

Need for structure, loneliness, social media use, and body image as predictors of mental health symptoms in the context of COVID-19

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Abstract

The coronavirus 2019 (COVID-19) pandemic has disrupted society as a whole and left a significant impact on the lives of many individuals, placing a strain on mental health across the globe. Previous research has found need for structure, loneliness, body image, and social media use, which have been exacerbated during the COVID-19 pandemic, to be separately implicated in many psychological issues. The current study examined how these risk factors (i.e., need for structure, loneliness, perceived body image, and social media exposure) predict mental health

Need for structure, loneliness, social media use, and body image as predictors of mental

others, leading them to avoid social situations. COVID-19 has eliminated many face-to-face interactions in an effort to protect physical health. As norms have changed and social expectations are unclear, such as how to greet others when social distancing is enforced, individuals may experience symptoms related to social anxiety. This study examines the relationship between risk factors related to the pandemic and social anxiety symptoms.

Depression

The COVID-19 pandemic has introduced preventative measures to reduce the spread of the disease, including increased social isolation and physical distancing. Social relationships and connections are a vital part of the human experience. When they are lacking, research has shown that social isolation and loneliness have been associated with depressive symptoms (Ge et al., 2017). Major depressive disorder (MDD) is a common mood disorder that affects how a person feels, thinks, and manages daily tasks or activities (NIMH, 2018). Symptoms of depression include depressed mood; lack of interest or pleasure (anhedonia); significant weight loss or weight gain, or increase or decrease in appetite; insomnia or hypersomnia; psychomotor agitation; fatigue or loss of energy; feelings of worthlessness or inappropriate guilt; diminished ability to think or concentrate; and recurrent thoughts of death or suicidal ideation (American Psychiatric Association [APA], 2013). If feelings persist for more than two weeks for most of the day, nearly every day, an individual may meet criteria for a major depressive episode. This study examines the relationship between risk factors of the pandemic and depressive symptoms.

Disordered Eating

Disordered eating is a descriptive phrase that refers to a range of irregular or maladaptive eating behaviors that do not yet meet criteria for an eating disorder (APA, 2013). However, a person with disordered eating behaviors is still at risk for significant physical, mental, and

emotional stress. Some eating disorder behaviors include frequent dieting, anxiety towards specific foods, or meal skipping; preoccupation with weight, food, and body image; feelings of guilt or shame associated with eating; and chronic weight fluctuations (APA, 2013; Yu & Tan, 2016). Ramalho and colleagues (2021) found that the COVID-19 pandemic was associated with disordered eating and psychological distress mediated the relationship. Increased time spent using social media, loneliness, body dissatisfaction, and negative affect (mostly depressive symptoms), which have been exacerbated during the COVID-19 pandemic, have been found as potential risk factors for disordered eating (Abebe et al., 2014; Fernández-Aranda, et al., 2020). This study aims to examine disordered eating as a mental health outcome with need for structure, loneliness, perceived body image, and social media exposure as risk factors in the context of the pandemic.

Need for Structure

Having a regular routine may help establish a certain degree of structure in an individual's life. Need for structure is a way to simplify the world into a manageable form, which may include establishing routines, reducing the amount of information needed to attend to, and utilizing a social script when interacting with others (Neuberg & Newsom, 1993). The COVID-19 pandemic has placed restrictions in daily activities and limited access to places that may assist with emotional regulation (e.g., participating in sports, visiting a therapist) for individuals (Fernández-Aranda et al., 2020). To prevent the spread of the disease, the public has been asked to stay indoors, and with constraints placed on regular activity, disruption of routine and structure may lead to heightened body image concern as well as disrupted eating patterns (Fernández-Aranda et al., 2020; Rodgers et al., 2020). Studies have also found a significant relationship between personal need for structure and anxiety (Neuberg & Newsom, 1993;

Prokopčáková, 2015). As the COVID-19 pandemic has disrupted regular routine for many individuals, this study examines lack of structure as a risk factor for social anxiety, depressive, and disordered eating symptoms.

