gay/lesbian and other non-heterosexual participants, and non-Hispanic white participants and participants with minoritized racial/ethnic identities.

Methods

Participants and Procedures

These data were drawn from a larger cross-sectional study examining minority stress, outness, thwarted interpersonal needs, and suicidal ideation in LGBTQ+ adults. The larger study aims, recruitment strategy, methods, and hypotheses were preregistered (MASKED FOR REVIEW); however, the analyses reported here were secondary and not preregistered. In order to be eligible, participants had to be at least 18 years old, identify as LGBTQ+, reside within the US, hold US citizenship (for payment purposes), and be able to complete study measures in English. The study was open to enrollment from August 13, 2020 through October 6, 2020. Advertisements targeting LGBTQ+ adults were posted on social media (Facebook, Twitter, Instagram), on relevant forums (Reddit), and emails to LGBTQ+ listservs. Advertisements were also shared via a campus email listserv for the authors' university, as well as in local settings where flyers were permissible surrounding campus (e.g., coffee shops).

Individuals interested in participating were directed to a survey hosted on Qualtrics, which first displayed the study consent form. If individuals completed the form to provide their consent to participate, they were then directed to complete a series of surveys. Participants had the option to enter a drawing for one of several \$50 Amazon gift cards; 1 gift card was awarded per 100 participants. Participants could stop participation at any time and were provided with a list of

mental health and crisis resources on each page of the survey. Participation was entirely anonymous, and the contact information provided for the drawing was kept separate from the survey responses themselves. All study procedures were approved by the Institutional Review Board at the authors' university (MASKED FOR REVIEW).

In total, 998 individuals consented to participate in the study, and 905 of these completed at least part of the measure assessing COVID-19 pandemic-related stressors. Of these 905 responses, 12 were removed because participants indicated that they were not LGBTQ+ (e.g., identified as both heterosexual and cisgender), leaving 893 eligible participants with usable data.

Measures

Demographic Characteristics

Gender identity was assessed by a single item which included six response options, as well as an option to self-report a gender identity not listed. Sexual orientation was assessed by a single item which included seven response options, as well as an option to self-report a sexual orientation that was not listed. Specific response options for both items are listed in Table 1. Participants also provided self-reported age (in years), ethnicity (Hispanic/Latino/a/x or not Hispanic/Latino/a/x), and race (five response options, plus an option to self-report a racial identity not listed, multiple response options permitted).

Disruptions in Health Care

Participants responded to a single item which asked, "Have you experienced an interruption in your medical care due to the coronavirus outbreak?" Participants could mark more than one response to indicate disruptions in medical care related to their sexuality and/or gender, related to mental health care, related to another health condition, or no interruptions.

Sexual Orientation and Gender Identity Disclosure

Participants who did not report living alone ($n = 744$) were asked about the extent to which others they lived with were aware of their sexual orientation and/or gender identity. Participants were asked, “Are the people you are primarily living with/social distancing with aware of your sexual identity and gender identity (meaning they are aware of whether you consider yourself LGBTQ+)?” Response options ranged from 1 (*not at all aware*) to 5 (*extremely aware*).

Participants living with others were also asked about their avoidance of topics related to their sexual orientation and/or gender identity. Participants who identified as any sexual orientation other than heterosexual were asked, “During the coronavirus outbreak, how often do you avoid talking about topics related to or otherwise indicating your sexual identity (e.g., not talking about your significant other, changing your mannerisms, avoiding partner’s pronouns) when interacting with the person/people you have you primarily been living/social distancing with?” This item was rated on a scale from 0 (*never*) to 10 (*always*). Participants who indicated a gender identity other than cisgender were asked, “During the coronavirus outbreak, how often do you avoid talking about topics related to or otherwise indicating your gender identity (e.g., not talking about your significant other, changing your mannerisms, avoiding pronouns when you otherwise would not do so) when interacting with the person/people you have you primarily been living/social distancing with?” Participants could respond to both items as applicable; if so, the maximum value was used for analysis.

COVID-19 Stressors and Impacts

The COVID-19 Family Stress Screener (Huth-Bocks, 2021) was used to assess the impact of COVID-19 on a variety of domains. Participants were asked, “Because of COVID-19 related events and changes, I have felt increased stress about” 10 domains, each of which were rated from 1 (*strongly disagree*) to 5 (*strongly agree*). An additional item was added for this specific study to

assess stress related to interruptions in medical care, and descriptive items were added to assess changes to one's living situation due to COVID-19.

Financial/economic strain was measured as the average of three items, which measured stress related to housing or utilities, food running out or becoming unavailable, and losing a job or decrease in family income; these items showed adequate internal consistency (Cronbach's $\alpha = .76$). Social disconnection was assessed using a single item on stress related to loss of social connections or social isolation.

Depression and Anxiety

Depression and anxiety were assessed using the Depression, Anxiety, Stress Scales 21-item version (DASS-21; Lovibond & Lovibond, 1995a). The DASS-21 is a well-validated and commonly used measure of past week depression and anxiety symptoms (Lee, 2019; Scholten et al., 2017), and has stronger differentiation between depression and anxiety symptoms than other well-known scales (Lovibond & Lovibond, 1995b). Items are scored on a scale from 0 (*not at all*) to 3 (*very much*), with subscale scores multiplied by two to match norms derived from the full-length (42-item) version. Internal consistency in this sample was excellent for depression (Cronbach's $\alpha = .91$) and good for anxiety (Cronbach's $\alpha = .84$) subscales.

Suicidal Ideation

Suicidal ideation in the past two weeks was assessed using the Negative Suicidal Ideation subscale of the Positive and Negative Suicide Ideation scale (PANSI; Osman et al., 1998). Items are scored from 1 (*none of the time*) to 5 (*most of the time*) and summed to create a composite score. The Negative Suicidal Ideation subscale showed excellent internal consistency in this sample (Cronbach's $\alpha = .96$).

Analytic Plan

First, we examined descriptive data on COVID-19 related changes and stressors, which use means and standard deviations for interval variables and percentages for binary or categorical variables. Second, we examined whether our outcomes of interest (depression, anxiety, suicidal ideation) varied on the basis of demographic characteristics, such as age, gender identity, sexual orientation, or race/ethnicity using independent-samples *t*-tests (for binary variables) or Pearson's correlation coefficients (for interval variables); results are presented using Cohen's *d* as a standardized measure of effect size with 95% confidence intervals. Demographic characteristics associated with outcomes of interest were then included as covariates in later analyses.

Primary analyses were conducted using linear regression, in which depression, anxiety, or suicidal ideation were the outcomes of interest, covariates were entered as predictors in block one, and predictors of interest were entered in block two. All results are presented using standardized regression coefficients.

Missing data was relatively sparse. Across 893 participants, three or fewer were missing data on COVID-19 related stressors and avoidance of LGBTQ+ identity disclosure. Suicidal ideation outcome data were missing for 47 participants (5.26%), and DASS-21 scores were missing for 54 participants (6.05%). Missing data were handled using pairwise deletion for specific analyses of interest.

Results

Participant Characteristics

Participants ranged in age from 18 to 76 ($M = 27.6$, $SD = 9.0$), with a median age of 25.5, and a majority ($n = 664$, 75.89%) were non-Hispanic white. 590 (66.07%) of participants were cisgender and a member of a minoritized sexual identity group, 298 (33.37%) endorsed both a gender minority identity (TGD) and sexual orientation, and 5 (0.56%) identified as TGD and

heterosexual. Of the cisgender participants with minoritized sexual identities, one-third identified as gay or lesbian ($n = 199$, 33.73%), with most identifying as bisexual, queer, pansexual, questioning, asexual, or another sexual orientation. For additional demographic characteristics, see Table 1.

TGD participants were, on average, younger than cisgender participants ($t(890) = 2.50$, $p = .01$, $d = 0.18$, 95% CI = [0.04, 0.32]), and among cisgender participants, those who identified as gay or lesbian were older than participants with other minoritized sexual identities ($t(299.93) = 4.11$, $p < .001$, $d = 0.40$, 95% CI = [0.23, 0.57]). There was no relationship between race/ethnicity (operationalized as the proportion of participants identifying as non-Hispanic white relative to other racial/ethnic groups) and TGD gender identity ($\chi^2(1) = 0.89$, $p = .35$, $d = 0.09$, 95% CI = [-0.09, 0.26]) or identification as gay/lesbian relative to other sexual orientations ($\chi^2(1) = 3.28$, $p = .07$, $d = 0.22$, 95% CI = [-0.02, 0.45]).

