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BRIEF REPORT

Changes in Mental Health and Well-Being Are Associated With Living Arrangements With Parents During COVID-19 Among Sexual Minority Young Persons in the U.S.

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Sexual minority young persons may be at risk for compounding mental health effects of the COVID-19 pandemic due to their existing vulnerabilities for psychological inequities. Indeed, recent research has documented that sexual minority young persons are experiencing compounding psychiatric effects associated with the COVID-19 pandemic. Furthermore, researchers and practitioners have hypothesized that sexual minority youth and young adults may experience unique hardships related to their sexual and gender identities and familial conflict as a result of the COVID-19 pandemic and living arrangement changes with their parents and families. This study aims to investigate whether there are changes in sexual minority (and non-sexual minority) young adults' (SMYAs') mental health and well-being among those living with and living without their parents before and after the start of COVID-19. Among a cross-sectional sample of SMYAs ($n = 294$; $M_{age} = 22$ years; age range = 18–26) and non-SMYAs ($n = 874$; $M_{age} = 22$ years; age range = 18–26) defined by whether they were living with or living without their parents before and after the start of COVID-19, we retrospectively analyzed changes in psychological distress and well-being. SMYAs who returned to their parents' homes during post-onset of COVID-19 reported greater mental distress and lower well-being, followed by those who were living with their parents both before and after the start of COVID-19. Patterns were not consistent among non-SMYAs, and lower magnitudes of change were seen. There is a significant public health need for mental health services and family education resources for supporting SMYAs in the context of COVID-19 and beyond.

Public Significance Statement

Researchers and practitioners hypothesized that sexual minority youth and young adults may experience unique hardships related to family as a result of the COVID-19 pandemic stay-at-home orders. Our results show that both sexual minority and heterosexual young adults who consistently lived with their parents before and during the pandemic and who moved back home with their parents experienced increases in psychological distress and decreases in well-being, with greater burden seen among sexual minority young adults and those who moved back home with their parents.

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In the United States (U.S.), recent national data indicate that young people are experiencing substantial psychiatric burdens associated with the COVID-19 pandemic (Czeisler et al., 2020; Liu et al., 2020). However, sexual minority young persons may be at risk for compounding mental health effects of the COVID-19 pandemic due to their existing vulnerabilities for psychological and victimization inequities (Salerno, Williams, et al., 2020). For instance, existing research indicates that generally, sexual minority young adults face elevated rates of depression, anxiety, traumatic stress, psychological distress, and suicidal ideation and behavior (Fish et al., 2020; Gattamorta et al., 2019; Plöderl & Tremblay, 2015; Russell & Fish, 2016). Thus, sexual minority young adults may face exacerbation of existing psychological challenges as a secondary result of the COVID-19 pandemic, which could create distinct vulnerability across the life course. Indeed, research has documented that sexual minority young persons are experiencing compounding mental health-related effects associated with the COVID-19 pandemic, including elevated rates of substance use, psychological distress, depression, anxiety, and social isolation (Fish et al., 2021; Flentje et al., 2020; Gato et al., 2021; Gonzales et al., 2020; Kamal et al., 2021; Rodriguez-Seijas et al., 2020; Salerno, Pease, et al., 2020; Salerno et al., 2021).

Sexual minority young persons in the U.S. may be particularly vulnerable to experiencing changes in living circumstances as a result of social inequalities associated with the COVID-19 pandemic. For example, as a result of COVID-19, sexual minority young adults (SMYAs) may be forced to return to their parents' homes as a result of financial adversities, losing their jobs, and/or the closing and virtual operations of university campuses (Conron et al., 2021; The Trevor Project, 2021). Although heterosexual young adults may also experience these changes, the consequences may be distinct for the mental health of SMYAs. For example, SMYAs who experience prolonged confinement to homes with parents and families that are not accepting of their identities or where they are not out may experience strong declines in mental health and well-being (Fish et al., 2020; Gato et al., 2021; Gonzales et al., 2020; Ryan et al., 2009; Salerno, Pease, et al., 2020); an experience that would be unique to SMYAs.

This study seeks to shed light on the unique secondary mental health impacts of living with and living without parents during COVID-19 among SMYAs in the U.S. Specifically, the current study aims to (1) assess whether psychological distress and well-being change from pre- to post-onset of COVID-19 among SMYAs living with and living without their parents before and after the start of COVID-19, and (2) test aim 1 among non-sexual minority young adults (non-SMYAs).¹ We hypothesized that, compared to SMYAs who were consistently not living with their parents (neither before nor post-onset of COVID-19), SMYAs who were consistently living with their parents (during both pre- and post-onset of COVID-19) and SMYAs who returned home with their parents during post-onset of COVID-19 would report greater rates of psychological distress and lower mental well-being. Lastly, we hypothesized that these patterns would also be true for non-SMYAs. Producing such knowledge could improve

our understanding of the mental health needs of SMYAs during this time and in the context of different living arrangements, and inform mental and public health practice and policies during COVID-19 and beyond.

