

# Contending with COVID: Examining Levels of Anxiety Among College-Aged Adults in the Wake of the Pandemic

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## **Abstract**

Much is unknown about the impact of pandemics, as well as their corollary effects. Paying particular attention to the demographic characteristics of participants (gender, race/ethnicity, and familial income), this quantitative study examines differences in levels of anxiety in separate, unmatched samples of college students before and after social distancing due to COVID-19. Via an online survey platform, participants (N = 156) completed self-report measures which gathered demographic characteristics and levels of anxiety. A four-way analysis of variance (ANOVA) did not show significant differences in levels of anxiety among participants across gender, race, familial income, or social distancing status. Implications for future research are discussed.

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## **Keywords:**

Pandemic, COVID-19, anxiety, race, college mental health

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## **Introduction**

The preponderance of research about pandemics and their relationships to anxiety and ways of coping among undergraduates have focused on the 2003 Severe Acute Respiratory Syndrome (SARS) and 2009 H1N1 pandemic (e.g., Brand et al., 2013; Gu et al., 2012). According to Moukaddam and Shah (2020), pandemics like COVID-19 have reverberating effects at the individual and societal level. For example, nations associated with the illness can face stigma and suspicion, while individuals may experience fear and anxiety. Additionally, college is a significant time of transition that can lead to anxiety, and almost half of college-aged adults report having dealt with a psychiatric disorder within the past year (Blanco

et al., 2008; Pedrelli et al., 2015), making this population particularly vulnerable to pandemic-induced stressors.

### **Anxiety and Pandemics**

Overall, a review of the current literature supports the conclusion that mental health outcomes, specifically symptoms of anxiety, increase in the face of pandemics. For instance, recent commentary by Boals and Banks (2020) explains that anxiety, as a result of the current COVID-19 pandemic, can lead to mind wandering, ruminating thoughts, and in turn, lead to decreased productivity. Steele (2020) notes that a fear of losing loved ones, whether through death or loss of a social connection, may also be a cause of pandemic-related, as well as general, anxiety. In a study by Taha et al. (2014), adults during the 2009 H1N1 pandemic (N = 1,027), filled out self-report questionnaires measuring intolerance of uncertainty, stress, coping, and anxiety. The researchers found that less intolerance of uncertainty, in relation to the pandemic, led to greater feelings of a lack of control, more emotion-focused coping mechanisms, and greater levels of anxiety.

When examining mental health outcomes among college-aged adults specifically, the findings are somewhat mixed. Wheaton et al. (2012) recruited college students (N = 315), who completed questionnaires about general and health anxiety, depression, disgust, panic, and concerns about H1N1. Researchers found that sensitivity to disgust, health anxiety, and fears about contamination were significant predictors of concerns about H1N1. Also, Brand et al. (2013), in their study of undergraduates (N = 393), found that obsessive-compulsive symptoms and beliefs were predictive of fear of H1N1. In a study by Kanadiya and Sallar (2011), college students aged 18 to 24 (N = 236), were recruited on an online survey platform to answer questions about the H1N1 pandemic. The majority of participants reported at least some anxiety, and while they tended to believe preventative behaviors like washing hands were useful, views were mixed on the effectiveness of face mask use. Frequently engaging in these preventive behaviors was associated with increased anxiety. On the other hand, Seale et al. (2012) conducted semi-structured interviews with Australian university students (aged 18 and older; N = 20). Many students, due to their young age, did not experience feelings of vulnerability to the flu and therefore, did not report much

anxiety or change their behaviors (by choosing to wear a mask and/or social distancing). They were, however, more likely to be willing to wash their hands than engage in other preventative behaviors. Perhaps the frequent use of preventive measures reminds people of their susceptibility to illness, which in turn increases anxiety. It may be that feeling invulnerable is a way to avoid feeling anxious.