Consistent with prior literature (Borgogna et al., 2019; Fredriksen-Goldsen et al., 2011; Irwin et al., 2014), TGD participants exhibited higher levels of depression ($t(837) = 6.15$, $p < .001$, $d = 0.45$, 95% CI = [0.30, 0.59]), anxiety ($t(512.48) = 4.92$, $p < .001$, $d = 0.37$, 95% CI = [0.23, 0.52]), and suicidal ideation ($t(491.30) = 4.17$, $p < .001$, $d = 0.32$, 95% CI = [0.18, 0.46]) when compared to their cisgender peers. Thus, TGD status was entered as a predictor and moderator in subsequent regression analyses.

Non-Hispanic white participants did not differ from participants of other racial/ethnic backgrounds in depression ($t(822) = 0.47$, $p = .64$, $d = 0.04$, 95% CI = [-0.12, 0.20]) or anxiety ($t(822) = 0.72$, $p = .47$, $d = 0.06$, 95% CI = [-0.10, 0.22]), but did report lower suicidal ideation ($t(321.18) = 2.94$, $p = .004$, $d = 0.26$, 95% CI = [0.10, 0.42]) than members of minoritized racial/ethnic groups. Further, non-Hispanic white participants living with others reported lower

levels of disclosure avoidance related to their sexual orientation and/or gender identity when compared to participants of other racial/ethnic groups ($t(724) = 3.89, p < .001, d = 0.33, 95\% \text{ CI} = [0.17, 0.50]$). Thus, race/ethnicity was included as a covariate in models with suicidal ideation as the outcome and/or disclosure avoidance as a predictor. Age was significantly negatively correlated with depression ($r = -0.17, p < .001$), anxiety ($r = -0.19, p < .001$), and suicidal ideation ($r = -0.17, p < .001$), and was included as a covariate in all models.

Nature of COVID-19 Pandemic-Related Stressors and Impacts

Disruptions and stressors related to the COVID-19 pandemic were common in this sample (see Table 2 for detailed descriptive information). Over one-quarter ($n = 237, 26.54\%$) reported their living situation had changed due to COVID-19. Of those who were living with others, a majority ($n = 464, 62.37\%$) felt that the people they lived with were very or extremely aware of their sexual orientation and/or gender identity. As participants rated level of avoidance of indicators of sexual orientation and gender identity separately, comparisons were possible across these domains. TGD and cisgender participants did not differ in avoidance of sexual orientation indicators ($t(735) = 0.51, p = .61, d = 0.04, 95\% \text{ CI} = [-0.11, 0.19]$), but TGD participants' avoidance of gender identity indicators was higher than cisgender participants' avoidance of sexual orientation indicators ($t(480.41) = 3.84, p < .001, d = 0.31, 95\% \text{ CI} = [0.16, 0.46]$). Among TGD participants, avoidance of gender identity indicators was significantly higher than avoidance of sexual orientation indicators ($t(255) = 6.46, p < .001, d = 0.40, 95\% \text{ CI} = [0.28, 0.53]$).

A large proportion of participants ($n = 362, 40.54\%$) reported experiencing COVID-19-related disruptions in health care, most commonly related to mental health care ($n = 237, 26.54\%$). Health care disruptions were more common in TGD, relative to cisgender, participants

($\chi^2(1) = 12.11, p = .001, d = 0.27, 95\% \text{ CI} = [0.12, 0.43]$), and this remained true after removing sexuality or gender care disruptions ($\chi^2(1) = 7.58, p = .006, d = 0.22, 95\% \text{ CI} = [0.06, 0.38]$).

Of the eleven stressors assessed on the COVID-19 Family Stress Screener, highest levels of agreement were found for elevated anxiety/depression ($M = 4.34, SD = 0.99$) and loss of social connections/social isolation ($M = 4.22, SD = 1.01$). Items tapping concerns about children had the lowest levels of endorsement; as no items were administered to assess parental/caregiving responsibilities, this may be due to low levels of agreement among individuals without caregiving responsibilities, rather than low levels of stress related to childrearing among caregivers. Of the three items assessing financial strain, highest endorsement was found for stress related to job security and/or family income ($M = 3.28, SD = 1.49$), followed by housing/utilities stress ($M = 2.62, SD = 1.42$), and food scarcity ($M = 2.40, SD = 1.40$). TGD participants did not differ from cisgender participants in endorsement of social disconnection stress ($t(551.65) = 0.19, p = .85, d = 0.01, 95\% \text{ CI} = [-0.13, 0.15]$), but did report higher levels of stress related to financial strain ($t(891) = 3.64, p < .001, d = 0.26, 95\% \text{ CI} = [0.12, 0.40]$).

Hypothesis 1: Social Disconnection

Controlling for age, social disconnection was a significant predictor of depression ($\beta = 0.19, p < .001$) and anxiety ($\beta = 0.14, p < .001$) in separate models. Controlling for age and race/ethnicity, social disconnection was a significant predictor of suicidal ideation ($\beta = 0.08, p = .02$). Adding TGD identity status improved all three models significantly, and was a significant predictor of each outcome, but did not interact with disconnection (e.g., the relationship between social disconnection and each outcome did not differ by gender identity). Model results without interaction terms can be found in Table 3; full results for all models can be found in Supplemental Table 1.

Hypothesis 2: Health Care Disruptions

The pattern of results for health care disruptions was identical to that found for social disconnection. Controlling for age, experiencing a health care disruption was a significant predictor of depression ($\beta = 0.16, p < .001$) and anxiety ($\beta = 0.18, p < .001$); controlling for age and race/ethnicity, health care disruptions were a significant predictor of suicidal ideation ($\beta = 0.11, p = .001$). TGD identity improved each model and was a significant predictor of all three outcomes but did not interact with health care disruptions (e.g., the relationship between interruptions in medical care and each outcome did not differ by gender identity). Model results without interaction terms can be found in Table 3; full results for all models can be found in Supplemental Table 2.

Hypothesis 3: Disclosure Avoidance

The impact of disclosure avoidance was assessed only in the subsample that reported they did not live alone. Results were consistent with those found for hypotheses 1 and 2: controlling for relevant covariates (age and race/ethnicity), greater disclosure avoidance was positively associated with depression ($\beta = 0.27, p < .001$), anxiety ($\beta = 0.21, p < .001$), and suicidal ideation ($\beta = 0.22, p < .001$). These associations remained statistically significant when gender identity was included as a covariate; there was no significant interaction between gender identity and disclosure avoidance in predicting any of the three outcomes. Model results are summarized in Table 3, and full model results are presented in Supplemental Table 3.

Hypothesis 4: Financial Strain

Financial strain was associated with elevated depression ($\beta = 0.26, p < .001$), anxiety ($\beta = 0.34, p < .001$), and suicidal ideation ($\beta = 0.21, p < .001$) in regression models controlling for covariates. As with hypotheses 1 through 3, addition of gender identity as a predictor improved

all models, but there was no evidence of an interaction between gender identity and financial strain. Summary results are provided in Table 3, and full model results are available in Supplemental Table 4.

Omnibus Model

As all four tested predictors were significantly related to our outcomes of interest, an omnibus model was constructed in which covariates were entered in block one, followed by all predictors simultaneously examined in block two. Age and gender identity were included as covariates in all models. Race/ethnicity was examined as a covariate, but was not significantly related to depression or anxiety when tested in a preliminary model with age, race/ethnicity, and gender identity; as a result, race/ethnicity was only included as a covariate in the suicidal ideation model.

The omnibus model predicting depression was significant ($F(6, 686) = 29.49, R^2 = .21, p < .001$), and inclusion of the four predictors improved the model relative to a covariate-only model ($F\Delta(4, 686) = 30.03, p < .001$). Disclosure avoidance ($\beta = 0.26, p < .001$), financial strain ($\beta = 0.20, p < .001$), social disconnection ($\beta = 0.15, p < .001$), and health care disruptions ($\beta = 0.07, p = .04$) were all significantly related to depression symptoms. A similar pattern emerged for the omnibus model predicting anxiety, which was significant ($F(6, 686) = 30.46, R^2 = .21, p < .001$), and an improvement on the covariate-only model ($F\Delta(4, 686) = 32.49, p < .001$). All predictors were significantly related to anxiety symptoms, with the largest effects for financial strain ($\beta = 0.30, p < .001$), followed by disclosure avoidance ($\beta = 0.19, p < .001$), health care disruptions ($\beta = 0.10, p = .007$), and social disconnection ($\beta = 0.07, p = .04$).

The omnibus model predicting suicidal ideation was also significant ($F(7, 690) = 15.50, R^2 = .14, p < .001$), and an improvement on the covariate-only model ($F\Delta(4, 690) = 16.64, p < .001$).

.001). Disclosure avoidance ($\beta = 0.22, p < .001$) and financial strain ($\beta = 0.19, p < .001$) were both significantly associated with suicidal ideation, whereas social disconnection ($\beta = 0.04, p = .27$) and health care disruptions ($\beta = 0.05, p = .20$) were not. Full model results for all omnibus models are available in Table 4.

