Original article

Sexual and Gender Minority Young Adult Coping Disparities During the COVID-19 Pandemic

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A B S T R A C T

Purpose: The COVID-19 pandemic has exacerbated several existing health disparities in the U.S. Sexual and gender minority (SGM) health disparities may also be widening during the pandemic, though few studies have assessed this question. This study examined SGM young adult disparities in health-related behaviors to cope with isolation during the pandemic.
Methods: Respondents from a prospective cohort of Southern California young adults (N = 2,298) reported whether they engaged in various strategies (e.g., substance use, diet, exercise, relaxation) to cope with isolation during the pandemic (each: yes/no). Differences in coping were assessed across five SGM subgroups: heterosexual men and women, lesbian, gay, bisexual, pansexual, queer (LGBQ) men and women, transgender/nonbinary (TNB) respondents. Negative binomial regressions estimated sexual/gender identity differences in the number of positive or negative behaviors endorsed, adjusting for sociodemographic characteristics and prepandemic health behaviors. Differences were also tested across individual coping behaviors.
Results: Heterosexual women (IRR = 1.11 [1.01−1.21]), LGBQ men (IRR = 1.31 [1.12−1.54]), LGBQ women (IRR = 1.33 [1.19−1.49]), and TNB respondents (IRR = 1.29 [1.03−1.61]) engaged in more negative coping behaviors than heterosexual men. LGBQ men (IRR = 1.19 [1.02−1.39]) and LGBQ women (IRR = 1.20 [1.08−1.34]) also reported more negative coping behaviors versus heterosexual women. Generally, LGBQ men reported the highest prevalence of substance use, while LGBQ women and TNB reported the highest prevalence of adverse eating behaviors and self-harm.
Conclusions: SGM young adults may be disproportionately, adversely impacted by the COVID-19 pandemic. Tailored public health and clinical interventions are needed to decrease pandemic-related SGM health disparities.

IMPLICATIONS AND CONTRIBUTION

This study assessed sexual and gender minority (SGM) young adult disparities in health-related behaviors to cope with isolation during the COVID-19 pandemic. Compared to heterosexuals, SGM respondents reported greater engagement in negative coping behaviors (e.g., substance use, adverse eating behaviors, self-harm). Tailored interventions may decrease pandemic-related SGM health disparities.

The COVID-19 pandemic has exacerbated existing health disparities in the U.S. [1–3]. Sexual and gender minority (SGM; e.g., lesbian, gay, bisexual, transgender) populations have long faced disparities in health [4–6], and health professionals have worried that SGM people may have been disproportionately impacted by the pandemic [7–13], which could perpetuate and

expand existing health inequities. SGM health disparities are due, in part, to differential engagement in adverse health behaviors, such as substance use [14–17], and disruptions and stressors (e.g., isolation) associated with the pandemic have been shown to increase people's engagement in adverse health behaviors (e.g., increased substance use, social disengagement, decreases in exercise) [18,19].

"Social distancing" (also referred to as "physical distancing")—the practice of limiting contact with others outside the home and maintaining physical distance from others when in public spaces to prevent SARS-CoV-2 transmission [20]—may result in greater isolation and long-term effects on stress and mental health [21–24]. These effects may be particularly detrimental to young adults, for whom interpersonal relationships are especially important [25,26]. Young adults are also more likely than older adults to experience educational disruptions and are more vulnerable to job loss during the pandemic [24], which could contribute to additional stress and increase the severity of mental health conditions (e.g., depression, anxiety). It is thus important to understand the unique impacts of pandemic-related stress on young adult behavioral health.

Social distancing may disproportionately impact SGM young adults, who have reported greater levels of distress and isolation due to COVID-19 and fewer coping resources than non-SGM young people [27]. For example, in a convenience sample of 170 U.S. men and women, sexual minority respondents reported greater psychological distress due to COVID-19, above and beyond the distress reported by heterosexual individuals [28]. Studies among SGM youth and young adults have also revealed that many have concerns about feeling isolated at home with unsupportive families, and have challenges attaining needed social support [29,30]. In an online panel of SGM young adults conducted in March 2020, those recruited after (vs. prior to) the enactment of social distancing guidelines reported lower levels of hope for the future and higher levels of alcohol use [31]. Furthermore, even prior to the pandemic, SGM (vs. non-SGM) populations were more likely to have insecure employment, to live below the poverty line, and to experience homelessness [12,13,27]. Combined, these challenges may contribute to SGM young adults' stress and subsequent coping responses, though it is unclear whether SGM and non-SGM young adults are coping differently during the pandemic.

This observational cohort study assesses differences in use of both "positive" (e.g., problem-solving strategies that promote mental and/or physical health) and "negative" (e.g., avoidant strategies that may harm mental and/or physical health) strategies for coping with the pandemic between SGM and non-SGM young adults during the COVID-19 pandemic. Various coping strategies were assessed (e.g., substance use, diet, exercise, relaxation) across five SGM subgroups (heterosexual men and women, lesbian, gay, bisexual, pansexual, queer [LGBQ] men and women, transgender/non-binary [TNB] respondents), allowing for a detailed understanding of how SGM—versus non-SGM—young adults have coped with the pandemic.