Methods

Data Source and Sample

We used national nonprobability data from the Assessing the Social Consequences of COVID-19 (ASCC) study, which seeks to understand the social behaviors and attitudes of persons in the U.S. before, during, and after COVID-19. A cross-sectional sample of $N = 3,325$ respondents were recruited between April 7 and May 15 2020 using Prolific and Amazon's Mechanical Turk (MTurk), both of which are crowdsourcing platforms that produce high quality data (Peer et al., 2017). We required a minimum amount of experience and positive reputation (Peer et al., 2014). For Prolific, participants needed to have completed 10 surveys. For MTurk, participants needed to have completed 500 HITs (Human Intelligence Tasks), which are microtasks typically shorter than a survey. Both Prolific and MTurk participants were required to have had at least 95% of their previous work accepted to gain access to our study (Peer et al., 2017). These and similar criteria have been found to ensure high-quality data without the use of attention checks (Peer et al., 2014). Additionally, the specific inclusion criteria for the parent study required participants to be at least 18 years of age or older and a U.S. resident (verified with IP address and a residency variable on the survey). The current analytic sample includes $n = 294$ SMYAs and $n = 874$ non-SMYAs between the ages of 18–26 years.

Gender, sexual orientation, education level, age, sex, school enrollment, Hispanic/Latino ethnicity, race, and geographic region information were collected from participants. Next, psychological distress, well-being, and living circumstances from pre- to post-onset of COVID-19 were collected from participants. University of Maryland institutional review board approval and participant informed consent were obtained prior to commencing data collection.

Measures

The previously validated 6-item Kessler-6 (K6) psychological distress scale (range = 0–24, $\alpha = .877\text{--}.899$; Kessler et al., 2002) measures nervousness, hopelessness, restlessness, depression, worthlessness, and whether everything is an effort within the past 30 days. Item responses are coded on a 5-point Likert scale from *none of the time* (0) to *all of the time* (4). The scale demonstrated strong internal consistency ($\alpha = .877$) in the current sample.

The previously validated Cantril Ladder measures self-rated well-being (Cantril, 1965) using the following questions: "Please

¹ Non-sexual minority young adults (non-SMYAs) are study participants who indicated their sexual orientation as heterosexual.

imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you . . . 1) "personally feel you stand before the novel coronavirus/COVID-19" and 2) "personally feel you stand currently?," with response options ranging from 1 (bottom) to 10 (top).

Pre- and post-onset of COVID-19 living circumstances were measured with the following questions: (1) "Prior to the novel coronavirus/COVID-19, did anyone other than your spouse/partner or children live in your household?" and (2) "Is anyone other than your spouse/partner or children currently living in your household?," with select-all-that-apply response options "Parents, Siblings, Roommates, Friends, Other, or No one other than spouse/partner or children." Participants were categorized based on their responses as 1) consistently not living with parents (neither pre- nor post-onset of COVID-19), 2) consistently living with parents (during both pre- and post-onset of COVID-19), or 3) returned to parents' home (not living with parents during pre-onset, but living with parents during post-onset of COVID-19).

Analytic Strategy

Data management and analyses were conducted using IBM SPSS Statistics for Mac, Version 27. Following descriptive

statistics, a one-way ANOVA was conducted to examine differences in age, and a series of chi-square tests of independence were conducted to examine differences in all other demographic variables among the three living circumstance groups of interest. Next, paired-samples t-tests assessed pre- to post-onset of COVID-19 changes in psychological distress and well-being across groups defined by their specific COVID-19 living circumstances with parents. Following, we conducted a one-way ANOVA for dependent variable change scores (post-pandemic minus pre-pandemic) to examine for statistical differences between the three living circumstance groups of interest. Friedman tests were then conducted to verify our results given that the data for these analyses were skewed. The Friedman nonparametric test is appropriate for comparing two or more dependent sample means when the data are non-normal (Lomax & Hahs-Vaughn, 2013). Lastly, the Wilcoxon Signed Ranks test was used as a post hoc analysis to examine for specific group differences; *p*-values were adjusted for multiple comparisons using the Bonferroni adjustment (Lomax & Hahs-Vaughn, 2013).