Discussion

The challenges associated with the COVID-19 pandemic place marginalized individuals at greater risk of significant negative consequences with respect to physical and emotional health (Kwong et al., 2021; McGinty et al., 2020; Raifman et al., 2020). In particular, LGBTQ+ individuals are likely to experience greater difficulties as a result of sociopolitical changes that follow from the COVID-19 pandemic, such as unemployment, economic and housing instability, health care access inequities, and limited social support, relative to their heterosexual, cisgender peers (Katz-Wise, 2020; Rosa et al., 2020). The aim of the current study was to test specific COVID-19 pandemic-related changes and stressors (i.e., social disconnection, disruption in physical or mental health care, avoidance of disclosure of one's LGBTQ+ identity, and financial and economic strain) as potential mechanisms of disparities in depression, anxiety, and suicidal ideation among LGBTQ+ individuals. An exploratory aim was to examine how multiply minoritized individuals within the LGBTQ+ population were differentially impacted by these changes, particularly with respect to gender identity, sexual orientation, and minoritized racial/ethnic identities. Although prior research has demonstrated health disparities relevant to LGBTQ+ people during the COVID-19 pandemic (Gonzales et al., 2020; Rodriguez-Seijas et al., 2020; Sanchez et al., 2020; Suez et al., 2020), studies have been limited by examination only of a subset of the LGBTQ+ community (e.g., cisgender individuals, college students) and/or by an inability to test possible mechanisms underlying these disparities.

We found that LGBTQ+ people from minoritized racial/ethnic backgrounds exhibited higher suicidal ideation (but not depression or anxiety) compared to non-Hispanic white LGBTQ+ participants, and were also more likely to avoid disclosing their LGBTQ+ identities around the people with whom they were living. Younger LGBTQ+ people reported higher depression, anxiety, and suicidal ideation when compared to older LGBTQ+ people, also consistent with prior research.

Consistent with prior literature, TGD individuals reported higher depression, anxiety, and suicidal ideation when compared to their cisgender peers with minoritized sexual identities. When COVID-19 pandemic-related stressors were assessed, TGD participants reported greater avoidance of disclosure of their gender identity at home compared to cisgender LGBTQ+ participants' avoidance of disclosure of sexual orientation. TGD participants were more likely to experience interruptions in health care, and reported higher levels of financial strain, compared to cisgender participants, but these groups did not differ with respect to social disconnection, which was the second most highly endorsed stressor in the sample overall.

Across all single-predictor models, hypothesized drivers of disparities were significantly associated with recent depression, anxiety, and suicidal ideation among LGBTQ+ individuals. Although TGD participants had higher mental health concerns relative to cisgender participants, gender identity did not show a significant interaction with any predictor of interest, meaning that the relationship between our predictors and outcomes did not differ on the basis of TGD status. This suggests that other, unexplored psychosocial and environmental experiences that occur more commonly among TGD individuals may be driving disparities in mental health outcomes.

In models examining all predictors (financial strain, disclosure avoidance, social disconnection, and health care disruptions) simultaneously, an overall consistent pattern emerged

across mental health outcomes. Disclosure avoidance and financial strain retained significant associations with all outcomes, and showed the largest effects across models. The influences of health care disruptions and social disconnection were smaller, and no longer statistically significant when predicting suicidal ideation.

This pattern may be the result of collinearity, insofar as financial strain was significantly, albeit modestly, correlated with health care disruptions ($r = .22, p < .001$) and social disconnection ($r = .21, p < .001$). It is plausible that financial strain itself exacerbated health care disruptions, insofar as limited financial means may reduce LGBTQ+ individuals' ability to access web-based forms of care (Lame et al., 2021). Although rates of health insurance coverage for LGBTQ+ individuals have increased in the past decade (Gonzales et al., 2021), LGBTQ+ people are more likely to have coverage through Medicaid than cisgender, heterosexual individuals (Durso et al., 2013), and Medicaid coverage is associated with reduced access to telehealth services (Ramsey et al., 2021; Rivera et al., 2021). State and federal policies to increase access to telehealth services across providers, including Medicaid, following the COVID-19 pandemic may help to alleviate these disparities (Kim et al., 2020).

Interestingly, disclosure avoidance was not significantly associated with other examined predictors ($r_s = -.01$ to $.03, p_s > .31$), suggesting that disclosure avoidance may be tapping a unique element of minority stress of particular relevance during the COVID-19 pandemic. Further, disclosure avoidance in one's place of residence was significantly, but not highly, negatively correlated with overall levels of outness ($r = -.33, p < .001$), suggesting that the ability to be out about one's LGBTQ+ identity at home may be a unique stressor, particularly when one's ability to leave home is limited. In post-hoc omnibus models replacing disclosure avoidance with overall outness as a predictor, overall outness remained statistically significant, but the magnitude of its

effect was smaller (depression: disclosure avoidance $\beta = 0.26$, outness $\beta = -0.16$; anxiety: disclosure avoidance $\beta = 0.19$, outness $\beta = -0.08$; suicidal ideation: disclosure avoidance $\beta = 0.22$, outness $\beta = -0.09$), further supporting this distinction. Outness has been associated with increased exposure to external minority stressors, such as discrimination, as well as improved mental well-being, which may be due to increases in social support (Chang et al., 2021). Disclosure avoidance during the COVID-19 pandemic may thus reflect a strategy to avoid harmful interactions with unsupportive family or housemates around one's LGBTQ+ identity, particularly when other domains of external social or community support may have been lacking. Further, research suggests that concealing one's sexual orientation or gender identity may be associated with a variety of negative mental health outcomes (Pachankis, Mahon, et al., 2020), and thus may explain the associations found in these data. This pattern highlights the necessity of understanding disclosure and concealment of sexual orientation and gender identity as complex phenomena that vary across time and context when attempting to ameliorate mental health symptoms among LGBTQ+ people.

This study had several notable strengths. First, data collection occurred online throughout the United States, yielding a broader range of ages, sexual orientations, gender identities, and racial/ethnic identities when compared to studies restricted to a specific geographic location or recruitment site within the US. Second, the study was adequately powered to examine differences in relevant outcomes across different subgroups within the LGBTQ+ community; for instance, many prior studies have been focused on primarily cisgender *or* TGD people, without the ability to examine differences between the two populations. Third, the survey instrument included well-validated measures of a breadth of mental health concerns (depression, anxiety, suicidal ideation),

as well as a novel, COVID-19 pandemic-specific measure of recent stressors, increasing our confidence in the specificity of these findings relative to the COVID-19 pandemic.

As with any study, however, this project had several important limitations that require consideration. Although the sample had a large age range (18 to 76), age was highly skewed, with 90% of respondents under the age of 40; as a result, further research is needed to ensure these results are replicable amongst older LGBTQ+ adults, who were likely under-sampled given our recruitment strategy (e.g., social media advertisements). Second, over three-quarters of participants were non-Hispanic white; although adequately powered to differentiate this group from other LGBTQ+ individuals, we were not able to examine differences across minoritized racial/ethnic groups, whose experiences of disparities during the COVID-19 pandemic likely differed in notable ways (Chen et al., 2020; Hathaway, 2021; Lopez et al., 2021; Macias Gil et al., 2020; Qeadan et al., 2021). Additional work using purposive sampling to increase the racial/ethnic diversity of LGBTQ+ samples in research is critically important to expanding our understanding of intersecting health disparities relevant to LGBTQ+ people of color (Croom, 2000; Harper et al., 2004).

Most critically, the results presented here are drawn from cross-sectional data; as a result, it is impossible to rule out alternative patterns of causality beyond those hypothesized above. For instance, it is possible that depression, anxiety, and suicidal ideation may contribute to disclosure avoidance, rather than vice versa. In prior research, primarily with cisgender individuals with minoritized sexual orientations, lower levels of outness have been associated with elevated internalized homophobia and rejection sensitivity (Meidlinger & Hope, 2014), both of which are associated with depression and anxiety (Feinstein et al., 2012; Slimowicz et al., 2020) as well as suicide risk (D'Augelli et al., 2001; Mereish et al., 2018). Further longitudinal research is needed

to better understand the temporal processes that contribute to changes in mental health outcomes over time for at-risk LGBTQ+ individuals.

In spite of these limitations, these data provide valuable insights into possible mechanisms underlying COVID-19 pandemic-related health disparities experienced by LGBTQ+ individuals, a domain of work that is sorely underrepresented in extant research among minoritized groups (Adams & Miller, 2021). Results also provide valuable future directions for interventions with at-risk LGBTQ+ people and others in their social environments; for instance, two brief (3-session) web-based writing interventions disseminated in a low-resource setting yielded improvements in mental health outcomes among LGBTQ+ young adults, and these benefits were greatest for participants with high levels of baseline LGBTQ+ minority stress (Pachankis, Williams, et al., 2020). At the contextual and societal level, programs and policies associated with improved LGBTQ+ well-being relevant to our examined drivers of disparities include online social support communities (DeVito et al., 2019), expansion of health insurance coverage, such as Medicaid (Kim et al., 2020), and federal anti-discrimination legislation to promote LGBTQ+ access to employment (Pizer et al., 2011). Further research is needed to identify best practices to improve social and familial support for LGBTQ+ individuals to improve mental health outcomes (Newcomb et al., 2019). As continued emphasis is placed on the need to understand and examine mechanisms of health disparities, particularly in the context of the COVID-19 pandemic, future research should ensure that adequate data are collected to fully understand not only the demographic characteristics of research populations with respect to sexual orientation and gender identity, but also the potential drivers of health disparities experiences by members of marginalized groups.