Methods

Study design

Data were from a prospective cohort of young adults in Southern California, originally recruited in fall 2013 from 10 Los Angeles, CA metropolitan area high schools, when students were in ninth grade (mean age: 14.1; N = 3,396). Respondents have since been surveyed repeatedly, with biannual surveys conducted throughout high school and roughly annual surveys administered following the completion of high school in 2017. Further details about the study design can be found elsewhere [32]. Data from the most recent wave of data collection ("during pandemic," collected via internet between May and October 2020, mean age = 21.2, standard deviation = .4) were used for the present analyses, when questions related to coping with COVID-19 social distancing and isolation were first asked. Three variables from the prior wave ("prepandemic," collected January-September, 2019) survey were additionally included: past 6-month substance use, depressive symptoms, and body mass index (BMI); see "Covariates" section. All respondents with complete sexual/gender identity information and valid responses to the social distancing coping questions were eligible for the current study (N = 2,298). The study was approved by the University of Southern California Institutional Review Board.

Variables

Coping with social distancing and isolation. Respondents were asked, "To cope with social distancing and isolation are you doing any of the following? (Select all that apply; each yes/no)." Five positive (e.g., "Taking breaks from watching, reading, or listening to news stories, including social media," "Taking care of your body, such as taking deep breaths, stretching, or meditating," "Making time to relax") and 10 negative (e.g., "Drinking alcohol," "Eating high fat or sugary foods," "Cutting or self-injury") coping behaviors were included as response options Responses were categorized as either "positive" or "negative" by the research team. As part of a larger cohort survey on adolescent/young adult mental health and substance use, the response options included on the survey focused largely on mental health and substance use outcomes; a full list of response options is included in Supplemental Table 1. For regression models, sum scores for the total number of positive (range 0–5) and negative (range 0–10) coping behaviors were calculated for each respondent.

Sexual orientation/gender identity. For sexual identity, respondents were asked "do you consider yourself to be:" (single choice: asexual, bisexual, gay, straight, lesbian, pansexual, queer, questioning or unsure, another identity not listed here, prefer not to disclose). Respondents were categorized as either heterosexual or LGBQ (asexual, lesbian, gay, bisexual, pansexual, queer, questioning or unsure, another identity). Those selecting "prefer not to disclose" were marked as missing for sexual identity. For gender identity, respondents were asked "With which gender identity do you most identify" (male/masculine, female/feminine, transgender male, transgender female, gender variant/nonbinary, additional gender category, prefer not to disclose). Respondents were categorized using the "two-step approach" per prior research [33] as follows: man (male/masculine), woman (female/feminine), and TNB (if identified as transgender male, transgender female, gender variant/nonbinary, additional gender category, or if sex assigned at birth [assessed with a separate question as male vs. female] did not align with current gender identity). Respondents selecting "prefer not to disclose" were marked as missing for gender identity. For analysis, a five-level categorical variable was calculated based on both sexual identity and gender identity: heterosexual men, heterosexual women, LGBQ men, LGBQ women, and TNB respondents. TNB

respondents were categorized as such, regardless of sexual identity due to the small number of respondents in this category (though 38 identified as LGBQ, 8 as heterosexual, and 6 did not indicate a sexual identity).

Covariates. Race/ethnicity was assessed using the question "please choose one term that best describes you" (American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander, White, Multiracial, Other), which was collapsed into a six-level variable (Hispanic, Asian, White, Black, Other, Multiracial). Educational status was assessed using a three-level variable (completed high school or less, completed some college, completed an associate's degree or greater). Subjective financial status was assessed with the question, "Considering your own income and the income from any other people who help you, how would you describe your overall personal financial situation?" (live comfortably, meet needs with a little left, just meet basic expenses, do not meet basic expenses).

Three items from the prepandemic survey were also included as covariates to account for prepandemic (January-September 2019) behavioral health differences across sexual/gender identity groups: total number of substances used in the past 6 months (range 0–23 substances, including tobacco, alcohol, cannabis, and various illicit and nonmedical use of prescription drugs), depressive symptoms (assessed using the 10-item Center for Epidemiologic Studies-Depression scale [34], score range 0–30), and BMI (assessed using respondents' self-reported height and weight). All missing covariates—from both the prepandemic and during-pandemic waves—were imputed via a single imputation with chained equations, using predictive mean matching [35], with age, race, and sex at birth used as predictors.

Data analysis

First, sociodemographic characteristics of the sample were calculated and compared by sexual/gender identity using chi-square (categorical variables) and *F*-tests (continuous variables). Next, a series of negative binomial regression models were used to evaluate the associations between sexual/gender identity and the number of positive and negative coping behaviors reported. For each outcome, we adjusted for participants' sociodemographic characteristics (race/ethnicity, educational attainment, subjective financial status, and age), as well as prepandemic behavioral health (past 6-month substance use, depressive symptoms, and BMI). Given their privileged social statuses relative to SGM populations, two sets of regression models were run—one set with heterosexual men as the referent group (Model 1) and another set with heterosexual women as the referent group (Model 2). After each regression model, post hoc pairwise tests compared SGM subgroups to one another. Finally, secondary analyses assessed the prevalence of each individual coping behavior by sexual/ gender identity. Comparisons were made using omnibus chi-square tests. Post hoc pairwise tests then compared all other groups to one another using Bonferroni-adjusted *p*-values. Data were analyzed using Stata version 15.