Results

SMYA and non-SMYA sample demographics are presented in Table 1. Among SMYAs in the sample, 45% were consistently not living with their parents, 47% were consistently living with their

Table 1
*Sociodemographic Characteristics Among Sexual Minority Young Adults (SMYAs; *n* = 294) and Non-SMYAs (*n* = 874) by Living Circumstance Before and After the Onset of COVID-19*

Variables	SMYAs consistently not living with parents (<i>n</i> = 131), %	Non-SMYAs consistently not living with parents (<i>n</i> = 467), %	SMYAs consistently living with parents (<i>n</i> = 139), %	Non-SMYAs consistently living with parents (<i>n</i> = 346), %	SMYAs returned to parents' homes (<i>n</i> = 24), %	Non-SMYAs returned to parents' homes (<i>n</i> = 61), %
Age [<i>M (SD)</i>]	23.20 (2.08)	21.34 (2.46)	21.14 (2.37)	23.29 (2.19)	21.88 (1.87)	20.72 (2.11)
Sex						
Male	19	55	26	49	25	34
Female	81	46	74	52	75	66
Gender identity						
Cisgender	93	100	96	100	96	100
Noncisgender	7	0	4	0	4	0
Sexual orientation						
Straight	0	100	0	100	0	100
Gay/lesbian	17	0	20	0	13	0
Bisexual	66	0	59	0	71	0
Other	17	0	21	0	17	0
Race						
White	60	52	53	59	50	59
Latino	6	16	9	15	8	12
Black	4	13	7	11	8	10
Asian	10	30	16	20	8	33
Multiracial	17	12	14	6	21	15
Other race	3	1	1	1	4	3
Education						
Associate degree or lower	55	39	78	40	46	71
Bachelor degree or higher	45	61	22	61	54	30
Enrolled in School						
Yes	49	64	40	43	38	75
No	51	36	60	57	63	25
Geographic region						
Northeast	28	29	31	27	33	18
Midwest	22	18	19	26	21	30
South	35	33	29	29	38	31
West	15	19	21	16	8	21

parents, and 8% moved in with their parents after the start of COVID-19 in the U.S. Among SMYAs, statistically significant differences in demographic characteristics between the three groups included age ($p < .001$) and education ($p < .001$). Among non-SMYAs in the sample, 53% were consistently not living with their parents, 40% were consistently living with their parents, and 7% moved in with their parents after the start of COVID-19 in the U.S. Among non-SMYAs, statistically significant differences in demographic characteristics between the three groups included age ($p < .001$), sex ($p = .001$), gender ($p = .002$), geographic region ($p = .026$), school enrollment ($p < .001$), education ($p < .001$), Asian race ($p = .005$), White race ($p = .036$), and multiracial ($p = .003$).

Pre- to post-onset changes in mental distress and well-being among SMYAs and non-SMYAs by specific COVID-19 living circumstances with parents are reported in Table 2. From pre- to post-onset of COVID-19, all SMYAs across different living circumstances reported greater psychological distress and lower well-being at post-onset compared to before the pandemic; however, the magnitude of these differences systematically varied by specific living circumstance group. The smallest magnitude of difference was seen among those consistently not living with their parents, followed by greater magnitude among those who were consistently living with their parents, and the greatest magnitude among those who returned to their parents' homes after the onset of COVID-19. Friedman tests conducted for each analysis were statistically significant ($p < .05$).

Among SMYAs, differences between the magnitudes of psychological distress and well-being change from pre- to post-pandemic among the three living circumstance groups were not statistically significant (using ANOVA). However, Friedman tests conducted for these analyses demonstrated statistical significance for both psychological distress ($p = .001$) and well-being ($p = .001$) change between the three living circumstance groups. For psychological distress, significant differences were found between those consistently living with their parents and those who returned to their parents' homes ($p < .017$), and between those consistently

not living with their parents and those who returned to their parents' homes ($p < .017$), but not between those consistently living with and not living with their parents ($p > .017$). For well-being, significant differences were found between those consistently living with their parents and those who returned to their parents' homes ($p < .017$), but not between those consistently living and not living with their parents ($p > .017$) and between those consistently not living with their parents and those who returned to their parents' homes ($p > .017$).

Among non-SMYAs, all individuals across different living circumstances reported greater psychological distress and lower well-being at post-onset compared to before the pandemic. However, magnitudes of change were consistently greater among SMYAs compared to non-SMYAs for both dependent variables. Furthermore, among non-SMYAs, change scores were very similar for both those consistently living with and consistently not living with their parents from pre- to post-onset of COVID-19, with greater magnitude being seen only among those who returned to their parents' home during post-onset. Friedman tests conducted for each analysis were statistically significant ($p < .05$).