References

- Adams, L. M., & Miller, A. B. (2021). Mechanisms of mental health disparities among minoritized groups: How well are the top journals in clinical psychology representing this work. *Clinical Psychological Science* [accepted for publication].
- Ammerman, B. A., Burke, T. A., Jacobucci, R., & McClure, K. (2021). Preliminary investigation of the association between COVID-19 and suicidal thoughts and behaviors in the U.S. *Journal of Psychiatric Research*, 134, 32–38. <https://doi.org/10/ghrpw6>
- Aragon, S. R., Poteat, V. P., Espelage, D. L., & Koenig, B. W. (2014). The influence of peer victimization on educational outcomes for LGBTQ and non-LGBTQ high school students. *Journal of LGBT Youth*, 11, 1–19. <https://doi.org/gntp>
- Baams, L., Wilson, B. D. M., & Russell, S. T. (2019). LGBTQ youth in unstable housing and foster care. *Pediatrics*, 143(3), e20174211. <https://doi.org/10.1542/peds.2017-4211>
- Badgett, M. V. L. (2018). Left out? Lesbian, gay, and bisexual poverty in the U.S. *Population Research and Policy Review*, 37, 667–702. <https://doi.org/10.1007/s11113-018-9457-5>
- Bianchi, E. C., Hall, E. V., & Lee, S. (2018). Reexamining the link between economic downturns and racial antipathy: Evidence that prejudice against Blacks rises during recessions. *Psychological Science*, 29(10), 1584–1597. <https://doi.org/10.1177/0956797618777214>
- Borgogna, N. C., McDermott, R. C., Aita, S. L., & Kridel, M. M. (2019). Anxiety and depression across gender and sexual minorities: Implications for transgender, gender nonconforming, pansexual, demisexual, asexual, queer, and questioning individuals. *Psychology of Sexual Orientation and Gender Diversity*, 6(1), 54–63. <https://doi.org/10.1037/sgd0000306>

- Bryan, C. J., Bryan, A. O., & Baker, J. C. (2020). Associations among state-level physical distancing measures and suicidal thoughts and behaviors among U.S. adults during the early COVID-19 pandemic. *Suicide and Life-Threatening Behavior*, 50(6), 1223-1229. <https://doi.org/10/gg7zgZ>
- Bueno-Notivol, J., Gracia-García, P., Olaya, B., Lasheras, I., López-Antón, R., & Santabárbara, J. (2021). Prevalence of depression during the COVID-19 outbreak: A meta-analysis of community-based studies. *International Journal of Clinical and Health Psychology*, 21(1), 100196. <https://doi.org/10.1016/j.ijchp.2020.07.007>
- Butz, D. A., & Yogeeswaran, K. (2011). A new threat in the air: Macroeconomic threat increases prejudice against Asian Americans. *Journal of Experimental Social Psychology*, 47(1), 22–27. <https://doi.org/10.1016/j.jesp.2010.07.014>
- Cadigan, J. M., Lee, C. M., & Larimer, M. E. (2019). Young adult mental health: A prospective examination of service utilization, perceived unmet service needs, attitudes, and barriers to service use. *Prevention Science*, 20, 366–376. <https://doi.org/ggs69g>
- Cahill, S., & Makadon, H. (2013). Sexual orientation and gender identity data collection in clinical settings and in electronic health records: A key to ending LGBT health disparities. *LGBT Health*, 1(1), 34–41. <https://doi.org/10.1089/lgbt.2013.0001>
- Casey, L. S., Reisner, S. L., Findling, M. G., Blendon, R. J., Benson, J. M., Sayde, J. M., & Miller, C. (2019). Discrimination in the United States: Experiences of lesbian, gay, bisexual, transgender, and queer Americans. *Health Services Research*, 54, 1454–1466. <https://doi.org/10.1111/1475-6773.13229>
- Chang, C. J., Kellerman, J. K., Fehling, K. B., Feinstein, B. A., Selby, E. A. (2021). The roles of discrimination and social support in the associations between outness and mental health

outcomes among sexual minorities. *American Journal of Orthopsychiatry*.

<https://doi.org/10.1037/ort0000562>

Chen, J. A., Zhang, E., & Liu, C. H. (2020). Potential impact of COVID-19-related racial discrimination on the health of Asian Americans. *American Journal of Public Health*, 110(11), 1624-1627. <https://doi.org/10.2105/AJPH.2020.305858>

Cooke, J. E., Eirich, R., Racine, N., & Madigan, S. (2020). Prevalence of posttraumatic and general psychological stress during COVID-19: A rapid review and meta-analysis. *Psychiatry Research*, 292, 113347. <https://doi.org/gg6vvj>

Coulter, R. W. S., Mair, C., Miller, E., Blossnich, J. R., Matthews, D. D., & McCauley, H. L. (2017). Prevalence of past-year sexual assault victimization among undergraduate students: Exploring differences by and intersections of gender identity, sexual identity, and race/ethnicity. *Prevention Science*, 18, 726–736. <https://doi.org/gbn65h>

Croom, G. L. (2000). Lesbian, gay, and bisexual people of color: A challenge to representative sampling in empirical research. In B. Greene & G. L. Croom (Eds.), *Education, research, and practice in lesbian, gay, bisexual, and transgendered psychology: A resource manual*, Vol. 5, pp. 263–281). Sage Publications.

D’Augelli, A. R., Grossman, A. H., Hershberger, S. L., & O’Connell, T. S. (2001). Aspects of mental health among older lesbian, gay, and bisexual adults. *Aging & Mental Health*, 5(2), 149-158. <https://doi.org/10.1080/13607860120038366>

Devito, M. A., Walker, A. M., Birnholtz, J., Ringland, K., Macapagal, K., Kraus, A., Munson, S., Liang, C., & Saksono, H. (2019). Social technologies for digital wellbeing among marginalized communities. *CSCW ’19: Conference Companion Publication of the 2019*

on Computer Supported Cooperative Work and Social Computing, 449-454.

<https://doi.org/10.1145/3311957.3359442>

Di Giacomo, E., Krausz, M., Colmegna, F., Aspesi, F., & Clerici, M. (2018). Estimating the risk of attempted suicide among sexual minority youths: A systematic review and meta-analysis. *JAMA Pediatrics*, 172(2), 1145–1152. <https://doi.org/gfc4gq>

Durso, L. E., Baker, K., & Cray, A. (2013). *LGBT Communities and the Affordable Care Act: Findings from a National Survey*. Center for American Progress.

<https://americanprogress.org/wp-content/uploads/2013/10/LGBT-ACAsurvey-brief1.pdf>

Eres, R., Postolovski, N., Thielking, M., & Lim, M. H. (2021). Loneliness, mental health, and social health indicators in LGBTQIA+ Australians. *American Journal of Orthopsychiatry*, 91(3), 358-366. <https://doi.org/10.1037/ort0000531>

Feinstein, B. A., Goldfried, M. R., & Davila, J. (2012). The relationship between experiences of discrimination and mental health among lesbians and gay men: An examination of internalized homonegativity and rejection sensitivity as potential mechanisms. *Journal of Consulting and Clinical Psychology*, 80(5), 917–927. <https://doi.org/10.1037/a0029425>

Fish, J. N., McInroy, L. B., Paceley, M. S., Williams, N. D., Henderson, S., Levine, D. S., & Edsall, R. N. (2020). “I’m kinda stuck at home with unsupportive parents right now”: LGBTQ youths’ experiences with COVID-19 and the importance of online support. *Journal of Adolescent Health*, 67(3), 450–452. <https://doi.org/10/ffsd>

Fredriksen-Goldsen, K. I., Kim, H. J., Emler, C. A., Muraco, A., Erosheva, E. A., Hoy-Ellis, C. P., Goldsen, J., & Petry, H. (2011). *The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults*. Institute for Multigenerational Health.

https://www.lgbtagingcenter.org/resources/pdfs/LGBT%20Aging%20and%20Health%20Report_final.pdf

Gonzales, G., & Henning-Smith, C. (2017). Health disparities by sexual orientation: Results and implications from the Behavioral Risk Factor Surveillance System. *Journal of Community Health*, 42, 1163–1172. <https://doi.org/10.1007/s10900-017-0366-z>

Gonzales, G., Henning-Smith, C., & Ehrenfeld, J. M. (2021). Changes in health insurance coverage, access to care, and health services utilization by sexual minority status in the United States, 2013-2018. *Health Services Research*, 56(2), 235-246.