Results

Sample characteristics

In the sample (N = 2,298), 792 (34.5%) were heterosexual men, 1,021 (44.4%) were heterosexual women, 120 (5.2%) were LGBQ men, 313 (13.6%) were LGBQ women, and 52 (2.3%) were TNB (Table 1), consistent with national estimates [36]. There were several demographic differences by sexual/gender identity. The groups differed by race/ethnicity (*p* = .005), with for instance, higher proportions of heterosexual women (57.8%) and LGBQ women (59.7%) reporting they were Latinx, compared to heterosexual men (50.8%), LGBQ men (54.2%), and TNB respondents (48.1%). TNB respondents were the most likely (84.6%) and heterosexual men were the least likely (68.9%) to be enrolled in college, or have completed an associate's degree or greater (*p* = .003). However, in terms of subjective financial status, heterosexual men were the most likely (49.5%) and TNB respondents were the least likely (34.6%) to report that they lived comfortably (*p* = .013). The mean age across groups ranged from 21.1 to 21.3 (*p* < .001).

There were also behavioral health differences by sexual/ gender identity prepandemic. SGM groups reported using more substances in the past 6 months, compared to heterosexual groups, with TNB respondents reporting the greatest number (mean = 4.3) and heterosexual men and women reporting the fewest number of substances used (mean = 2.8 for both groups; *p* < .001). Similarly, SGM groups reported more depressive symptoms prepandemic than heterosexual groups, with TNB respondents reporting the most (mean = 12.3 symptoms) and heterosexual men reporting the fewest depressive symptoms (mean = 8.7; *p* < .001). TNB respondents had the lowest (mean = 23.6) and LGBQ men had the highest (mean = 26.3) BMI prepandemic (*p* = .019).

Sexual/gender identity differences in engaging in positive and negative coping behaviors

Positive coping behaviors. Depicted in Table 2, heterosexual women reported greater engagement in positive coping than heterosexual men (Model 1: incidence risk ratio [IRR] = 1.12, 95% confidence interval [CI] 1.06–1.18, *p* < .001). LGBQ men reported marginally lower engagement in positive coping than heterosexual women (Model 2: IRR = .91, 95% CI .81–1.01, *p* = .082). There were no other differences in positive coping noted for SGM subgroups, compared to heterosexual men or women (all *p* > .100). There were also no pairwise differences in positive coping detected between SGM subgroups (i.e., among LGBQ men, LGBQ women, and TNB respondents).

Negative coping behaviors. Heterosexual women (Model 1: IRR = 1.11, 95% CI 1.01–1.21, *p* = .023), LGBQ men (IRR = 1.31, 95% CI 1.12–1.54, *p* = .001), LGBQ women (IRR = 1.33, 95% CI 1.19–1.49, *p* < .001), and TNB respondents (IRR = 1.29, 95% CI 1.03–1.61, *p* = .024) all reported greater engagement in negative coping behaviors than heterosexual men. Compared to heterosexual women, LGBQ men (Model 2: IRR = 1.19, 95% CI 1.02–1.39, *p* = .029) and LGBQ women (IRR = 1.20, 95% CI 1.08–1.34, *p* < .001) also reported greater engagement in negative coping behaviors. There were no pairwise differences in negative coping detected between SGM subgroups (i.e., among LGBQ men, LGBQ women, and TNB respondents).

Prevalence of individual coping behaviors by sexual/gender identity

Positive coping behaviors. When examined individually, significant group differences were evident for all positive coping

Table 1
Sample characteristics by sexual/gender identity (N = 2,298)

	Heterosexual man (N = 792)	Heterosexual woman (N = 1,021)	LGBQ man (N = 120)	LGBQ woman (N = 313)	Transgender/Non-binary (N = 52)	p-value
Race/ethnicity (%)						.005
Latinx	50.8	57.8	54.2	59.7	48.1	
Other	2.2	1.7	4.2	.6	5.8	
Asian	21.7	16.1	20.0	12.8	15.4	
Black	4.3	3.5	1.7	3.2	.0	
White	12.3	10.9	11.7	11.5	15.4	
Multiracial	8.8	10.1	8.3	12.1	15.4	
Enrollment in degree program (%)						.003
High school or less	31.1	25.5	28.3	24.9	15.4	
Some college	52.7	53.4	55.8	57.5	75.0	
Associates degree or more	16.3	21.2	15.8	17.6	9.6	
Financial status (%)						.013
Live comfortably	49.5	42.7	45.0	43.1	34.6	
Meet needs with a little left	29.2	31.9	28.3	27.8	40.4	
Just meet basic expenses	19.6	21.9	24.2	23.3	19.2	
Don't meet basic expenses	1.8	3.4	2.5	5.8	5.8	
Age (mean)	21.3	21.2	21.2	21.1	21.2	<.001
Prepandemic past 6-month number of substances used (mean)	2.8	2.8	3.9	4.0	4.3	<.001
Prepandemic CES-D (mean)	8.7	9.3	10.0	11.8	12.3	<.001
Prepandemic BMI (mean)	24.9	24.6	26.3	25.0	23.6	.019

Omnibus chi-square (categorical variables) and *F*-tests (continuous variables) were used to test differences across sexual/gender identity categories.
BMI = body mass index; CES-D = Center for Epidemiologic Studies-Depression scale; LGBQ = lesbian, gay, bisexual, queer.