Loneliness

Another risk factor that has been prominent during the COVID-19 pandemic is loneliness. Cacioppo et al. (2015) describes the feeling of loneliness as a discrepancy between the social relations an individual prefers and actual social experience. Loneliness is a subjective feeling and may be unique to each individual. Amidst the pandemic, physical restrictions have been put into place, including social distancing, quarantine, and isolation in order to prevent the spread of the disease (CDC, 2020). Loneliness is more likely in

shape and size (Grogan, 2006; Levitt & Ducaine, 2017). Sociocultural factors, such as media exposure, family or peer influence, and sports participation, and gender, can impact body concerns (Groetz, Levine & Murnen, 2002; Grogan, 2006; Rodgers, et al., 2020). Messages about body image are received almost daily for all genders. Body dissatisfaction is a known predictor of disordered eating, de

Methods

Participants

There was a total of 239 participants in this study, of which 19.7% ($n = 47$) were male, 79.1% ($n = 189$) were female, and 1.3% ($n = 3$) were non-binary or non-conforming. In this sample, 6.7% of individuals identified as Black or African American ($n = 16$), 10% identified as Hispanic ($n = 24$), 5.9% identified as Asian ($n = 14$), 67.8% identified as White or Caucasian ($n = 162$), 9.2% identified as Multiracial/Biracial ($n = 22$), and 0.4% identified as other ($n = 1$). The majority (83.3%, $n = 199$) of participants were current college students and 16.7% were not ($n = 40$). Of those who were college students, 98.5% were students at Stockton University ($n = 195$). The average age of participants in this sample was $M = 24.74$ ($SD = 11.14$). Refer to Table 1 for complete demographic information.

Measures

Demographic Questionnaire. Demographic questions included information about the participants' age, gender, race/ethnicity, education, place of residence, and mental health history.

COVID-19 Pandemic Experience. Participants were asked a series of questions regarding their COVID-19 pandemic experience. Examples include: "In the past 6 months, how much has the COVID-19 pandemic affected your: Daily Routine; Loneliness; Body Image; Social Media Exposure (Facebook, Twitter, Instagram, etc.)?"; and "Related to the COVID-19 pandemic, in the past 6 months, have you experienced any of the following: Feelings of anxiety; Feelings of depression; Changes in eating patterns (i.e., frequent dieting; feelings of guilt associated with eating; preoccupation with weight, food or body image)". Questions were intended to prime participants to think in the context of the COVID-19 pandemic.

Personal Need for Structure Scale (PNS). The Personal Need for Structure Scale (Thompson et al., 2001) is a 12-point instrument used to assess an individual's preference for known structure and familiar situations with three sub-scales: preference for orderliness, discomfort with unpredictability, and disdain for ambiguity. Responses are recorded on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree). Statements on the PNS Scale include "It upsets me to go into a situation without knowing what I can expect from it", "I like being spontaneous" (reverse-coded), and "I hate to change my plans at the last minute". Four of the

higher social media exposure. The original SONTUS demonstrated excellent internal consistency (Cronbach's $\alpha = 0.92$; Olufadi, 2016). The abbreviated version in this study also showed excellent internal consistency (Cronbach's $\alpha = .95$).

Eating Attitudes Test (EAT-26). The Eating Attitudes Test is a 26-item screening measure used to determine if an individual is experiencing abnormal eating behaviors (Garner et al., 1982). EAT-26 is not designed as a diagnostic tool for eating disorders. Responses are on a six-point Likert scale about symptoms occurring within the last six months (Always = 3, Usually = 2, Often = 1, Sometimes = 0, Rarely = 0, Never = 0). One of the items is reverse coded. Higher scores (above 20) indicate disordered eating behaviors (Banasiak et al., 2001). Sample items on the EAT-26 include “[I] Am terrified about being overweight”, “[I] Feel extremely guilty after eating”, and “[I am] Aware of the calorie content of foods that I eat”. The EAT-26 demonstrated good internal consistency before (Cronbach's $\alpha = 0.87$; Banasiak et al., 2001) and in this study (Cronbach's $\alpha = .83$).