<https://doi.org/10.1111/1475-6773.13567>

Gonzales, G., Loret de Mola, E., Gavulic, K. A., McKay, T., & Purcell, C. (2020). Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19 pandemic. *Journal of Adolescent Health*, 67(5), 645-648. <https://doi.org/10/ghc76q>

Grant, J. M., Mottet, L. A., Tanis, J., Harrison, J., Herman, J. L., & Keisling, M. (2011). *Injustice at every turn: A report of the National Transgender Discrimination Survey*. National Center for Transgender Equality and National Gay and Lesbian Task Force.

<https://transequality.org/issues/resources/national-transgender-discrimination-survey-full-report>

Gratz, K. L., Tull, M. T., Richmond, J. R., Edmonds, K. A., Scamaldo, K. M., & Rose, J. P. (2020). Thwarted belongingness and perceived burdensomeness explain the associations of COVID-19 social and economic consequences to suicide risk. *Suicide and Life-Threatening Behavior*, 50(6), 1140-1148. <https://doi.org/10/gg7zg2>

- Haas, A. P., & Lane, A. (2015). Collecting sexual orientation and gender identity data in suicide and other violent deaths: A step towards identifying and addressing LGBT mortality disparities. *LGBT Health*, 2(1), 84–87. <https://doi.org/10.1089/lgbt.2014.0083>
- Harper, G. W., Jernewall, N., & Zea, M. C. (2004). Giving voice to emerging science and theory for lesbian, gay, and bisexual people of color. *Cultural Diversity and Ethnic Minority Psychology*, 10(3), 187–199. <https://doi.org/10.1037/1099-9809.10.3.187>
- Hathaway, E. D. (2021). American Indian and Alaska Native people: Social vulnerability and COVID-19. *The Journal of Rural Health*, 37(1), 256-259. <https://doi.org/gg629x>
- Hottes, T. S., Bogaert, L., Rhodes, A. E., Brennan, D. J., & Gesink, D. (2016). Lifetime prevalence of suicide attempts among sexual minority adults by study sampling strategies: A systematic review and meta-analysis. *American Journal of Public Health*, 106, e1–e12. <https://doi.org/10.2105/AJPH.2016.303088>
- Hughto, J. M. W., Gunn, H. A., Rood, B. A., & Pantalone, D. W. (2020). Social and medical gender affirmation experiences are inversely associated with mental health problems in a u.s. non-probability sample of transgender adults. *Archives of Sexual Behavior*, 49, 2635-2647. <https://doi.org/10/gg8r34>
- Huth-Bocks, A. C. (2021). COVID-19 Family Stress Screener [unpublished measure]. Schubert Center for Child Studies, Case Western Reserve University.
- Irwin, J. A., Coleman, J. D., Fisher, C. M., & Marasco, V. M. (2014). Correlates of suicide ideation among LGBT Nebraskans. *Journal of Homosexuality*, 61(8), 1172-1191. <https://doi.org/10.1080/00918369.2014.872521>.
- Kattari, S. K., Whitfield, D. L., Walls, N. E., Langenderfer-Magruder, L., & Ramos, D. (2016). Policing gender through housing and employment discrimination: Comparison of

- discrimination experiences of transgender and cisgender LGBQ individuals. *Journal of the Society for Social Work and Research*, 7(3), 427–447. <https://doi.org/10.1086/686920>
- Kim, J-H., Desai, E., & Cole, M. B. (2020, June 2). How the rapid shift to telehealth leaves many community health centers behind during the COVID-19 pandemic. *Health Affair Blog*. <https://doi.org/10.1377/hblog20200529.449762>
- Kwong, A. S. F., Pearson, R. M., Adams, M. J., Northstone, K., Tilling, K., Smith, D., Fawns-Ritchie, C., Bould, H., Warne, N., Zammit, S., Gunnell, D. J., Moran, P. A., Micali, N., Reichenberg, A., Hickman, M., Rai, D., Haworth, S., Campbell, A., Altschul, D., ... Timpon, N. J. (2021). Mental health before and during the COVID-19 pandemic in two longitudinal UK population cohorts. *The British Journal of Psychiatry*, 218(6), 334-343. <https://doi.org/10/fv6n>
- Lame, M., Leyden, D., & Platt, S. L. (2021). Geocode maps spotlight disparities in telehealth utilization during the COVID-19 pandemic in New York City. *Telemedicine and e-Health*, 27(3), 251-253. <http://doi.org/10.1089/tmj.2020.0297>
- Lee, D. (2019). The convergent, discriminant, and nomological validity of the Depression Anxiety Stress Scales-21 (DASS-21). *Journal of Affective Disorders*, 259, 136-142. <https://doi.org/10.1016/j.jad.2019.06.036>
- Lefevor, G. T., Boyd-Rogers, C. C., Sprague, B. M., & Janis, R. A. (2019). Health disparities between genderqueer, transgender, and cisgender individuals: An extension of minority stress theory. *Journal of Counseling Psychology*, 66(4), 385–395. <https://doi.org/gg6c38>
- Lin, C-C. C., Dievler, A., Robbins, C., Sripipatana, A., Quinn, M., & Nair, S. (2018). Telehealth in health centers: Key adoption factors, barriers, and opportunities. *Health Affairs*, 37(12), 1967–1974. <https://doi.org/10.1377/hlthaff.2018.05125>

- Liu, R. T., Sheehan, A. E., Walsh, R. F. L., Sanzari, C. M., Cheek, S. M., & Hernandez, E. M. (2019). Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis. *Clinical Psychology Review*, 74, 101783. <https://doi.org/10.1016/j.cpr.2019.101783>
- Lopez, L., Hart, L. H., & Katz, M. H. (2021). Racial and ethnic health disparities related to COVID-19. *Journal of the American Medical Association*, 325(8), 719-720. <https://doi.org/10.1001/jama.2020.26443>
- Lovibond, S. H., & Lovibond, P. F. (1995a). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Psychology Foundation.
- Lovibond, P. F., & Lovibond, S. H. (1995b). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335–343. <https://doi.org/10/fwhsp7>
- Macias Gil, R., Marcelin, J. R., Zuniga-Blanco, B., Marquez, C., Mathew, T., & Piggott, D. A. (2020). COVID-19 pandemic: Disparate health impact on the Hispanic/Latinx population in the United States. *The Journal of infectious diseases*, 222(10), 1592–1595. <https://doi.org/10.1093/infdis/jiaa474>
- Mattei, G., Russo, T., Addabbo, T., & Galeazzi, G. M. (2020). The COVID-19 recession might increase discriminating attitudes toward LGBT people and mental health problems due to minority stress. *International Journal of Social Psychiatry*, 67(4), 400-401. <https://doi.org/10/ghrksf>

McGinty, E. E., Presskreischer, R., Anderson, K. E., Han, H., & Barry, C. L. (2020).

Psychological distress and COVID-19–related stressors reported in a longitudinal cohort of US adults in April and July 2020. *JAMA*, 324(24), 2555-2557. <https://doi.org/10/ghrkrk>

Meidlinger, P. C., & Hope, D. A. (2014). Differentiating disclosure and concealment in measurement of outness for sexual minorities: The Nebraska Outness Scale. *Psychology of Sexual Orientation and Gender Diversity*, 1(4), 489–497. <https://doi.org/10/gg6c4c>

Mereish, E. H., Peters, J. R., & Yen, S. (2019). Minority stress and relational mechanisms of suicide among sexual minorities: subgroup differences in the associations between heterosexual victimization, shame, rejection sensitivity, and suicide risk. *Suicide and Life-Threatening Behavior*, 49(2), 547–560. <https://doi.org/10/gc7nxv>

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>

Moffitt, R. A., & Ziliak, J. P. (2020). COVID-19 and the US safety net. *Fiscal Studies*, 41(3), 515–548. <https://doi.org/10.1111/1475-5890.12243>

Myers, W., Turanovic, J. J., Lloyd, K. M., & Pratt, T. C. (2020). The victimization of LGBTQ students at school: A meta-analysis. *Journal of School Violence*, 19(4), 421–432.