Table 2
Sexual and gender identity differences in COVID-19 social distancing and isolation coping behaviors

	Model 1		Model 2	
	IRR (95% CI)	p-value	IRR (95% CI)	p-value
Positive coping behaviors, sum score				
Heterosexual man	Reference		.90 (.85–.95)	<.001
Heterosexual woman	1.12 (1.06–1.18)	<.001	Reference	
LGBQ man	1.01 (.90–1.13)	.849	.91 (.81–1.01)	.082
LGBQ woman	1.06 (.98–1.14)	.171	.95 (.88–1.02)	.143
Transgender/non-binary	1.12 (.96–1.32)	.150	1.01 (.86–1.18)	.932
Negative coping behaviors, sum score				
Heterosexual man	Reference		.90 (.83–.99)	.023
Heterosexual woman	1.11 (1.01–1.21)	.023	Reference	
LGBQ man	1.31 (1.12–1.54)	.001	1.19 (1.02–1.39)	.029
LGBQ woman	1.33 (1.19–1.49)	<.001	1.20 (1.08–1.34)	<.001
Transgender/non-binary	1.29 (1.03–1.61)	.024	1.17 (.94–1.45)	.164

All models control for sociodemographic characteristics (race/ethnicity, educational attainment, financial status, and age) as well as behavioral characteristics (prior history of substance use and depressive symptoms, body mass index). In Model 1, heterosexual men are the referent group. In Model 2, heterosexual women are the referent group.
CI = confidence interval; IRR = incidence risk ratio; LGBQ = lesbian, gay, bisexual, queer.

behaviors except making time to relax (Figure 1). Omnibus *p*-values are reported in-text, though specific pairwise comparisons are also shown in Figure 1. LGBQ men were most likely (56.7%) and LGBQ women were least likely (45.7%) to report engaging in healthy behaviors, such as trying to eat healthy and exercising regularly (*p* = .001). TNB respondents were most likely (73.1%, 76.9%) and heterosexual men were least likely (55.4%, 54.6%) to report taking breaks from the news and connecting with others, respectively (both *p* < .001). LGBQ women were most likely (54.6%) and TNB respondents were least likely to report taking care of their bodies to cope with social distancing and isolation (48.1%, *p* = .024).