Social Phobia Inventory (SPIN). The Social Phobia Inventory (Connor et al., 2000) is a 17-item, self-reported measure used to evaluate an individual's fear, avoidance, and physiological discomfort in social situations (i.e., social events, being criticized, talking to strangers). Responses are on a five-point Likert scale from 0 (Not at all) to 4 (Extremely) and are about symptoms occurring in the last week. The assessment screens for social phobia and includes statements such as “I avoid talking to people I don't know” and “I am afraid of doing things when people might be watching”. The highest possible score is 68, and a cut-off value of 19 may be used to differentiate participants with and without social phobia. Higher scores indicate more symptoms of social anxiety. Social anxiety symptoms are reflected through

different levels of scores for the SPIN, which demonstrated excellent internal consistency in the original study (Cronbach's $\alpha = 0.94$; Connor et al., 2000) and in this study (Cronbach's $\alpha = .93$).

Patient Health Questionnaire (PHQ-9). The Patient Health Questionnaire is a nine-item depression module used to measure and screen for depressive symptoms (Kroenke et al., 2001). Participants are asked about depressive symptoms experienced within the last two weeks, and responses are on a four-point Likert scale (Not at all = 0, Several days = 1, More than half the days = 2, Nearly every day = 3). Examples of statements on the PHQ-9 are: "Little interest or pleasure in doing things" and "Feeling tired or having little energy". Scores can range from 0 to 27. Scores below 10 indicate no depressive symptoms, and higher scores suggest more severe depressive symptoms, which may require further evaluation for diagnosis. The PHQ-9 demonstrated excellent internal consistency in the original study (Cronbach's $\alpha = 0.89$; Kroenke et al., 2001) and in this study (Cronbach's $\alpha = .91$).

Procedure

Participants were recruited through the Stockton University SONA system, and granted class credit as an incentive to participate. They signed a consent form and completed the survey through Qualtrics. This study was approved by the University's Institutional Review Board.

An additional recruitment method focused on recruiting individuals through social media venues, including Facebook, Twitter, and Instagram and inviting individuals via email to participate in the study. Anyone over the age of eighteen was eligible to participate. Participants who completed the study outside of SONA were invited to be entered in a raffle to win one of 30 \$10.00 Amazon gift cards. The two incentives could not be combined. The participants were able to enter the raffle on a page separate from their completed responses. Their identity was not connected to their responses.

Data Analysis Plan

Descriptive statistics and correlations among all predictor (need for structure, loneliness, body image, and media exposure) and outcome variables (social anxiety, depressive, and disordered eating symptoms) were examined.

The first hypothesis was tested with a multiple regression analysis. Need for structure (PNS), loneliness (ULS-8), perceived body image (MBA), and media exposure (SONTUS) were entered as independent variables. Social anxiet

A multivariate multiple regression using the Multivariate General Linear Model function in SPSS was conducted, and the overall model for risk factors predicting mental health outcomes was significant, Wilks' $\lambda = .779$, $F(3, 230) = 21.796$, $p < .001$, partial $\eta^2 = .221$. Univariate analyses showed that need for structure ($F(4, 232) = 54.21$, $p < .001$, partial $\eta^2 = .07$, $\beta = .45$, $t(4, 232) = 4.25$, $p < .001$), loneliness ($F(4, 232) = 18.02$, $p < .001$, partial $\eta^2 = .19$, $\beta = -1.23$, $t(4, 232) = -7.36$, $p < .001$), and social media exposure ($F(4, 232) = 5.73$, $p < .001$, partial $\eta^2 = .02$, $\beta = -.09$, $t(4, 232) = -2.3$, $p < .001$) were statistically significant predictors of social anxiety symptoms. Loneliness ($F(4, 232) = 18.02$, $p < .001$, partial $\eta^2 = .19$, $\beta = -1.23$, $t(4, 232) = -7.36$, $p < .001$)

all together, the results indicated an association between risk factors experienced during the COVID-19 pandemic and mental health outcomes.