Finally, at two Chinese universities, Gu and colleagues (2015) examined mental health outcomes during the 2009 H1NI pandemic (N = 825). Almost half of participants reported feeling distressed about contracting the illness, and incorrect beliefs about its transmission and preventive measures were associated with worse mental health outcomes. As Gu et al. (2015) conducted their research during a previous pandemic, their findings may help to predict mental health outcomes in later pandemics, such as the one during which the current study took place.

### **Demographic Variables and Pandemic-Related Anxiety**

Since the onset of the COVID-19 pandemic, there has been an influx of research regarding the roles that demographic variables may play in anxiety levels. These studies have primarily focused on college undergraduates, although some have analyzed responses from adolescents and older adults.

#### ***Race and Pandemic-Related Anxiety***

There appear to be mixed findings regarding race and negative mental health outcomes. Fitzpatrick et al. (2020), in studying a nationally representative sample during the week of March 23rd, 2020 (N= 10,368) found that higher rates of anxiety were seen in regions of the country most affected by COVID (with 25% of the sample reporting moderate to severe symptoms of anxiety). The same study found that socially vulnerable populations reported higher rates of fear in the context of COVID-19, and poorer mental health (particularly those identifying as female, Asian, Hispanic, foreign born, and having children). Gazmararian et al. (2021), in conducting a study that took place at the onset of the pandemic, recruited a racially heterogeneous sample of high school students in a rural area (N= 761). They found that the students who were most likely to be anxious about COVID-19 came from minority groups.

Using a sample of older adults, Bui et al. (2021) reported

similar findings in this area. For three weeks in May of 2020, these researchers collected data pertaining to race, emotional distress (depression and anxiety), and pandemic-related stressors from adults ages 55 and older (N= 94,550). Asian, Black, and Latinx participants were more likely to experience distress and stressors, including financial and food insecurity concerns. However, Black participants were the least likely to experience distress, while Latinx participants were the most likely to report these feelings. Furthermore, Le and Nguyen (2021) stated that while mental health decreased across races during pandemic lockdowns, Black participants were the most likely to experience poor mental and physical health outcomes. Finally, Gillis and Krull (2020), surveyed students (N = 66) at multiple time points throughout the remote portion of the spring 2020 semester and found that non-White students were more likely to experience stress over financial and medical concerns.

In contrast to these studies, which reported that non-Whites faced more mental health challenges in response to the pandemic, Bullard (2020) and Hoyt et al. (2021) found that Whites had more severe outcomes. Bullard (2020) assessed anxiety levels of college athletes playing for division III schools (N= 682) and found that White participants were more likely than participants of other races to have trouble adjusting to social distancing. In addition, Hoyt et al. (2021) recruited college students via social media (N= 707) throughout the United States. They collected data on anxiety and stress at two time points during the pandemic, first in April 2020 and later in July 2020. Most of the participants (n= 543) completed measures at the second time point. Researchers also assessed demographic variables including familial income, race, gender, and sexual orientation. Study findings associated with race suggested that White participants were significantly more anxious than Asian participants.

### **Gender, Socioeconomic Factors, and Pandemic-Related Anxiety**

In contrast to the mixed findings on race, studies that have analyzed gender and income and socioeconomic status have found that women and people of lower incomes were more likely to be anxious during the pandemic (e.g., Cénat et al., 2021; Mohlman et al., 2020; Witteveen & Velthorst, 2020). Further findings from studies mentioned above conclude that, in the wake of the pandemic, female students, gender and sexual minority students, and students

of lower socioeconomic backgrounds had higher levels of anxiety (Gazamarian et al., 2021; Hoyt et al., 2021), and women suffered from poorer health (Fitzpatrick et al., 2020; Le & Nguyen, 2021). Another gender-related finding is reported by Mohlman et al. (2021), who, in assessing the reliability and validity of an inventory measuring pandemic-related anxiety, collected responses from undergraduates (N= 201). They found that female participants were more likely to be anxious.