<https://doi.org/10.1080/15388220.2020.1725530>

Newcomb, M. E., LaSala, M. C., Bouris, A., Mustanski, B., Prado, G., Schrager, S. M., &

Huebner, D. M. (2019). The influence of families on LGBTQ youth health: A call to action for innovation in research and intervention development. *LGBT Health*, 6(4), 139-145. <http://doi.org/10.1089/lgbt.2018.0157>

- Nowaskie, D. Z., Patel, A. U., & Fang, R. C. (2020). A multicenter, multidisciplinary evaluation of 1701 healthcare professional students' LGBT cultural competency: Comparisons between dental, medical, occupational therapy, pharmacy, physical therapy, physician assistant, and social work students. *PLoS ONE*, 15(8), e0237670. <https://doi.org/gntq>
- Osman, A., Gutierrez, P. M., Kopper, B. A., Barrios, F. X., & Chiros, C. E. (1998). The Positive And Negative Suicide Ideation Inventory: Development and validation. *Psychological Reports*, 82(3), 783–793. <https://doi.org/10.2466/pr0.1998.82.3.783>
- Pachankis, J. E., Mahon, C. P., Jackson, S. D., Fetzner, B. K., & Bränström, R. (2020). Sexual orientation concealment and mental health: A conceptual and meta-analytic review. *Psychological Bulletin*, 146(10), 831–871. <https://doi.org/10.1037/bul0000271>
- Pachankis, J. E., Williams, S. L., Behari, K., Job, S., McConocha, E. M., & Chaudoir, S. R. (2020). Brief online interventions for LGBTQ young adult mental and behavioral health: A randomized controlled trial in a high-stigma, low-resource context. *Journal of Consulting and Clinical Psychology*, 88(5), 429–444. <https://doi.org/10/ggtq2j>
- Parmenter, J. G., Galliher, R. V., & Maughan, A. D. (2020). LGBTQ+ emerging adults perceptions of discrimination and exclusion within the LGBTQ+ community. *Psychology & Sexuality*. <https://doi.org/10.1080/19419899.2020.1716056>
- Patel, S. Y., Mehrotra, A., Huskamp, H. A., Uscher-Pines, L., Ganguli, I., & Barnett, M. L. (2021). Trends in outpatient care delivery and telemedicine during the COVID-19 pandemic in the US. *JAMA Internal Medicine*, 181(3), 388–391. <https://doi.org/ghk76m>
- Phillips, G., Felt, D., Ruprecht, M. M., Wang, X., Xu, J., Pérez-Bill, E., Bagnarol, R. M., Roth, J., Curry, C. W., & Beach, L. B. (2020). Addressing the disproportionate impacts of the

- COVID-19 pandemic on sexual and gender minority populations in the United States: Actions toward equity. *LGBT Health*, 7(6), 279-282. <https://doi.org/10/gg8r4h>
- Pizer, J., Mallory, C., Sears, B., & Hunter, N. (2012). Evidence of persistent and pervasive workplace discrimination against LGBT people: The need for federal legislation prohibiting discrimination and providing for equal employment benefits. *Loyola Law Review Los Angeles*, 45(3), 2-67.
- Price-Feeney, M., Green, A. E., & Dorison, S. (2020). Understanding the mental health of transgender and nonbinary youth. *Journal of Adolescent Health*, 66(6), 684–690. <https://doi.org/10.1016/j.jadohealth.2019.11.314>
- Qeadan, F., VanSant-Webb, E., Tingey, B., Rogers, T. N., Brooks, E., Mensah, N. A., Winkfield, K. M., Saeed, A. I., English, K., & Rogers, C. R. (2021). Racial disparities in COVID-19 outcomes exist despite comparable Elixhauser comorbidity indices between Blacks, Hispanics, Native Americans, and Whites. *Scientific Reports*, 11(1), 8738. <https://doi.org/10.1038/s41598-021-88308-2>
- Raifman, J., Ettman, C. K., Dean, L., Barry, C., & Galea, S. (2020). Economic precarity, social isolation, and suicidal ideation during the COVID-19 pandemic. MedRxiv. <https://doi.org/10.1101/2020.10.05.20205955>
- Ramsey, S. D., Panattoni, L. E., Li, L., Sun, Q., Fedorenko, C. R., Sanchez, H., Kreizenbeck, K. L., & Shankaran, V. (2021). Disparity in telehealth and emergency department use among Medicaid and commercially insured patients receiving systemic therapy for cancer in Washington State following the COVID-19 Pandemic. *Journal of Clinical Oncology*, 39(15 Supp), 6546-6546. https://doi.org/10.1200/JCO.2021.39.15_suppl.6546

- Rivera, V., Aldridge, M. D., Ornstein, K., Moody, K. A., & Chun, A. (2021). racial and socioeconomic disparities in access to telehealth. *Journal of the American Geriatrics Society*, 69(1), 44–45. <https://doi.org/10.1111/jgs.16904>
- Rodriguez-Seijas, C., Fields, E. C., Bottary, R., Kark, S. M., Goldstein, M. R., Kensinger, E. A., Payne, J. D., & Cunningham, T. J. (2020). Comparing the impact of COVID-19-related social distancing on mood and psychiatric indicators in sexual and gender minority (SGM) and non-SGM individuals. *Frontiers in Psychiatry*, 11, 590318. <https://doi.org/10/ghrkrx>
- Ruprecht, M. M., Wang, X., Johnson, A. K., Xu, J., Felt, D., Ihenacho, S., Stonehouse, P., Curry, C. W., DeBroux, C., Costa, D., & Phillips II, G. (2021). Evidence of social and structural covid-19 disparities by sexual orientation, gender identity, and race/ethnicity in an urban environment. *Journal of Urban Health*, 98, 27-40. <https://doi.org/10/ghrkq5>
- Russell, S. T., & Fish, J. N. (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*, 12, 465–487. <https://doi.org/gfj4mw>
- Salerno, J. P., Williams, N. D., & Gattamorta, K. A. (2020). LGBTQ populations: Psychologically vulnerable communities in the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(S1), S239–S242. <https://doi.org/10/ffrq>
- Sanchez, T. H., Zlotorzynska, M., Rai, M., & Baral, S. D. (2020). Characterizing the impact of COVID-19 on men who have sex with men across the United States in April, 2020. *AIDS and Behavior*, 24, 2024-2032. <https://doi.org/10/ggw6pj>

- Scholten, S., Velten, J., Bieda, A., Zhang, X. C., & Margraf, J. (2017). Testing measurement invariance of the Depression, Anxiety, and Stress Scales (DASS-21) across four countries. *Psychological Assessment*, 29(11), 1376-1390. <https://doi.org/gcmvc3>
- Schuler, M. S., Stein, B. D., & Collins, R. L. (2019). Differences in substance use disparities across age groups in a national cross-sectional survey of lesbian, gay, and bisexual adults. *LGBT Health*, 6(2), 68–76. <https://doi.org/10.1089/lgbt.2018.0125>
- Scroggs, B., Love, H. A., & Torgerson, C. (2020). COVID-19 and LGBTQ emerging adults: Risk in the face of social distancing. *Emerging Adulthood*. <https://doi.org/10/ghrkr9>
- Singh, J., & Singh, J. (2020). COVID-19 and its impact on society. *Electronic Research Journal of Social Sciences and Humanities*, 2(1), 168-172.
- Slimowicz, J., Siev, J., & Brochu, P. M. (2020). impact of status-based rejection sensitivity on depression and anxiety symptoms in gay men. *International Journal of Environmental Research and Public Health*, 17(5), 1546. <https://doi.org/10.3390/ijerph17051546>
- Streed, C. G., Jr., Grasso, C., Reisner, S. L., & Mayer, K. H. (2020). Sexual orientation and gender identity data collection: Clinical and public health importance. *American Journal of Public Health*, 110(7), 991–993. <https://doi.org/10.2105/AJPH.2020.305722>
- Su, D., Irwin, J. A., Fisher, C., Ramos, A., Kelley, M., Mendoza, D. A. R., & Coleman, J. D. (2016). Mental health disparities within the LGBT population: A comparison between transgender and nontransgender individuals. *Transgender Health*, 1(1), 12–20. <https://doi.org/10.1089/trgh.2015.0001>
- Suen, Y. T., Chan, R. C. H., & Wong, E. M. Y. (2020). Effects of general and sexual minority-specific COVID-19-related stressors on the mental health of lesbian, gay, and bisexual people in Hong Kong. *Psychiatry Research*, 292, 113365. <https://doi.org/10/gg624f>

- Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. (2015). Development of the Gender Minority Stress and Resilience Measure. *Psychology of Sexual Orientation and Gender Diversity*, 2(1), 65–77. <https://doi.org/10/dwxr>
- Tull, M. T., Edmonds, K. A., Scamaldo, K. M., Richmond, J. R., Rose, J. P., & Gratz, K. L. (2020). Psychological outcomes associated with stay-at-home orders and the perceived impact of COVID-19 on daily life. *Psychiatry Research*, 289, 113098. <https://doi.org/10/ggxrr6>
- van der Miesen, A. I. R., Raaijmakers, D., & van de Grift, T. C. (2020). “You have to wait a little longer”: Transgender (mental) health at risk as a consequence of deferring gender-affirming treatments during COVID-19. *Archives of Sexual Behavior*, 49(5), 1395–1399. <https://doi.org/10/ghrkrj>
- Williams, D.R. (1999). Race, socioeconomic status, and health – The added effects of racism and discrimination. *Annals of the New York Academy of Sciences*, 896(1), 173–188. <https://doi.org/10.1111/j.1749-6632.1999.tb08114.x>