Among non-SMYAs, differences between the magnitudes of psychological distress and well-being change from pre- to post-pandemic among the three living circumstance groups were not statistically significant (using ANOVA). However, Friedman tests conducted for these analyses demonstrated statistical significance for both psychological distress ($p < .001$) and well-being ($p < .001$). For psychological distress, significant differences were found between those consistently living with their parents and those who returned to their parents' homes ($p < .017$), as well as between those consistently not living with their parents and those who returned to their parents' homes ($p < .017$), but not between those consistently living and not living with their parents ($p > .017$). For well-being, significant differences were found between those consistently living with their parents and those who returned to their parents' homes ($p < .017$), as well as between those consistently not living with their parents and those

Table 2

Paired Samples t-Tests Assessing Change in Mental Health Indicators Among Sexual Minority and Non-Sexual Minority Young Adults by Living Circumstance Before and After the Onset of COVID-19

Variables	M_{PRE}	$M_{POST-ONSET}$	ΔM	SD	t	t-test p -value	Friedman test p -value
Sexual minority young adults							
Psychological distress							
Consistently not living with parents ($n = 129$)	9.69	11.68	1.98	5.57	4.06	<.001	<.001
Consistently living with parents ($n = 139$)	9.65	11.92	2.27	4.03	6.63	<.001	<.001
Returned to parents' homes ($n = 24$)	8.96	12.58	3.63	2.93	6.06	<.001	<.001
Self-rated well-being							
Consistently not living with parents ($n = 129$)	4.94	4.53	-0.41	1.62	-2.87	.005	.001
Consistently living with parents ($n = 139$)	5.38	4.71	-0.67	1.36	-5.78	<.001	<.001
Returned to parents' homes ($n = 24$)	6.00	5.04	-0.96	1.85	-2.53	.019	.050
Non-sexual minority young adults							
Psychological distress							
Consistently not living with parents ($n = 330$)	6.03	7.57	1.54	4.63	6.04	<.001	<.001
Consistently living with parents ($n = 465$)	6.89	8.50	1.61	4.06	8.56	<.001	<.001
Returned to parents' homes ($n = 60$)	6.62	8.93	2.32	3.77	4.76	<.001	<.001
Self-rated well-being							
Consistently Not Living with Parents ($n = 329$)	5.99	5.42	-0.57	1.44	-7.12	<.001	<.001
Consistently living with parents ($n = 465$)	5.89	5.33	-0.56	1.26	-9.51	<.001	<.001
Returned to parents' homes ($n = 61$)	6.49	5.66	-0.84	1.39	-4.69	<.001	<.001

who returned to their parents' homes ($p < .017$), but not between those consistently living and not living with their parents ($p > .017$).

Discussion

This study aimed to explore differences in psychological distress and well-being and their associations with specific living circumstances with parents from pre- to post-onset of COVID-19 among SMYAs and non-SMYAs in the U.S. Our main hypothesis was supported; compared to SMYAs consistently not living with their parents, those who were consistently living with their parents from pre- to post-onset of COVID-19 reported greater pre- to post-onset changes in psychological distress and well-being, and those who specifically returned to their parents' homes during the pandemic reported the greatest magnitude of changes. Patterns were different among non-SMYAs for psychological distress and well-being.

From pre- to post-onset of COVID-19, we noted statistically significant changes in self-rated well-being and psychological distress among all SMYAs in the sample, regardless of specific living circumstances with parents. However, consistent with our hypothesis, the magnitudes of change among SMYAs were greater among those consistently living with their parents, and greatest among SMYAs who returned to their parents' homes during COVID-19. Furthermore, we found through post hoc analysis that the change in psychological distress from pre- to post-onset of the pandemic among those who returned to their parents' homes was significantly greater than those who were consistently living and consistently not living with their parents. These findings suggest that the protective role of families during COVID-19 may be complicated for SMYAs; strong family support systems may encourage resilience among sexual minority youth, and complicated or fragile family relationships can make them vulnerable to a sequelae of mental health challenges associated with the pandemic (Fish et al., 2020; Gonzales et al., 2020; Newcomb et al., 2019; Prime et al., 2020). SMYAs confined to their parents' homes may also be lacking access to affirming school, social, and community support and resilience resources during COVID-19 that protect against poor mental health (Russell & Fish, 2016; Salerno, Devadas, et al., 2020). The mechanisms related to mental health burden among SMYAs living with their parents during COVID-19 urgently warrant further investigation and consideration from medical, mental health, and public health stakeholders. For instance, previous research documents that SMYAs face increased rates of family victimization, including physical, sexual, and emotional victimization (McGeough & Sterzing, 2018). Given that experiences of victimization at younger ages have been linked with psychiatric burden later in life among sexual minority persons (Clements-Nolle et al., 2018; Flynn et al., 2016; McGeough & Sterzing, 2018), it is essential to better understand how family processes, including family-related victimization, may be distinct for SMYAs during the COVID-19 pandemic, and the factors that might exacerbate family strain and conflict for SMYAs during this time. Understanding these processes are important for developing psychiatric services that help to address mental health concerns among sexual minority youth.