This study indicated that individuals who reported higher need for structure, greater perceived loneliness, and increased social media exposure, also reported higher social anxiety symptoms. These findings are consistent with previous research (Aderka et al., 2013; Lim et al., 2016; Prokop áková, 2015). However, body image was not found to be a risk factor. Despite having a moderate correlation with social anxiety symptoms on its own ($r = .29, p < .01$), body image did not predict social anxiety symptoms when need for structure, loneliness, and social media exposure were included. This finding was inconsistent with previous research that found

and disordered eating symptoms on its own ($r = .26, p < .01$; $r = .21, p < .01$, respectively), need for structure did not predict depressive or disordered eating symptoms when loneliness, body image, and social media exposure were included. Previous proposed models suggested that disruption of routine and structure during the COVID-19 pandemic may lead to heightened body image concern as well as disrupted eating patterns, which are often comorbid with depressive symptoms (Rodgers et al., 2020). However, this was not found in the current study. Our findings were also inconsistent with previous research by Haines and colleagues (2010), as well as Ramalho and colleagues (2021), which suggested that with constraints placed on regular activity, change of routine and structure may lead to heightened body image concern as well as disrupted eating patterns. To the contrary, people who valued more structure did not report higher disordered eating symptoms in this study. Although our finding was unexpected, one possible explanation is that individuals have developed their own routines after a year into the pandemic.

Additionally, loneliness has been previously implicated as a potential risk factor for mental health outcomes (Cacioppo et al., 2006; Lim et al., 2016; Pritchard & Yalch, 2009). These findings were supported within this sample. Individuals who reported higher perceived loneliness also had elevated social anxiety, depressive, and disordered eating symptoms. Loneliness is more likely in individuals experiencing social isolation or separation from their friends or family (Cacioppo et al., 2006). Physical distancing guidelines and self-isolation mandates during the COVID-19 pandemic may be associated with increased social disconnection and self-reported loneliness (Killgore et al., 2020). In the life of a college student, feelings of loneliness may be intensified by being unable to visit friends, have social gatherings, or attend club meetings. The observed effect sizes of loneliness as a risk factor are large, suggesting that on a population level, it is likely to have a meaningful impact. Moreover, the pandemic may have

further exacerbated feelings of isolation. Reducing levels of loneliness is important in decreasing risk for social anxiety, depressive, and disordered eating symptoms.

Besides loneliness, social media exposure also posed as a significant risk factor associated with social anxiety, depressive, and disordered eating symptoms during the COVID-19 pandemic. This is consistent with Fernández-Aranda and colleagues' (2020) findings that increased time spent using social media, which has been exacerbated during the COVID-19 pandemic, is a potential risk factors for disordered eating and other mental health repercussions. Increased exposure to unrealistic or unattainable bodies or lifestyles, which are usually highlighted on social media, may explain negative mental health outcomes, including social anxiety, depressive, and disordered eating symptoms. In this sample, individuals who reported higher perceived loneliness and increased social media use, also demonstrated higher social anxiety, depressive, and disordered eating symptoms.

Finally, although this was a cross-sectional study, we did ask participants about perceptions of changes in daily routine, loneliness, body image, and media use during the COVID-19 pandemic, and the sample overwhelmingly reported that in the past six months, they had felt less connected, used more social media, experienced more disruption in schedules, and had more disturbances in body image (See Table 2). Based on self-report, these risk factors were indeed exacerbated during the COVID-19 pandemic. Therefore, we need to screen individuals for these risk factors, incorporate them in prevention and intervention programs, and reduce stigma about the mental health strain associated with the pandemic (Holmes et al., 2020).