Table 1*Descriptive Characteristics*

Demographic Characteristic	<i>n</i> (%)
Gender Identity	
Cisgender woman	479 (53.64)
Nonbinary, gender non-conforming, gender fluid, or genderqueer	163 (18.25)
Cisgender man	111 (12.43)
Transgender man	51 (3.47)
Questioning	45 (5.04)
Transgender woman	31 (3.47)
Other	13 (1.46)
Sexual Orientation	
Bisexual	291 (32.59)
Gay or lesbian	252 (28.22)
Queer	142 (15.90)
Pansexual	85 (9.52)
Asexual	69 (7.73)
Other	31 (3.47)
Questioning	18 (2.02)
Heterosexual	5 (0.56)
Race and Ethnicity	
Non-Hispanic/Latinx white	664 (75.89)
Other, Biracial, Multiracial	57 (6.51)
Hispanic/Latinx white	68 (7.77)
Asian/Asian-American	54 (6.17)
Black/African-American	26 (2.97)
Native American/Alaska Native	5 (0.57)
Native Hawaiian/Pacific Islander	1 (0.11)

Table 2*COVID-19 Related Stressors and Consequences*

	<i>n (%)</i>	<i>M (SD)</i>
Living situation changed	237 (26.54)	
Housemates aware of LGBTQ+ identity (<i>n</i> = 744)		
Not at all	67 (9.01)	
Slightly	93 (12.50)	
Moderately	78 (10.48)	
Very	98 (13.17)	
Extremely	366 (49.19)	
Other	42 (5.65)	
Avoid indicating sexual orientation to housemates (<i>n</i> = 737)		3.43 (3.82)
Avoid indicating gender identity to housemates (<i>n</i> = 261)		4.59 (4.26)
Experienced health care disruptions (<i>n</i> = 890)	362 (40.54)	
Related to sexuality or gender	58 (6.49)	
Related to mental health	237 (26.54)	
Related to a health condition	122 (13.66)	
Related to something else	48 (5.38)	
No interruptions	534 (59.80)	
COVID-19 Family Stress Screener		
Food running out or being unavailable		2.40 (1.40)
Losing a job or decreased family income		3.28 (1.49)
Housing or utilities		2.62 (1.42)
Loss of or limited childcare		1.73 (1.12)
Taking care of children, including those normally in school		1.88 (1.25)
Tension or conflict between household members (<i>n</i> = 744)		3.51 (1.33)
Physical health concerns for me or a family member		3.82 (1.26)
Increased anxiety or depression		4.34 (0.99)
Reminders of past stressful/traumatic events		3.37 (1.43)
Loss of social connections or social isolation		4.22 (1.01)
Interruption in medical care		2.81 (1.40)

Note. Items pertaining to living with others are drawn from the sample of individuals who did

not indicate that they lived alone (*n* = 744). The term “housemates” is used above to refer to

anyone that the person is living with at the time, which could include parents, children, partners,

siblings, friends, roommates, or others. Other items are drawn from the entire sample (*N* = 893)

unless otherwise specified.

Table 3*Primary Single-Predictor Model Results*

Model	Predictor	Depression			Anxiety			Suicidal Ideation		
		β	t	p	β	t	p	β	t	p
1	Age	-0.13	-3.94	< .001	-0.16	-4.79	< .001	-0.13	-3.80	< .001
	Race/Ethnicity	--	--	--	--	--	--	0.09	2.54	.01
	Social Disconnection	0.19	5.84	< .001	0.14	4.17	< .001	0.08	2.37	.02
	Gender Identity	-0.20	-5.95	< .001	-0.16	-4.79	< .001	-0.14	-4.01	< .001
2	Age	-0.16	-4.67	< .001	-0.18	-5.46	< .001	-0.14	-4.21	< .001
	Race/Ethnicity	--	--	--	--	--	--	0.08	2.34	.02
	Health Care Disruptions	0.14	4.06	< .001	0.17	5.04	< .001	0.09	2.77	.001
	Gender Identity	-0.18	-5.35	< .001	-0.14	-4.17	< .001	-0.12	-3.65	< .001
3	Age	-0.09	-2.33	.02	-0.10	-2.78	.01	-0.10	-2.62	.01
	Race/Ethnicity	-0.05	-1.41	.16	-0.05	-1.32	.19	0.02	0.41	.68
	Disclosure Avoidance	0.24	6.20	< .001	0.19	4.70	< .001	0.21	5.27	< .001
	Gender Identity	-0.18	-4.93	< .001	-0.13	-3.44	.001	-0.10	-2.75	.01
4	Age	-0.15	-4.55	< .001	-0.17	-5.41	< .001	-0.14	-4.13	< .001
	Race/Ethnicity	--	--	--	--	--	--	0.08	2.32	.02
	Financial Strain	0.24	7.25	< .001	0.32	10.13	< .001	0.20	5.85	< .001
	Gender Identity	-0.17	-5.09	< .001	-0.12	-3.76	< .001	-0.11	-3.34	.001

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-Hispanic/Latinx white, 1 = all other

racial/ethnic identities; -- = variable not included in model.

Table 4*Omnibus Multiple-Predictor Model Results*

Depression	β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
Constant		2.02	.04	0.45	0.21	30.03 (4, 686)	< .001
Age	-0.06	-1.51	.13				
Gender Identity	-0.13	-3.60	< .001				
Social Disconnection	0.15	4.25	< .001				
Health Care Disruptions	0.08	2.05	.04				
Disclosure Avoidance	0.26	6.99	< .001				
Financial Strain	0.20	5.70	< .001				
Anxiety	β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
Constant		2.10	.04	0.46	0.21	32.49 (4, 686)	< .001
Age	-0.11	-2.97	.003				
Gender Identity	-0.09	-2.43	.02				
Social Disconnection	0.07	2.05	.04				
Health Care Disruptions	0.10	2.71	.007				
Disclosure Avoidance	0.19	5.26	< .001				
Financial Strain	0.30	8.37	< .001				
Suicidal Ideation	β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
Constant		5.10	< .001	0.37	0.14	16.64 (4, 690)	< .001
Age	-0.07	-1.85	.07				
Race/Ethnicity	0.06	1.64	.10				
Gender Identity	-0.08	-2.10	.04				
Social Disconnection	0.04	1.11	.27				
Health Care Disruptions	0.05	1.30	.20				
Disclosure Avoidance	0.22	5.75	< .001				
Financial Strain	0.19	5.08	< .001				

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-

Hispanic/Latinx white, 1 = all other racial/ethnic identities.

Supplemental Table 1*Social Disconnection Models*

Depression Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		6.21	< .001	0.25	0.06	28.76 (2, 835)	< .001
	Age	-0.15	-4.36	< .001				
	Social Disconnection	0.19	5.71	< .001				
2	Constant		7.40	< .001	0.32	0.10	35.40 (1, 834)	< .001
	Age	-0.13	-3.94	< .001				
	Social Disconnection	0.19	5.84	< .001				
	Gender Identity	-0.20	-5.95	< .001				
3	Constant		5.45	< .001	0.32	0.10	0.05 (1, 833)	.83
	Age	-0.13	-3.94	< .001				
	Social Disconnection	0.18	3.50	< .001				
	Gender Identity	-0.23	-1.64	.10				
	Gender x Disconnection Interaction	0.03	0.22	.83				
Anxiety Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		6.55	< .001	0.23	0.06	24.12 (2, 835)	< .001
	Age	-0.17	-5.14	< .001				
	Social Disconnection	0.14	4.11	< .001				
2	Constant		7.46	< .001	0.28	0.08	22.93 (1, 834)	< .001
	Age	-0.16	-4.79	< .001				
	Social Disconnection	0.14	4.17	< .001				
	Gender Identity	-0.16	-4.79	< .001				
3	Constant		5.32	< .001	0.28	0.08	0.04 (1, 833)	.85
	Age	-0.16	-4.78	< .001				
	Social Disconnection	0.15	2.76	.006				
	Gender Identity	-0.13	-0.97	.33				
	Gender x Disconnection Interaction	-0.03	-0.19	.85				
Suicidal Ideation Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		9.24	< .001	0.20	0.04	11.65 (3, 826)	< .001
	Age	-0.14	-4.10	< .001				

	Race/Ethnicity	0.09	2.59	.01				
	Social Disconnection	0.08	2.35	.02				
2	Constant		9.93	< .001	0.24	0.06	16.04 (1, 825)	< .001
	Age	-0.13	-3.80	< .001				
	Race/Ethnicity	0.09	2.54	.01				
	Social Disconnection	0.08	2.37	.02				
	Gender Identity	-0.14	-4.01	< .001				
3	Constant		6.56	< .001	0.25	0.06	1.36 (1, 824)	.24
	Age	-0.13	-3.77	< .001				
	Race/Ethnicity	0.09	2.55	.01				
	Social Disconnection	0.13	2.40	.02				
	Gender Identity	0.02	0.17	.87				
	Gender x Disconnection Interaction	-0.17	-1.17	.24				

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-Hispanic/Latinx white, 1 = all other racial/ethnic identities.