Negative coping behaviors. There were also significant group differences for all negative coping behaviors (Figure 2). Omnibus *p*-values are reported in-text, though specific pairwise comparisons are also shown in Figure 2. Heterosexual men were the least likely (25.8%, 22.7%, 17.7%) and TNB respondents were the most likely (48.1%, 40.4%, 36.5%) to report eating high fat or sugary foods, to eat more food than usual, and also to eat less food than usual, respectively (all *p* < .001). Heterosexual men were the least likely (23.4%) and LGBQ women were the most likely (34.8%) to report drinking alcohol to cope with social distancing and isolation (both *p* = .002). Heterosexual women were least likely (20.7%, 6.1%) and LGBQ
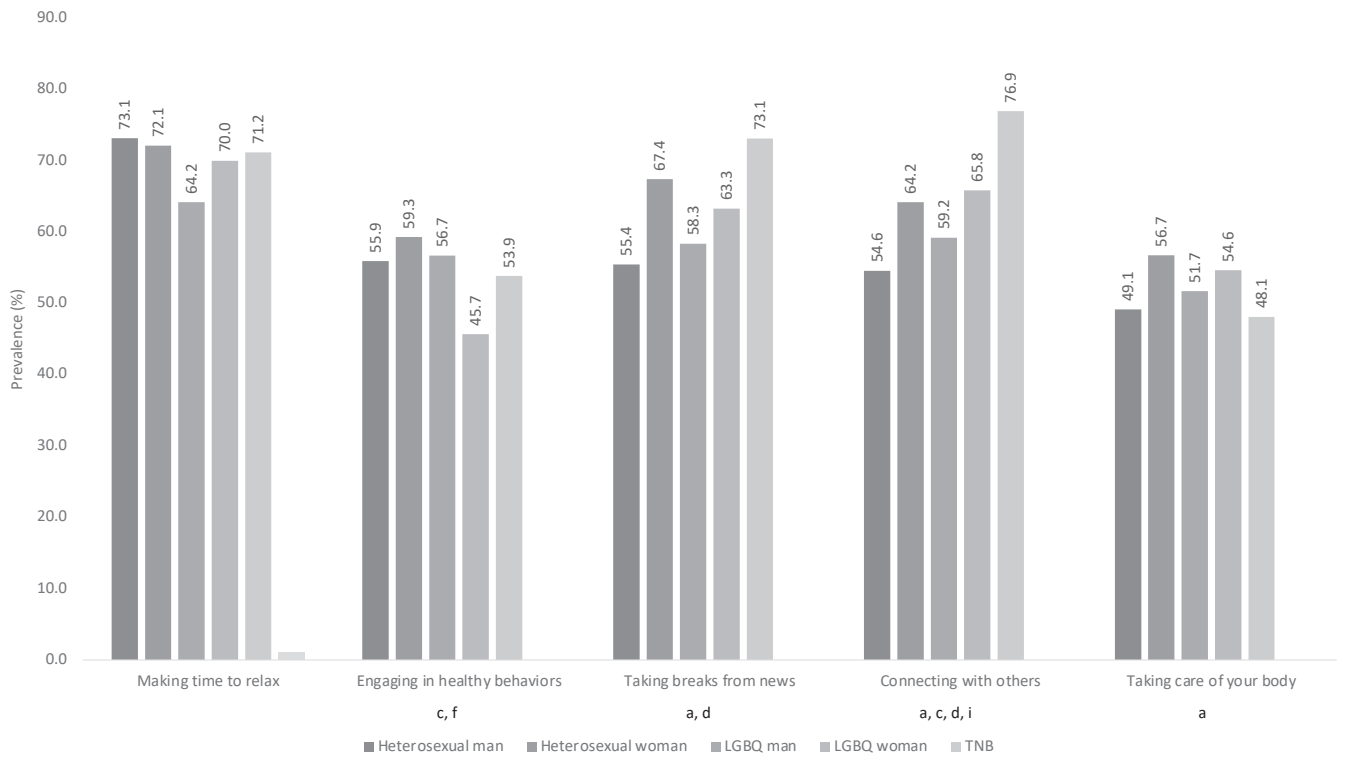
Figure notes: Significant (omnibus p<0.05) differences between sexual/gender identity groups were found for all coping behaviors except making time to relax. Letters denote significant pairwise comparisons (Bonferroni-adjusted p <0.05) between:
Heterosexual men and (a) heterosexual women, (b) LGBQ men, (c) LGBQ women, (d) TNB,
between heterosexual women and (e) LGBQ men, (f) LGBQ women, (g) TNB,
between LGBQ men and (h) LGBQ women, (i) TNB, and
between LGBQ women and (j) TNB

Figure 1. Prevalence (%) of engaging in positive COVID-19 coping behaviors and contacting a healthcare provider. Significant (omnibus *p* <.05) differences between sexual/gender identity groups were found for all coping behaviors except making time to relax. Letters denote significant pairwise comparisons (Bonferroni-adjusted *p* <.05) between heterosexual men and (A) heterosexual women, (B) LGBQ men, (C) LGBQ women, and (D) TNB; between heterosexual women and (E) LGBQ men, (F) LGBQ women, and (G) TNB; between LGBQ men and (H) LGBQ women and (I) TNB; and between LGBQ women and (J) TNB.

men were most likely to use cannabis and to smoke/vape more (39.2%, 11.7%) to cope with social distancing (*p* < .001, *p* = .004, respectively). Heterosexual women (4.6%) were the least likely and LGBQ men were the most likely (10.8%) to report over-exercising (*p* < .001). Heterosexual men were the least likely (1.3%), while TNB respondents were most likely to use nonprescription drugs (7.7%, *p* < .001). Heterosexual men were the least likely (.8%), while LGBQ men were most likely to use prescription drugs (5.0%, *p* < .001). Finally, heterosexual women were least likely (.4%), while LGBQ women were 8 times as likely to report cutting or self-injury to cope with social distancing and isolation (3.2%, *p* < .001).

Discussion

This study provides new evidence that young adults have used a wide range of behavioral strategies to cope with social distancing and isolation during the COVID-19 pandemic, with key differences noted between SGM and non-SGM young adults. Namely, SGM (vs. non-SGM) respondents were more likely to engage in negative, but less so positive, coping strategies. All SGM subgroups reported engaging in a higher number of

negative coping behaviors than heterosexual men, as well as heterosexual women (with the exception of TNB respondents). Specifically, these findings indicate that SGM youth are engaging in more negative coping strategies to deal with isolation/social distancing, suggesting that SGM young adults are indeed faring worse than non-SGM young adults with isolation due to COVID-19, as hypothesized by public health and clinical professionals who work with these populations [7–10].