Relating to COVID-19 lockdowns, Khubchandani et al. (2021) conducted a study of adults (N= 1978) and collected data regarding demographics and symptoms of anxiety and depression. They found that women were more likely to experience high levels of anxiety, while men were more likely to experience high levels of depression. Additionally, Díaz-Jiménez et al. (2020) studied social work students attending college in Spain (N = 365) and assessed their levels of anxiety in relation to demographic variables. Over a third of the sample had symptoms of anxiety in the severe range. Furthermore, researchers reported that a stable familial income was associated with less anxiety.

Also relating to income, Cénat et al. (2021) studied a sample (N= 1267) from middle- and low-income countries: the Democratic Republic of the Congo, Haiti, Rwanda, and Togo. Participants were asked questions regarding pandemic-related anxiety. Researchers found that approximately a quarter of participants had severe symptoms of anxiety, with a greater number of participants in countries facing more adverse COVID-19 outcomes indicating these higher levels. Additionally, a fear of stigma of contracting the virus was associated with increased anxiety.

Witteveen and Velthorst (2020) analyzed data from European workers collected during the first few months of the pandemic. They found that people with lower-paying jobs were more likely to experience reduced hours and quickly lose income and were at a higher risk of depression. Additionally, lower-income employees who had to work relatively more hours were more likely to report anxiety about their health.

Thus, in examining literature related to anxiety levels among undergraduates in the context of major stressors, such as a pandemic, there is more consensus about the role that gender and income may play in the development of anxiety. However, there are mixed

findings in relation to COVID-19 stressors and anxiety by race, with students of different races struggling with different aspects of the pandemic (for instance, non-White students reported more financial and medical concerns; Gillis & Krull, 2020). Additionally, there is little research comparing groups both before and after the onset of the pandemic. As there are not much data on this topic, and the data that do exist are at times in opposition to each other, it may be difficult to determine trends and implications for the present study.

## **The Current Study**

The current study is part of a larger project focusing on ways of coping and religiosity (Authors, 2023). Data collection for the original study overlapped with the early weeks of the COVID-19 pandemic in the United States, providing an opportunity to see how it affected students. The current study, therefore, provides a new perspective on that data collected before and after the beginning of the pandemic, in contrast to much of the current research that was initiated only after social distancing and lockdowns began. This study aims to explore differences in anxiety levels among college undergraduates in the wake of the COVID-19 pandemic that hit the United States in early 2020. This study addresses one primary research question: Giving credence to demographic variables, what differences in anxiety levels, if any, exist among undergraduate students prior to and following social distancing measures in the wake of the COVID-19 pandemic? The specific demographic variables explored in this study are gender, race/ethnicity, and familial income.

## **Methods**

### **Participants**

Participants in the study were undergraduates (N = 156; aged 18 and older) attending a small, Catholic, liberal arts university in the Northeastern United States. The sample mainly consisted of White (82.7%, n= 129) female (89.7%, n= 140) participants. Some participants took part in our research prior to March 12 (n = 41), when the university's transition to remote learning was announced, while others (n = 109) participated afterwards, and importantly, while social distancing measures were established in most of the Northeastern states. Out of the 156 participants who took part in the larger project, 150 completed the demographic measures and

answered the questions that were used in this analysis. See Table 1 and Table 2 for participant demographics.

Table 1

*Demographic Characteristics of Participants*

<b>Characteristic</b>	<b>n</b>	<b>%</b>
<b>Gender</b>		
Female	140	89.7
Male	14	9
Nonbinary/Transgender	2	1.2
<b>Race/Ethnicity</b>		
Hispanic/Latinx	14	9
Non-White/Non-Hispanic/Non-Latinx	13	8.3
White	129	82.7
<b>Familial Income</b>		
\$10,000-\$24,999	6	3.8
\$25,000-\$49,999	7	4.5
\$50,000-\$74,999	22	14.1
\$75,000-\$99,999	26	16.7
≥\$100,000	43	27.6
Unsure/prefer not to say	52	33.3

**Measures**

*Demographic Questionnaire*

A demographic questionnaire created by the researchers was used to gather information on each participant’s gender, race/ethnicity, and income level. Discussion of demographic disparities in the impact of COVID (e.g., Oppel et al., 2020) thus offered a rationale for further investigation.