Although non-SMYAs also demonstrated increased mental health and well-being burden from pre- to post-onset of COVID-

19, the magnitudes of these increases were notably lower than for SMYAs. Furthermore, patterns were not entirely consistent with SMYAs. These findings strengthen our discussion about the unique concerns and risks among SMYAs amid the COVID-19 pandemic and emphasize that SMYAs have different experiences and needs when compared to non-SMYAs. These findings have several practice implications for medical and mental health providers that will be discussed in the forthcoming section on implications.

Limitations and Future Directions

This study used a nonprobability sampling strategy, which limits our ability to generalize findings to broader populations. Furthermore, the use of a retrospective cross-sectional data collection strategy impacts our ability to establish causality. Sample size limitations further impacted statistical power and prevented us from being able to explore nuanced multivariate mechanisms of psychological distress and well-being for SMYAs who returned to their parents' homes. Future research implementing longitudinal designs with larger samples will be able to provide more information about how COVID-19 has impacted the mental health and well-being of SMYAs and heterosexual people, and the mechanisms implicated in these changes, including via the use of multivariate statistical models. Additionally, our pre-COVID measures are adaptations of previous validations, likely providing conservative estimates. Moreover, although a single-item measure of well-being (Cantril, 1965) was used, this item is previously validated and is considered to be a strong proxy construct measure. Despite these limitations, this study provides important mental health and medical practice implications to consider in the context of COVID-19 related to the care of sexual minority young persons.

Practice Implications

Given the results of this study and that sexual minority populations are more likely to use mental health services generally (Filice & Meyer, 2018), it is critical to help prepare the mental health and medical workforce to implement competent and affirming practice to respond to sexual and gender minority (SGM) mental health needs in the time of COVID-19 (and beyond). SGM-affirmative practice includes awareness of SGM-related stressors (e.g., SGM-identity discrimination or rejection in care; Salerno, Devadas et al., 2020), intersectionality (i.e., multiple marginalized identities and associated challenges in care; Wilson et al., 2019), and identity development (e.g., coming out in the context of care; Bishop et al., 2020) concerns. SGM-affirmative practice could increase mental health services utilization and retention among SGM clients during the time of COVID-19. It is imperative for medical and mental health providers to screen for psychological concerns when providing care to young sexual minority clients (including SGM identity-related concerns) and to link youth to affirming and competent resources (Katz-Wise et al., 2016; Salerno, Devadas, et al., 2020). Providers should ensure that existing patient information collection procedures adequately capture sexual and gender identity information (e.g., sex, gender identity, sexuality) needed to identify high-risk groups and prompt the provision of psychiatric illness prevention and well-being practices with SGM young persons amid and beyond the pandemic (Phillips et al., 2020).

As a result of COVID-19, many medical and mental health providers have adopted telehealth services. However, there are public health concerns related to online health services for SMYAs. For instance, SMYAs who are living with their parents but who are not out to their families are likely not able to engage in online video or over-the-phone health services due to the potential of being outed (Gonzales et al., 2020; Salerno, Pease, et al., 2020), particularly if presenting problems are related to sexuality. Medical and mental health service providers need to consider how to innovate service access and delivery for SGM populations in the time of COVID-19 to promote safety and confidentiality. For example, some research suggests that synchronous chat platforms may be particularly well-suited for SGM youth and young adults who are at home during COVID-19 (Fish et al., 2020). It may benefit public and mental health professionals to consider implementing or strengthening chat-based services to facilitate access for those who may not feel safe accessing traditional telehealth services. Lastly, given the potentially increased risks for family rejection and victimization among SGM youth in the context of COVID-19 (Salerno, Pease, et al., 2020), it is imperative to promote family acceptance programs and resources during this time (Cohen et al., 2018; Diamond & Shpigel, 2014; Ryan, 2009; SAMHSA, 2014).

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