Even prior to the pandemic, however, SGM youth and young adults used more alcohol and other drugs, and reported worse mental health on average, compared to non-SGM people, due in large part to minority stress processes [37,38]. It is therefore important that even after controlling for prepandemic differences in substance use, depressive symptoms, and BMI, SGM young adults still reported greater engagement in negative alcohol/drug, diet/exercise, and mental health-related behaviors to cope with social distancing and isolation, compared to non-SGM young adults. This finding suggests that SGM youth have struggled with isolation from social distancing above and beyond existing population differences in SGM mental health, substance use, and diet. Additional research is needed to understand this finding, though it is possible that the pandemic has presented
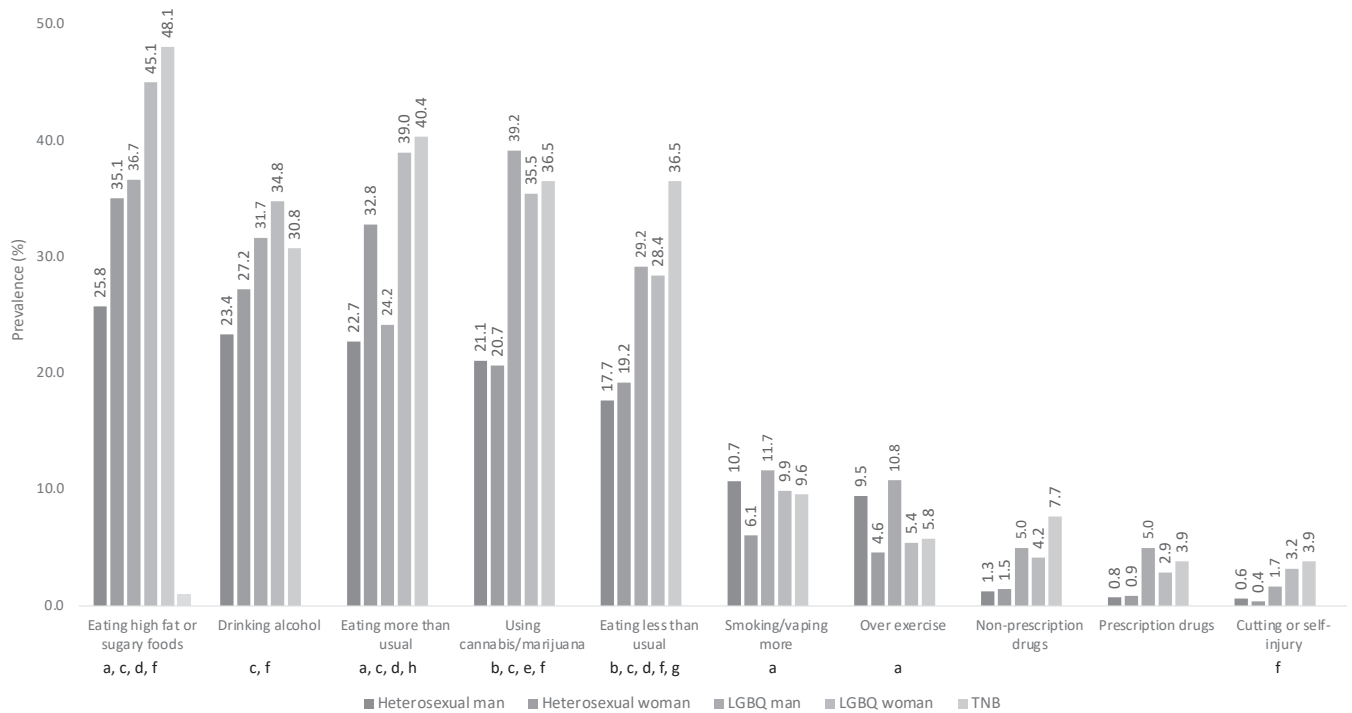
Figure notes: Significant (omnibus p<0.05) differences between sexual/gender identity groups were found for all coping behaviors. Letters denote significant pairwise comparisons (Bonferroni-adjusted p <0.05) between:
Heterosexual men and (a) heterosexual women, (b) LGBQ men, (c) LGBQ women, (d) TNB,
between heterosexual women and (e) LGBQ men, (f) LGBQ women, (g) TNB,
between LGBQ men and (h) LGBQ women, (i) TNB, and
between LGBQ women and (j) TNB

Figure 2. Prevalence (%) of engaging in negative COVID-19 coping behaviors. Significant (omnibus *p* <.05) differences between sexual/gender identity groups were found for all coping behaviors. Letters denote significant pairwise comparisons (Bonferroni-adjusted *p* <.05) between heterosexual men and (A) heterosexual women, (B) LGBQ men, (C) LGBQ women, and (D) TNB; between heterosexual women and (E) LGBQ men, (F) LGBQ women, and (G) TNB; between LGBQ men and (H) LGBQ women and (I) TNB; and between LGBQ women and (J) TNB.

SGM young adults with unique minority-related stressors (e.g., related to having to isolate with unsupportive families, and with less social support than heterosexual young adults) [29,30], contributing to increased reliance on adverse health-related coping strategies.