Table 2

*Demographic Characteristics of Participants, Before and After Social Distancing*

Characteristic	Social Distancing			
	Before		After	
	n	%	n	%
<b>Gender</b>				
Female	40	95.24	100	87.72
Male	2	4.76	12	10.53
Nonbinary/Transgender	0	0	2	1.75
<b>Race/Ethnicity</b>				
Hispanic/Latinx	3	7.14	11	9.65
Non-White/Non-Hispanic/Non-Latinx	4	9.52	9	7.90
White	35	83.33	94	82.46
<b>Familial Income</b>				
\$10,000-\$24,999	4	14.80	2	2.60
\$25,000-\$49,999	1	3.70	6	7.80
\$50,000-\$74,999	3	11.10	19	24.70
\$75,000-\$99,999	8	29.60	18	23.40
≥\$100,000	11	40.70	32	41.60

***General Anxiety Disorder Scale (GAD-7)***

The GAD-7 is a seven-item questionnaire which assesses symptoms of anxiety experienced over the previous two weeks (Spitzer et al., 2006). Sample items include, “Worrying too much about different things” and “Becoming easily annoyed or irritable.” For each item, participants can choose responses from “not at all sure” (0) to “nearly every day” (3). The highest possible score for the GAD-7 is 21, and the lowest possible score is 0. This total anxiety score is calculated through totaling the scores for each of the seven items. A separate item assesses the extent to which symptoms of anxiety have negatively impacted daily functioning and made life more difficult, with options ranging from “not difficult at all” (1) to “extremely difficult” (4). Scoring metrics outline the following severity cutoffs: Minimal anxiety corresponds to scores of 0 to 4, mild anxiety corresponds to scores of 5 to 9, moderate anxiety corresponds to scores of 10 to 14, and severe anxiety corresponds to scores of 15 to 21 (Spitzer et al., 2006). Internal consistency and test-retest reliability are high for the scale (  $\alpha = .92$ ,  $r = .83$ ). The Cronbach’s alpha for the current study was calculated at .92.



## Procedure

Responses were collected using an online survey platform. Participants were recruited primarily through the use of university email. The authors reached out to department heads who then distributed the survey to students within their disciplines. Posters with a link to the survey were also placed around campus. Students who chose to take the survey, upon opening the link, first read an informed consent and acknowledged their willingness to participate in the study. Participants were not compensated in any way for participating in the study. Study procedures were reviewed and approved by the University Institutional Review Board and data were analyzed using Version 26 of the IBM Statistical Package for the Social Sciences (SPSS).

## Data Analysis

A four-way analysis of variance (ANOVA) was conducted to examine the impact of gender, race/ethnicity, income, and social distancing status on levels of anxiety. Specifically, subjects were grouped as follows: Gender (male, female, and nonbinary/transgender), race/ethnicity (White, Hispanic/Latinx, non-White/non-Hispanic/non-Latinx), Income (6 levels; see Table 1), and Social Distancing Status (before or after social distancing in most of the Northeastern United States). To preemptively address the relatively smaller samples among students identifying as Asian/Pacific Islander, Black/African American, Native American, and Mixed-Race, these were collapsed into the category of “non-White/non-Hispanic/non-Latinx” (this category also included students who originally identified as “Other race/ethnicity--specify”). In collapsing the categories, we do not intend to suggest that any ethnically- or racially-based experiences of these groups are interchangeable. We set out to examine whether and how populations of underrepresented students across ethnic/racial groups may share some overlap in experiences. We also removed subjects who neither indicated familial income (selected the option “Unsure/prefer not to say;”  $n = 52$ ) nor answered questions about demographics and/or anxiety. All assumptions for the four-way analysis were met, including Levene’s test of equality of error variances,  $p = .258$ .