Supplemental Table 2*Health Care Disruption Models*

Depression Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		17.02	< .001	0.23	0.05	23.13 (2, 835)	< .001
	Age	-0.17	-5.08	< .001				
	Health Care Disruptions	0.16	4.65	< .001				
2	Constant		18.07	< .001	0.29	0.08	28.63 (1, 834)	< .001
	Age	-0.16	-4.67	< .001				
	Health Care Disruptions	0.14	4.06	< .001				
	Gender Identity	-0.18	-5.35	< .001				
3	Constant		17.19	< .001	0.29	0.09	1.84 (1, 833)	.18
	Age	-0.16	-4.74	< .001				
	Health Care Disruptions	0.08	1.34	.18				
	Gender Identity	-0.22	-4.91	< .001				
	Gender x Disruptions Interaction	0.08	1.36	.18				
Anxiety Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		15.46	< .001	0.26	0.07	31.17 (2, 835)	< .001
	Age	-0.19	-5.78	< .001				
	Health Care Disruptions	0.18	5.52	< .001				
2	Constant		16.08	< .001	0.30	0.09	17.37 (1, 834)	< .001
	Age	-0.18	-5.46	< .001				
	Health Care Disruptions	0.17	5.04	< .001				
	Gender Identity	-0.14	-4.17	< .001				
3	Constant		15.46	< .001	0.30	0.09	2.58 (1, 833)	.11
	Age	-0.18	-5.55	< .001				
	Health Care Disruptions	0.10	1.72	.09				
	Gender Identity	-0.19	-4.19	< .001				
	Gender x Disruptions Interaction	0.10	1.61	.11				
Suicidal Ideation Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		17.67	< .001	0.22	0.05	13.30 (3, 826)	< .001
	Age	-0.16	-4.50	< .001				

	Race/Ethnicity	0.08	2.38	.02				
	Health Care Disruptions	0.11	3.20	.001				
2	Constant		178.00	< .001	0.25	0.06	13.33 (1, 825)	< .001
	Age	-0.14	-4.21	< .001				
	Race/Ethnicity	0.08	2.34	.02				
	Health Care Disruptions	0.09	2.77	.001				
	Gender Identity	-0.12	-3.65	< .001				
3	Constant		17.17	< .001	0.25	0.06	1.78 (1, 824)	.18
	Age	-0.15	-4.27	< .001				
	Race/Ethnicity	0.08	2.33	.02				
	Health Care Disruptions	0.03	0.59	.56				
	Gender Identity	-0.17	-3.62	< .001				
	Gender x Disruptions Interaction	0.08	1.33	.18				

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-Hispanic/Latinx white, 1 = all other racial/ethnic identities.

Supplemental Table 3*Disclosure Avoidance Models*

Depression Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		10.80	< .001	0.31	0.10	23.70 (3, 677)	< .001
	Age	-0.10	-2.47	.01				
	Race/Ethnicity	-0.05	-1.39	.16				
	Disclosure Avoidance	0.27	6.90	< .001				
2	Constant		12.00	< .001	0.36	0.13	24.34 (1, 676)	< .001
	Age	-0.09	-2.33	.02				
	Race/Ethnicity	-0.05	-1.41	.16				
	Disclosure Avoidance	0.24	6.20	< .001				
	Gender Identity	-0.18	-4.93	< .001				
3	Constant		11.79	< .001	0.36	0.13	0.67 (1, 675)	.41
	Age	-0.09	-2.25	.03				
	Race/Ethnicity	-0.05	-1.41	.16				
	Disclosure Avoidance	0.21	3.55	< .001				
	Gender Identity	-0.21	-4.03	< .001				
	Gender x Disclosure Avoidance Interaction	0.05	0.82	.41				
Anxiety Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		10.08	< .001	0.26	0.07	16.59 (3, 677)	< .001
	Age	-0.11	-2.88	.004				
	Race/Ethnicity	-0.05	-1.31	.19				
	Disclosure Avoidance	0.21	5.23	< .001				
2	Constant		10.72	< .001	0.29	0.08	11.81 (1, 676)	.001
	Age	-0.10	-2.78	.01				
	Race/Ethnicity	-0.05	-1.32	.19				
	Disclosure Avoidance	0.19	4.70	< .001				
	Gender Identity	-0.13	-3.44	.001				
3	Constant		10.77	< .001	0.30	0.09	2.59 (1, 675)	.11
	Age	-0.10	-2.64	.01				
	Race/Ethnicity	-0.05	-1.33	.18				

	Disclosure Avoidance	0.12	1.96	.05				
	Gender Identity	-0.19	-3.55	< .001				
	Gender x Disclosure Avoidance Interaction	0.11	1.61	.11				
Suicidal Ideation Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		12.63	< .001	0.28	0.08	19.31 (3, 679)	< .001
	Age	-0.10	-2.71	.01				
	Race/Ethnicity	0.02	0.40	.69				
	Disclosure Avoidance	0.22	5.72	< .001				
2	Constant		12.88	< .001	0.30	0.09	8.48 (1, 678)	.004
	Age	-0.10	-2.62	.01				
	Race/Ethnicity	0.02	0.41	.68				
	Disclosure Avoidance	0.21	5.27	< .001				
	Gender Identity	-0.10	-2.75	.01				
3	Constant		12.65	< .001	0.30	0.09	0.63 (1, 677)	.43
	Age	-0.10	-2.54	.01				
	Race/Ethnicity	0.02	0.40	.69				
	Disclosure Avoidance	0.17	2.88	.004				
	Gender Identity	-0.14	-2.54	.01				
	Gender x Disclosure Avoidance Interaction	0.06	0.87	.38				

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-Hispanic/Latinx white, 1 = all other racial/ethnic identities.

Supplemental Table 4*Financial Strain Models*

Depression Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		10.54	< .001	0.31	0.09	43.29 (2, 835)	< .001
	Age	-0.16	-4.91	< .001				
	Financial Strain	0.26	7.80	< .001				
2	Constant		11.79	< .001	0.35	0.12	25.88 (1, 834)	< .001
	Age	-0.15	-4.55	< .001				
	Financial Strain	0.24	7.25	< .001				
	Gender Identity	-0.17	-5.09	< .001				
3	Constant		10.01	< .001	0.35	0.12	1.92 (1, 833)	.17
	Age	-0.15	-4.57	< .001				
	Financial Strain	0.18	3.16	.002				
	Gender Identity	-0.28	-3.24	.001				
	Gender x Financial Strain Interaction	0.13	1.39	.17				
Anxiety Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		8.06	< .001	0.39	0.15	73.35 (2, 835)	< .001
	Age	-0.18	-5.69	< .001				
	Financial Strain	0.34	10.57	< .001				
2	Constant		8.92	< .001	0.41	0.16	14.16 (1, 834)	< .001
	Age	-0.17	-5.41	< .001				
	Financial Strain	0.32	10.13	< .001				
	Gender Identity	-0.12	-3.76	< .001				
3	Constant		7.50	< .001	0.41	0.16	0.86 (1, 833)	.35
	Age	-0.17	-5.42	< .001				
	Financial Strain	0.28	5.22	< .001				
	Gender Identity	-0.19	-2.31	.02				
	Gender x Financial Strain Interaction	0.08	0.93	.35				
Suicidal Ideation Models		β	t	p	R	R ²	$F\Delta$ (df1, df2)	$p F\Delta$
1	Constant		12.02	< .001	0.28	0.08	23.24 (3, 826)	< .001
	Age	-0.15	-4.38	< .001				

	Race/Ethnicity	0.08	2.36	.02				
	Financial Strain	0.21	6.25	< .001				
2	Constant		12.15	< .001	0.30	0.09	11.18 (1, 825)	.001
	Age	-0.14	-4.13	< .001				
	Race/Ethnicity	0.08	2.32	.02				
	Financial Strain	0.20	5.85	< .001				
	Gender Identity	-0.11	-3.34	.001				
3	Constant		9.60	< .001	0.30	0.09	0.12 (1, 824)	.73
	Age	-0.14	-4.12	< .001				
	Race/Ethnicity	0.08	2.31	.02				
	Financial Strain	0.21	3.73	< .001				
	Gender Identity	-0.08	-0.96	.34				
	Gender x Financial Strain Interaction	-0.03	-0.35	.73				

Note. Gender identity: 0 = transgender or gender diverse, 1 = cisgender; race/ethnicity: 0 = non-Hispanic/Latinx white, 1 = all other racial/ethnic identities.