Secondary analyses of individual coping behaviors suggested that these differences were not unilaterally present across the individual behaviors. LGBQ men were generally more likely than other groups to report using alcohol and other drugs to cope with social distancing; they had either the highest (cannabis, smoking/vaping, prescription drugs) or second-highest prevalence (alcohol, nonprescription drugs) of engaging in these coping behaviors, among all groups. Meanwhile, LGBQ women and TNB respondents were generally the most likely groups to cope by eating high-fat/sugary foods, over or under eating, or to engage in cutting or self-injury. These findings correspond with prior research showing SGM subgroup differences in health risk behaviors, including increased risk of alcohol use and abuse among LGBQ men and diet and exercise-related risk behaviors among transgender women [39]. Together, these results suggest the need for different interventions to address pandemic-related behavioral health disparities across various SGM young adult subgroups (e.g., substance use prevention and treatment resources tailored to LGBQ young men, diet/exercise promotion,

and psychiatric treatment tailored to LGBQ women and TNB young adults).

Although there were fewer group differences in engagement in positive coping behaviors, heterosexual women generally reported engaging in more positive coping behaviors than heterosexual men. Furthermore, while there were no differences in the *number* of positive coping behaviors that SGM and non-SGM respondents engaged in, SGM subgroups did report high prevalence of engagement in several individual positive coping behaviors (e.g., TNB respondents were the most likely group to report taking breaks from the news). SGM respondents were also more likely than heterosexual men to report connecting with others. Coupled with higher engagement in negative coping behaviors, this may suggest the need for interventions that foster interpersonal and community engagement among SGM young adults—something that SGM young people have reported they are lacking as they cope with the pandemic [30].

Limitations

This study has limitations. First, although the sample was a large, diverse sample of young adults from the Los Angeles, CA metropolitan area, it may not be representative of young adults from the region, or nationally. In addition, as a broader

population sample of young adults, it contained a relatively small number of LGBQ men (N = 90) and TNB respondents (N = 52). Despite the small number of respondents from these groups, however, stark disparities in coping patterns were observed. Similarly, we acknowledge that SGM identities are not mutually exclusive. Due to limited analytic power, all gender minority (i.e., TNB) respondents were categorized as such, regardless of their sexual identity, though ideally, LGBQ and heterosexual gender minority respondents would have been analyzed separately. In addition, although we assessed a wide range of both positive and negative social distancing coping strategies related to substance use, diet/exercise, and mental health, they may not be comprehensive of the myriad ways in which young adults are coping with pandemic-related stress (e.g., by overworking, withdrawing from social supports, and/or reading information online). It is also possible that there are SGM (vs. non-SGM) differences in social desirability related to endorsement of behavioral health-relevant coping behaviors. However, controlling for prepandemic behavioral health likely accounted for this potential bias. Finally, response options for all coping variables were also binary (yes/no), restricting our ability to detect differences in the frequency and/or intensity of the various coping behaviors endorsed. Future investigations should aim to more comprehensively assess pandemic-related coping strategies, and ideally longitudinally.

In conclusion, using a large, diverse sample of young adults from the Los Angeles, CA metropolitan area, we found that SGM and non-SGM young adults have been coping differently during the ongoing COVID-19 pandemic. Generally, LGBQ men reported heavy reliance on alcohol and other drugs to cope, while LGBQ women and TNB respondents reported heavy reliance on dietary coping strategies and deliberate self-harm. These results suggest that SGM young adults may be disproportionately impacted by COVID-19-related social stress and have implications for public health and clinical responses to counteract the perpetuation and potential widening of SGM disparities in behavioral health during the COVID-19 pandemic.

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Supplementary Data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.jadohealth.2021.07.021.