## Positionality

Data were collected and analyzed by both authors. The first author is a White female undergraduate student in psychology interested in ways of coping and the role of religiosity among college-aged adults and the field of health psychology. The second author is a female assistant professor of cross-cultural psychology of Black/Nigerian descent who studies racial disparities related to mental illness.

## Results

A four-way analysis of variance (ANOVA) was conducted to examine the impact of gender, race/ethnicity, income, and social distancing status on levels of anxiety. No significant main effects were realized for gender ( $F(2, 72) = 2.32, p = .106$ ), income ( $F(4, 72) = .395, p = .182$ ), race ( $F(2, 72) = .070, p = .932$ ), or social distancing status ( $F(1, 72) = .676, p = .414$ ). Additionally, no significant interactions among the variables were identified.

## Discussion

This study sought to analyze the variances among demographic factors (gender, race, and income) and social distancing status in relation to levels of anxiety among undergraduates. No significant main or interaction effects were found, in contrast to previous studies, which found gender, and, for non-White students, income, to be significant predictors of high levels of anxiety during the pandemic (e.g., Bui et al., 2020; Le & Nguyen, 2021). The lack of significant effects is more likely an indication of a non-representative sample and our analytical approach, concerns which we detail in the limitations section below. What has been found in studies to this point e.g., Witteveen and Velthorst (2020), is that people with higher incomes were less likely to experience adverse mental health outcomes due to COVID-19. As 90% of our sample ( $n = 91$ ) reported a familial income greater than or equal to \$50,000 a year, and 42.5% ( $n = 43$ ) reported an income greater than or equal to \$100,000 annually, it is possible that these higher incomes led to a buffering effect on anxiety levels and could be part of the reason why no significant effects emerged. Future research, using larger and more diverse samples, may shed light on these findings.

The utility of sharing these findings lies in two areas: highlighting

the instructive value of null findings and second, modeling transparency in deconstructing mistakes made during the research process. Franco et al. (2014) found that null and/or insignificant findings were less likely to be published than those showing significant findings. The authors argue that this poses a bias in social science research whereby otherwise valid findings are shelved because of their perceived statistical insignificance. Secondly, we highlight the limitations from our study that likely could have bolstered our confidence in our findings including more robust recruiting efforts and a less ambitious analytical process. We argue that these missteps are important to undergraduate readers looking to design or pursue a research agenda of their own.

### **Limitations**

As this was a study born of a larger project during an inadvertent and unexpected event (a pandemic) the authors were limited by variables already being collected for the broader study. Furthermore, this resulted in a non-matched sample across a number of metrics including sample size. Thus, one notable limitation to the current study is in the imbalance of some of the comparative sample sizes (e.g., for students identifying as Latinx, prior to social distancing  $n = 3$  and after,  $n = 11$ ). As a whole, sample sizes prior to social distancing measures were smaller than the comparative samples in all cases (reflecting the shorter period of data collection prior to social distancing measures being initiated). Additionally, as most students attending the university at which the study took place identify as White, fewer students of color were represented. The lack of heterogeneity in this small sample may have therefore minimized the effects of certain variables. Needless to say, there was a need for more stratified methods of sampling. It is important to think about creative ways to recruit diverse samples, such as through partnering with community and religious stakeholders to promote trust (Shea et al., 2022). This is critical, especially given that this is typically difficult in college settings and can lead to concerns about generalizability (Hanel & Vione, 2016).

It is also important to note that all measures used were self-reported, so response bias is a potential limitation. The cross-sectional nature of the research design also prevented any causal conclusions from being drawn. Lastly, it is possible that any differences in anxiety

levels participants experienced due to social distancing were due to other factors that were not measured.

## **Conclusion**

In this study, we embarked on an exploration of how demographic factors, specifically, gender, race, and familial income differentially impacted levels of anxiety in the wake of the COVID-19 pandemic. Unfortunately, our findings did not reveal any significant effects which were likely a result of the limitations of this study (including sampling and statistical methods). The aims of this study remain important but would be better served with more robust sampling and appropriate statistical approach.