Clinical Implications

Moving forward, individuals may benefit from implementing various healthy coping mechanisms to manage significant risk factors experienced during the COVID-19 pandemic. In

the short term, the CDC (2020) recommends reducing social media exposure and limiting phone, television, and computer screen time during idle periods. Taking breaks throughout the day and decreasing social media use may lower the risk for mental health symptoms over time. Too much or too little social media exposure may be associated with higher social anxiety, depressive, and disordered eating symptoms (Bucchianeri et al., 2013; Twenge, 2019). Helping individuals develop a schedule to avoid excessive social media exposure and balance daily social media intake may decrease the risk of developing mental health symptoms. In addition, remaining socially connected in moderation may also help lessen feelings of loneliness, which lower the risk for social anxiety, depressive, and disordered eating symptoms. Despite being advised to remain physically distant from others during the existing pandemic, our findings suggest that individuals should not isolate themselves socially. Talking with others, reaching out for support, and staying connected with online communities may mitigate feelings of loneliness and improve mental health symptoms (CDC, 2020).

Strengths, Limitations, and Future Directions

This study has several strengths and limitations. First, the findings help further our knowledge of risk factors and mental health in the context of the COVID-19 pandemic, as there is limited research on this novel experience. Second, this study contributes uniquely to the existing literature because it is the first to examine risk factors for social anxiety, depressive, and disordered eating symptoms separately and simultaneously in the context of the COVID-19 pandemic. Furthermore, the study provides information that is important to consider for both the short-term and long-term effects of the pandemic because it examines risk factors that may be targeted in prevention and intervention programs.

Despite efforts to diversify our sample and recruit more participants by extending recruitment to social media, the study was limited by lack of sample diversity. The sample included participants with a mean age of 24.74 and mostly consisted of college students (> 80%) and individuals who identified as women (>75%). In addition, 67.8% of the sample consisted of non-Hispanic White individuals. Possible implications for these limitations include differences in relevance of risk factors and prevalence of symptoms. For example, young female college students may display more body image concerns compared to a general population. Furthermore, this study primarily relied on self-reported measures that required participants to remember certain experiences in the context of the pandemic. If self-reported answers are exaggerated or not completely honest, they may contribute to skewed results in the analysis. Future studies should include a broader sample of men and women that are distributed across various age groups, gender, race, and ethnicity to gain a better understanding of the continuing effects of the COVID-19 pandemic as well as how the implementation of vaccines may have changed risk factors and mental health symptoms.

In conclusion, the COVID-19 pandemic has disrupted various aspects of life and has presented a number of unprecedented challenges. The results of this study in general support the notion that changes in need for structure, loneliness, body image, and social media use in the context of COVID-19 pose as risk factors for mental health. In addition, considering that the pandemic is still ongoing, these results point to the need for interventions for social anxiety, depressive, and disordered eating symptoms that encourage the need for more structure, social connection, positive body image, and mindful social media use. These findings suggest the importance of reducing stigma, maintaining social interactions in a safe way, creating schedules

to maintain structure, finding balance in social media use, and providing mental health resources to reduce symptoms and improve mental health during the COVID-19 pandemic.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed., text revision). Washington, DC: Author.
- Adhanom Ghebreyesus T. (2020). Addressing mental health needs: an integral part of COVID-19 response. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 19(2), 129–130. <https://doi.org/10.1002/wps.20768>
- Abebe, D. S., Torgersen, L., Lien, L., Hafstad, G. S., & von Soest, T. (2014). Predictors of disordered eating in adolescence and young adulthood: A population-based, longitudinal study of females and males in Norway. *International Journal of Behavioral Development*, 38(2), 128-138. <https://doi.org/10.1177/0165025413514871>
- Banasiak, S. J., Wertheim, E. H., Koerner, J., & Voudouris, N. J.

longitudinal analyses. *Psychology and Aging*, 21(1), 140–151.

<https://doi.org/10.1037/0882-7974.21.1.140>

Carver, C. S. (2013). Measure of Body Apperception (MBA). Measurement Instrument Database for the Social Science. <https://www.midss.org/content/measure-body-apperception-mba>.

Carver, C. S., Pozo-Kaderman, C., Price, A. A., Noriega, V., Harris, S. D., Derhagopian, R. P., Robinson, D. S., & Moffatt, F. L., Jr. (1998). Concern about aspects of body image and adjustment to early stage breast cancer. *Psychosomatic Medicine*, 60, 168-174.