References

[1] van Dorn A, Cooney RE, Sabin ML. COVID-19 exacerbating inequalities in the US. Lancet 2020;395:1243–4.
[2] Chowkwanyun M, Reed AL Jr. Racial health disparities and Covid-19—caution and context. N Engl J Med 2020;383:201–3.
[3] Hooper MW, Nápoles AM, Pérez-Stable EJ. COVID-19 and racial/ethnic disparities. JAMA 2020.
[4] Graham R, Berkowitz B, Blum R, et al. The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington, DC: Institute of Medicine; 2011:89–139.
[5] Meyer IH. Why lesbian, gay, bisexual, and transgender public health? Am J Public Health 2001;91:856–9.
[6] Bostwick WB, Boyd CJ, Hughes TL, et al. Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. Am J Public Health 2010;100:468–75.
[7] Phillips G II, Felt D, Ruprecht MM, et al. Addressing the disproportionate impacts of the COVID-19 pandemic on sexual and gender minority populations in the United States: Actions toward equity. LGBT health 2020;7:279–82.
[8] Lovelace B Jr. Doctors worry coronavirus pandemic may hit LGBTQ people harder than most. CNBC; 2020.
[9] Banerjee D, Nair VS. "The Untold Side of COVID-19": Struggle and perspectives of the sexual minorities. J Psychosexual Health 2020;2:113–20.
[10] Gibb JK, DuBois LZ, Williams S, et al. Sexual and gender minority health vulnerabilities during the COVID-19 health crisis. Am J Hum Biol 2020;32:e23499.
[11] O'Neill KK. Health vulnerabilities to COVID-19 among LGBT adults in California. Los Angeles, CA: Williams Institute; 2020.
[12] O'Neill KK. Economic vulnerabilities to COVID-19 among LGBT Adults in California. Los Angeles, CA: Williams Institute, UCLA School of Law; 2020.
[13] Herman JL, O'Neal K. Vulnerabilities to COVID-19 among transgender adults in the U.S. Los Angeles, CA: Williams Institute, UCLA School of Law; 2020.
[14] Krueger EA, Upchurch DM. Are sociodemographic, lifestyle, and psychosocial characteristics associated with sexual orientation group differences in mental health disparities? Results from a national population-based study. Social Psychiatry Psychiatr Epidemiol 2019;54:755–70.
[15] Fish JN, Turner B, Phillips G, et al. Cigarette smoking disparities between sexual minority and heterosexual youth. Pediatrics 2019;143:e20181671.
[16] Kcomt L, Evans-Polce RJ, Veliz PT, et al. Use of Cigarettes and E-Cigarettes/vaping among transgender people: Results from the 2015 US transgender survey. Am J Prev Med 2020;59:538–47.
[17] Veliz PT, McCabe SE, Hughes TL, et al. Sexual orientation and Hypertension risk Reduction behaviors among adults with high Blood Pressure. Ann LGBTQ Public Popul Health 2020;1:115–27.
[18] Park CL, Russell BS, Fendrich M, et al. Americans' COVID-19 stress, coping, and adherence to CDC guidelines. J Gen Intern Med 2020;35:2296–303.
[19] Knell G, Robertson MC, Dooley EE, et al. Health behavior changes during COVID-19 pandemic and subsequent "stay-at-home" orders. Int J Environ Res Public Health 2020;17:6268.
[20] CDC. Social distancing: Keep a Safe distance to Slow the Spread. Available at: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html. Accessed March 4, 2021.
[21] Huremović D. Social distancing, quarantine, and isolation. Psychiatry of pandemics. Switzerland: Springer, Cham; 2019:85–94.
[22] Carvalho Aguiar Melo M, de Sousa Soares D. Impact of social distancing on mental health during the COVID-19 pandemic: An urgent discussion. Int J Social Psychiatry 2020;66:625–6.
[23] Liu C, Stevens C, Conrad R, et al. Evidence for elevated psychiatric distress, poor sleep, and quality of life concerns during the COVID-19 pandemic among US young adults with suspected and reported psychiatric diagnoses. Psychiatry Res 2020;292:113345.
[24] Shanahan L, Steinhoff A, Bechtiger L, et al. Emotional distress in young adults during the COVID-19 pandemic: Evidence of risk and resilience from a longitudinal cohort study. Psychol Med 2020. https://doi.org/10.1017/S003329172000241X.
[25] Pulakos J. Young adult relationships: Siblings and friends. The J Psychol 1989;123:237–44.
[26] Hartup WW. Social relationships and their developmental significance. Am Psychol 1989;44:120.
[27] Salerno JP, Devadas J, Pease M, et al. Sexual and gender minority stress amid the COVID-19 pandemic: Implications for LGBTQ young Persons' mental health and well-Being. Public Health Rep 2020;135:721–7.
[28] Peterson ZD, Vaughan EL, Carver DN. Sexual identity and psychological reactions to COVID-19. Traumatology 2020;27:6–13.
[29] Gonzales G, de Mola EL, Gavulic KA, et al. Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19 pandemic. J Adolesc Health 2020;67:645–8.
[30] Fish JN, McInroy LB, Paceley MS, et al. "I'm Kinda Stuck at home with unsupportive Parents Right Now": LGBTQ youths' experiences with COVID-19 and the importance of online support. J Adolesc Health 2020;67:450–2.
[31] Scroggs B, Love HA, Torgerson C. COVID-19 and LGBTQ Emerging adults: Risk in the Face of social distancing. Emerging Adulthood 2020. https://doi.org/10.1177/2167696820968699.
[32] Leventhal AM, Strong DR, Kirkpatrick MG, et al. Association of Electronic Cigarette Use with Initiation of Combustible tobacco Product smoking in Early adolescence. JAMA 2015;314:700–7.
[33] GenIUSS Group. Gender-related Measures Overview. Los Angeles, CA: The Williams Institute, UCLA School of Law; 2013.

[34] Kohout FJ, Berkman LF, Evans DA, et al. Two shorter forms of the CES-D depression symptoms index. J Aging Health 1993;5:179—93.

[35] Little RJ. Missing-data adjustments in large surveys. J Business Econ Stat 1988;6:287—96.

[36] Gallup. LGBT Identification Rises to 5.6% in Latest U.S. Estimate. Available at: https://news.gallup.com/poll/329708/lgbt-identification-rises-latest-estimate.aspx. Accessed March 4, 2021.

[37] Russell ST, Fish JN. Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. Annu Rev Clin Psychol 2016;12:465—87.

[38] Goldbach JT, Tanner-Smith EE, Bagwell M, et al. Minority stress and substance use in sexual minority adolescents: A meta-analysis. Prev Sci 2014; 15:350—63.

[39] Smalley KB, Warren JC, Barefoot KN. Differences in health risk behaviors across understudied LGBT subgroups. Health Psychol 2016;35:103—14.