## References

- Authors. (2023). Examining the role of high school spiritual practice and ways of coping in levels of anxiety among college-aged women. *Modern Psychological Studies*, 29(1).  
<https://scholar.utc.edu/mps/vol29/iss1/2/>
- Blanco, C., Okuda, M., Wright, C., Hasin, D.S., Grant, B.F., Liu, S., & Olfson, M. (2008). Mental health of college students and their non-college-attending peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry*, 65(12), 1429-1437. <https://doi.org/10.1001/archpsyc.65.12.1429>
- Boals, A., and Banks, J.B. (2020). Stress and cognitive functioning during a pandemic: Thoughts from stress researchers. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <http://dx.doi.org/10.1037/tra0000716>
- Brand, J., McKay, D., Wheaton, M.G., & Abramowitz, J.S. (2013). The relationship between obsessive compulsive beliefs and symptoms, anxiety and disgust sensitivity, and swine flu fears. *Journal of Obsessive-Compulsive and Related Disorders*, 2(2), 200-206  
<https://doi.org/10.1016/j.jocrd.2013.01.007>
- Bui, C.N., Peng, C., Mutchler, J.E., & Burr, J.A. (2021). Race and ethnic group disparities in emotional distress among older adults during the COVID-19 pandemic. *The Gerontologist*, 61(2), 262-272. <https://doi.org/10.1093/geront/gnaa217>
- Bullard, J.B. (2020). The impact of COVID-19 on the well-being of division III student-athletes. *The Sport Journal*, 41.
- Cénat, J.M., Dalexis, R.D., Guerrier, M., Noorishad, P., Derivois, D., Bukaka, J., Birangui, J., Adansikou, K., Clorméus, L.A., Kokou-Kpolou, C.K., Ndengeyingoma, A., Sezibera, V., Auguste, R.E., & Rousseau, C. (2021). Frequency of correlates of anxiety symptoms during the COVID-19 pandemic in low- and middle-income countries: A multinational study. *Journal of Psychiatric Research*, 132, 13-17. <https://doi.org/10.1016/j.jpsy- chires.2020.09.031>
- Díaz-Jiménez, R.M., Caravaca-Sánchez, F., Martín-Cano, M.C., &

De la Fuente-Robles, Y.M. (2020). Anxiety levels among social work students during the COVID-19 lockdown in Spain. *Social Work in Health Care*, 59(9-10), 681-693. <https://doi.org/10.1080/00981389.2020.1859044>

Franco, A., Malhotra, N., & Simonovits, G. (2014). Publication bias in the social sciences: Unlocking the file drawer. *Science*, 346(6203), 1502-1505. <https://doi.org/10.1126/science.1255484>

Fitzpatrick, K. M., Harris, C., & Drawve, G. (2020, June 4). Fear of COVID-19 and the mental health consequences in America. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <http://dx.doi.org/10.1037/tra0000924>

Gazmararian, J., Weingart, R., Campbell, K., Cronin, T., & Ashta, J. (2021). Impact of COVID-19 pandemic on the mental health of students from 2 semi-rural high schools in Georgia. *Journal of School Health*, 91(5), 356-369. <https://doi.org/10.1111/josh.13007>

Gillis, A., & Krull, L.M. (2020). COVID-19 remote learning transition in spring 2020: Class structures, student perceptions, and inequality in college courses. *Teaching Sociology*, 48(4), 283-299. <https://doi.org/10.1177/0092055X20954263>

Gu, J., Zhong, Y., Hao, Y., Zhou, D., Tsui, H., Hao, C., Gao, Q., Ling, W., & Lau, J.T.F. (2015). Preventive behaviors and mental distress in response to H1N1 among university students in Guangzhou, China. *Asia-Pacific Journal of Public Health*, 27(2), 1867-1879. <https://doi.org/10.1177/1010539512443699>