Center for Disease Control and Prevention. (2020). Coping with stress.

<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>

Center for Disease Control and Prevention. (2020). Protect yourself.

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>

Connor, K., Davidson, J., Churchill, L., Sherwood, A., Weisler, R., & Foa, E. (2000).

Psychometric properties of the Social Phobia Inventory (SPIN): New self-rating scale. *The British Journal of Psychiatry*, 176(4), 379–386.

<https://doi.org/10.1192/bjp.176.4.379>

Cook-Cottone, C. (2016). Embodied self-regulation and mindful self-care in the prevention of eating disorders. *Eating Disorders*, 24(1), 98–105.

<https://doi.org/10.1080/10640266.2015.1118954>

Cooper, M., Reilly, E. E., Siegel, J. A., Coniglio, K., Sadeh-Sharvit, S., Pisetsky E. M., & Anderson, L. M. (2020). Eating disorders during the COVID-19 pandemic and

- quarantine: an overview of risks and recommendations for treatment and early interventions. *Eating Disorders*, 1-23. <https://doi.org/10.1080/10640266.2020.1790271>
- Dakanalis, A., Carrà, G., Calogero, R., Fida, R., Clerici, M., Assunta Zanetti, M., & Riva, G. (2015). The developmental effects of media-ideal internalization and self-objectification processes on adolescents' negative body-feelings, dietary restraint, and binge eating. *European Child & Adolescent Psychiatry*, 24, 997–1010. <https://doi.org/10.1007/s00787-014-0649-1>
- Fernández-Aranda, F., Casas, M., Claes, L., Bryan, D. C., Favaro, A., Granero, R., Gudiol, C., Jiménez-Murcia, S., Karwautz, A., Le Grange, D., Menchón, J. M., Tchanturia, K., & Treasure, J. (2020). COVID-19 and implications for eating disorders. *European Eating Disorders Review: The Journal of the Eating Disorders Association*, 28(3), 239–245. <https://doi.org/10.1002/erv.2738>
- Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The eating attitudes test: psychometric features and clinical correlates. *Psychological Medicine*, 12(4), 871–878. <https://doi.org/10.1017/s0033291700049163>
- Ge, L., Yap, C. W., Ong, R., & Heng, B. H. (2017). Social isolation, loneliness and their relationships with depressive symptoms: A population-based study. *PloS One*, 12(8), e0182145–e0182145. <https://doi.org/10.1371/journal.pone.0182145>
- Groetz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, 31, 1–16. <https://doi.org/10.1002/eat.10005>
- Haines, J., Kleinman, K. P., Rifas-Shiman, S. L., Field, A. E., & Austin, S. B. (2010). Examination of shared risk and protective factors for overweight and disordered eating

among adolescents. *Archives of Pediatrics & adolescent medicine*, 164(4), 336–343.

<https://doi.org/10.1001/archpediatrics.2010.19>

Hrabosky, C. (2009). Multidimensional body image comparisons among patients with eating disorders, body dysmorphic disorder, and clinical controls: A multisite study. *Body Image*, 6(3), 155–163. <https://doi.org/10.1016/j.bodyim.2009.03.001>

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet Psychiatry*, 7(6), 547-560.

[https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)

Hwang, T. J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International Psychogeriatrics*, 32(10), 1217–1220. <https://doi.org/10.1017/S1041610220000988>

Jacobi, C., Haywar9.001eie Zwaan, M., Kraemer, H. C., & Agras, W. S. (2004). Coming to terms with risk factors for eating disorders: Application of risk terminology and suggestions for a general taxonomy. *Psychological Bulletin*, 130(1), 19–65.

<https://doi.org/10.1037/0033-2909.130.1.19>

Jean-Pierre, P., Fundakowski, C., Perez, E., Jean-Pierre, S. E., Jean-Pierre, A. R., Melillo, A. B., Libby, R., & Sargi, Z. (2013). Latent structure and reliability analysis of the measure of body apperception: cross-validation for head and neck cancer patients. *Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer*, 21(2), 591–598. <https://doi.org/10.1007/s00520-012-1561-1>

- Thompson, M. M., Naccarato, M. E., Parker, K. C. H., & Moskowitz, G. (2001). The Personal Need for Structure (PNS) and Personal Fear of Invalidity (PFI) scales: Historical perspectives, present applications and future directions. In G. Moskowitz (Ed.), *Cognitive social psychology: The Princeton symposium on the legacy and future of social cognition* (pp. 19-39). Mahwah, NJ: Erlbaum.
- Twenge, J. M. (2019). More time on technology, less happiness? Associations between digital-media use and psychological well-being. *Current Directions in Psychological Science: A Journal of the American Psychological Society*, 28(4), 372–379.
<https://doi.org/10.1177/0963721419838244>
- Van der Meulen, M., Veldhuis, J., Braams, B. R., Peters, S., Konijn, E. A., & Crone, E. A. (2017). Brain activation upon ideal-body media exposure and peer feedback in late adolescent girls. *Cognitive, Affective & Behavioral Neuroscience* 17(4), 712–723. <https://doi.org/10.3758/s13415-017-0507-y>
- Xu, S., Qiu, D., Hahne, J., Zhao, M., & Hu, M. (2018). Psychometric properties of the short-form UCLA Loneliness Scale (ULS-8) among Chinese adolescents. *Medicine*, 97(38), e12373. <https://doi.org/10.1097/MD.00000000000012373>
- Yu, Z., & Tan, M. (2016). Disordered eating behaviors and food addiction among nutrition major college students. *Nutrients*, 8(11), 673. <https://doi.org/10.3390/nu8110673>

Table 1

Demographics

	n	%
Gender	239	100
Female	189	79.1
Male	47	19.7
Non-Binary	3	1.3
Race	239	100
Black/African American	16	6.7
Hispanic	24	10.0
Asian	14	5.9
White/Caucasian	162	67.8
Native American/Pacific Islander	1	.4
Multiracial/Biracial	22	9.2
Education Level	238	99.6
High School Degree or Equivalent	61	25.6
Some College	110	46.2
2-Year Degree	24	10.1
Bachelor's Degree	28	11.8
Master's Degree	8	3.4
Doctorate	5	2.1
Other	2	.8
College Student	239	100

Current college student	199	83.3
Not a college student	40	16.7
Class Standing	198	82.8
First Year	75	37.9
Sophomore	42	21.2
Junior	41	20.7
Senior	36	18.2
Graduate Student	3	1.5
Other	1	.4
Depression Diagnosis	239	100
Have been diagnosed	49	20.5
Have not been diagnosed	190	79.5
Anxiety Disorder Diagnosis	239	100
Have been diagnosed	67	28.0
Have not been diagnosed	172	72.0
Eating Disorder Diagnosis	239	100
Have been diagnosed	15	6.3
Have not been diagnosed	224	93.7

Table 2

Pandemic Perceptions

	n	%
COVID-19 Daily Routine Change	239	100
Somewhat, Very Much, Extremely	208	87
COVID-19 Loneliness Change	239	100
Somewhat, Very Much, Extremely	180	75.3
COVID-19 Body Image Change	239	100
Somewhat, Very Much, Extremely	154	64.4
COVID-19 Media Use Change	239	100
Somewhat, Very Much, Extremely	192	80.3