Hanel, P.H.P., & Vione, K.C. (2016). Do student samples provide an accurate estimate of the general public? *PLoS One*, 11(12). <https://doi.org/10.1371/journal.pone.0168354>

Hoyt, L.T., Cohen, A.K., Dull, B., Castro, E.M., & Yazdani, N. (2021). "Constant stress has become the new normal": Stress and anxiety inequalities among U.S. college students in the time of COVID-19. *Journal of Adolescent Health*, 68(2), 270-276. <https://doi.org/10.1016/j.jadohealth.2020.10.030>

- Kanadiya, M.K., & Sallar, A.M. (2011). Preventive behaviors, beliefs, and anxieties in relation to the swine flu outbreak among college students aged 18-24 years. *Journal of Public Health*, 19(2), 139-145. <https://doi.org/10.1007/s10389-010-0373-3>
- Khubchandani, J., Sharma, S., Webb, F.J., Wiblehauser, M.J., Bowman, S.L. (2021). Post-lockdown depression and anxiety in the USA during the COVID-19 pandemic. *Journal of Public Health*, 43(2), 246-243. <https://doi.org/10.1093/pubmed/fdaa250>
- Le, K., & Nguyen, M. (2021). The psychological consequences of COVID-19 lockdowns. *International Review of Applied Economics*, 35(2), 147-163. <https://doi.org/10.1080/02692171.2020.1853077>
- Mohlman, J., Watson, L.M., & Basch, C.H. (2021). The COVID-19 Inventory: Measuring anxiety related to illness pandemic across college males and females. *Journal of Prevention & Intervention in the Community*, 49(2), 163-178. <https://doi.org/10.1080/10852352.2021.1908204>
- Moukaddam, N., & Shah, A. (2020). Psychiatrists beware! The impact of COVID-19 and pandemics on mental health. *Psychiatric Times*, 37(3), 11-12.
- Oppel Jr., R.A., Gebelkoff, R., Lai, K.K.R., Wright, W., & Smith, M. (2020, July 5). The fullest look yet at the racial inequity of coronavirus. *The New York Times*. <https://www.nytimes.com/interactive/2020/07/05/us/coronavirus-latinos-african-americans-cdc-data.html>
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry*, 39(5), 503-511. <https://doi.org/10.1007/s40596-014-0205-9>
- Seale, H., PI Mak, J., Razee, H., & MacIntyre, R. (2012). Examining the knowledge, attitudes and practices of domestic and international university students towards seasonal and pandemic influenza. *BMC Public Health*, 12(1), 307-312. <https://doi.org/10.1186/1471-2458-12-307>

- Shea, L.S., Pesa, J., Geonnotti, G., Powell, V., Kahn, C., & Peters, W. (2022). Improving diversity in study participation: Patient perspectives on barriers, racial differences and the role of communities. *Health Expectations*, 25(4), 1979-1987. <https://doi.org/10.1111/hex.13554>
- Steele, H. (2020). COVID-19, fear and the future: An attachment perspective. *Clinical Neuropsychiatry*, 17(2), 97-99.
- Taha, S., Matheson, K., Cronin, T., & Anisman, H. (2014). Intolerance of uncertainty, appraisals, coping, and anxiety: The case of the 2009 H1 N1 pandemic. *British Journal of Health Psychology*, 19(3), 592-605. <https://doi.org/10.1111/bjhp.12058>
- Wheaton, M., Abramowitz, J., Berman, N., Fabricant, L., & Olatunji, B. (2012). Psychological predictors of anxiety in response to the H1N1 (swine flu) pandemic. *Cognitive Therapy & Research*, 36(3), 210-218. <https://doi.org/10.1007/s10608-011-9353-3>
- Witteveen, D., & Velthorst, E. (2020). Economic hardship and mental health complaints during COVID-19. *Proceedings of the National Academy of the Sciences of the United States of America*, 117(44), 27277-27284. <https://doi.org/10.1073/pnas.2009609117>