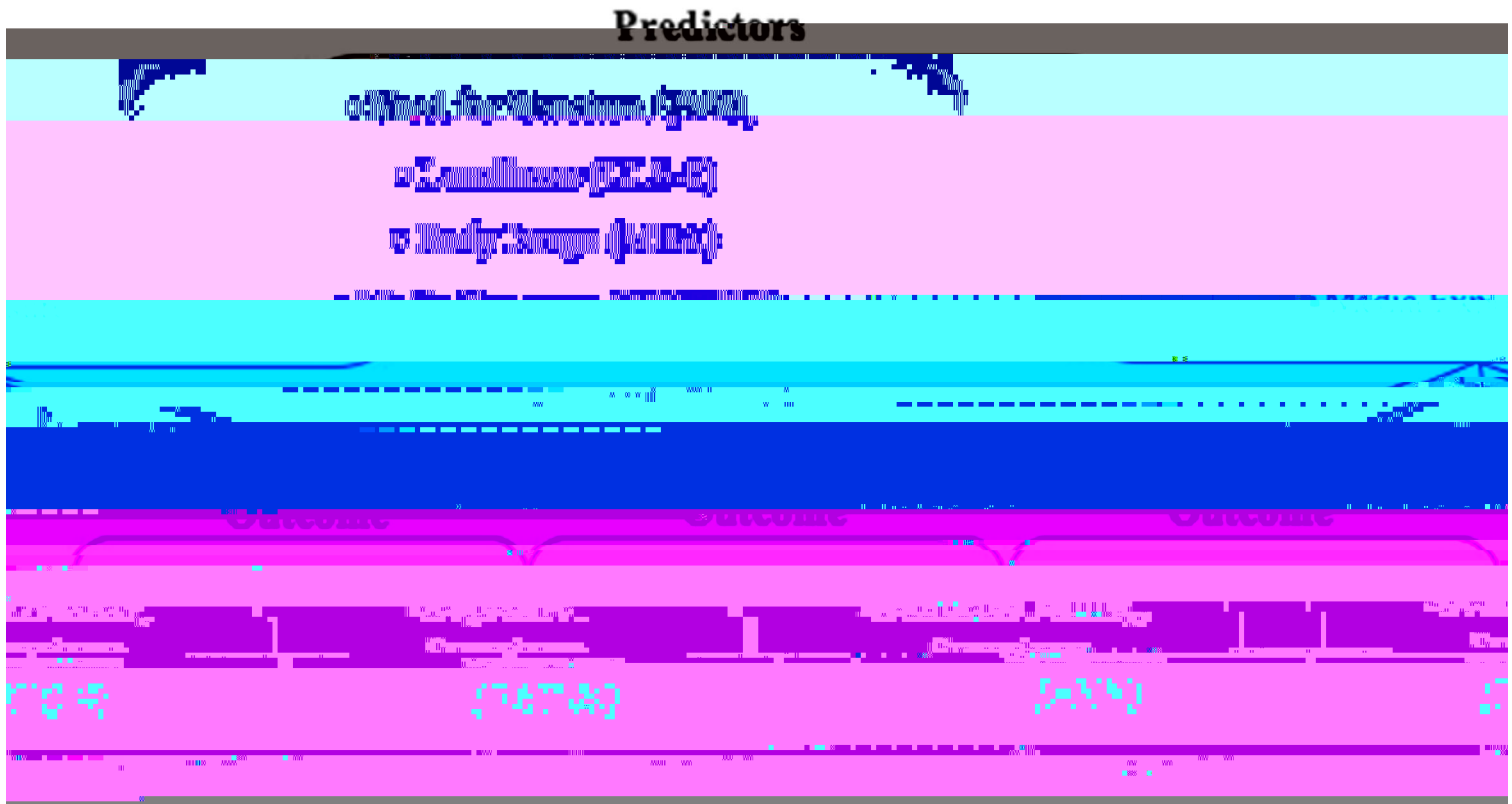
Table 3

Descriptive Statistics and Correlations

	M (SD)	1	2 ^a	3	4 ^a	5	6	7
1. Personal Need for Structure (PNS)	48.11 (7.53)	1	-.263**	.331**	-.134*	.385**	.225**	.209*
2. Loneliness (ULS) ^a	21.51 (4.9)		1	-.256**	.299**	-.536*	-.574**	-.271**
3. Body Image (MBA)	22.58 (6.85)			1	-.283**	.290**	.308**	.360**

Figure 1

Proposed Model



Note. Summary of the pathways through which the COVID-19 pandemic may predict social anxiety, depressive, and disordered eating symptoms.