



Identifying Predictors of COVID-19-Related Anxiety Between Genders and Behavioral Outcomes

Lily Al-Omari

Department of Psychology and Neuroscience, The University of North Carolina at Chapel Hill, USA

Advisors: Dr. Karen Gil, Heidi Ojalehto, Dr. Jon Abramowitz



Introduction

The ongoing coronavirus (COVID-19) pandemic has brought unprecedented threats to the physical and mental health of individuals worldwide. Heightened anxiety or feelings of helplessness during the pandemic has come to exemplify COVID-19-related anxiety (Lee, 2020), which at high levels can exacerbate other mental health issues such as depression, stress, and anxiety (Lee, 2020). Research indicates that COVID-19-related anxiety contributes to maladaptive behavioral responses to the pandemic and related guidelines. For example, individuals who experience high levels of COVID-19-related anxiety portray unhelpful behaviors such as unnecessary doctor visits, panic buying, and excessive social media usage (Nicomedes et al., 2020). Therefore, it is critical to identify the predictors of COVID-19-related anxiety and to examine how different levels of anxiety are coupled with different behavioral responses. Although empirical work has looked at the *impact* of the COVID-19 pandemic on mental health, predictors of COVID-19-related anxiety and its consequences are understudied. Furthermore, less attention has been paid to the role that gender might play in determining levels of COVID-19-related anxiety. Considering this, a closer examination of factors that predict the severity of COVID-related anxiety, and how these predictors differ between genders, is essential.

Hypotheses

Hypothesis 1: Females will have higher anxiety about COVID-19 than males.

Hypothesis 2: Females will have higher levels of Anxiety Sensitivity, Stress, Political Ideology (more liberal), Body Vigilance, and Media Usage than males.

Hypothesis 3: Measures of interest will differentially predict COVID-19-related anxiety between males and females.

Hypothesis 4: Higher Covid-19-related anxiety will be related to greater compliance with CDC guidelines.

Method

Procedure: Responses were collected via Qualtrics, a private online survey tool, that was administered to the participants between August 27, 2020, and November 5, 2020, on a group of college students at UNC.

Participants: Sample ($N = 347$) there was a mean age of 18.92 years ($SD = 1.56$, the range was 17 to 39). Female ($n = 243$; 70.0%), Male ($n = 103$), 0.7% identified as non-binary ($n = 2$). Majority identified as White ($n = 226$; 65.1%), 14.1% Asian ($n = 49$), 10.7% African American or Black ($n = 37$), 6.3% Hispanic or Latino ($n = 22$), 0.2% American Indian or Alaska Native ($n = 1$), 1.2% Middle Eastern ($n = 4$), 1.7% multiracial ($n = 6$), and 0.3% other ($n = 1$).

Measures: Predictive measures: *DASS-21 Stress*, *Anxiety Sensitivity Index (ASI-3)*, *Body Vigilance Scale (BVS) VS*, *Political Ideology*, and *Media Usage*. Outcome Measures: *Coronavirus Anxiety Scale (CAS)*, and *Compliance with CDC Guidelines*.

Analyses: Mean and standard deviations, Correlation and regression, Independent sample T-Tests, Linear Regressions.

Results

Table 1: CAS scores and variables were weakly to moderately associated. Stress, anxiety sensitivity, and body vigilance, political ideology was associated with CAS at Bivariate Level.

Table 2: Females demonstrated higher scores on the DASS stress, ASI cognitive and physical subscale scores, and political views variable (indicating more liberal views).

Table 3: The regression model was significant and accounted for 13.7% of the variance in CAS scores. DASS-stress subscale emerged as the only significant individual (positive) predictor.

Table 4: Overall regression model was not significant ($p = .17$).

Result 5: Weak, positive association between CAS scores and COVID-19 behavioral outcomes ($r = 0.127$)

Table 1. Zero-order Correlations Between Measures

Variable	1	2	3	4	5	6	7	8
1. CAS	-							
2. DASS-Stress	.31*	-						
3. ASI Physical	.26*	.48*	-					
4. ASI Cognitive	.26*	.60*	.65*	-				
5. ASI Social	.17*	.48*	.46*	.51*	-			
6. BVS	.24*	.45*	.52*	.45*	.43*	-		
7. Political Ideology	.16*	.12	.13	.10	.08	.17*	-	
8. Media Usage	.12	.17	.12	.18*	.09	.07	.12	-

*Significant at Bonferroni corrected alpha level of $p < .006$.

Table 3. Linear Regression Predicting CAS Among Females

Variable	R ²	B	SE _B	β	t	p
Predicting CAS	.137					< .001
DASS Stress*	.10	.04	.019	2.36	.02	
ASI Physical	.03	.04	.07	.83	.41	
ASI Cognitive	.02	.03	.05	.54	.58	
ASI Social	-.03	.03	-.07	-.87	.38	
BVS	.03	.02	.11	1.3	.18	
Political Ideology	.15	.08	.10	1.7	.09	
Media Usage	.18	.14	.07	1.2	.21	

*Significant at alpha level $p < .05$

Table 2. Descriptive Statistics of Study Measures by Gender

Variable	Female (n = 243)		Male (n = 103)		p
	M (SD)	M (SD)	M (SD)	M (SD)	
CAS	1.25 (2.17)	0.55 (1.25)			<0.001*
DASS Stress	7.44 (4.15)	5.85 (4.20)			0.001*
ASI Physical	4.84 (5.01)	3.17 (3.90)			0.001*
ASI Cognitive	5.19 (5.56)	3.29 (4.73)			0.001*
ASI Social	9.99 (4.94)	8.42 (4.89)			0.007
Body Vigilance	17.5 (7.69)	14.7 (6.85)			<0.001*
Political Views	4.89 (1.55)	4.21 (1.46)			<0.001*
Media Usage	4.28 (1.52)	3.81 (1.50)			0.004

*Significant at the Bonferroni corrected alpha level $p < .005$

Table 4. Linear Regression Predicting CAS Among Males

Variable	R ²	B	SE _B	β	t	p
Predicting CAS	.108					.13
DASS Stress*	.07	.03	.02	2.09	.04	
ASI Physical	.02	.04	.06	.54	.59	
ASI Cognitive	.01	.03	.04	.28	.77	
ASI Social	.007	.03	.02	.23	.82	
BVS	-.18	.02	-.09	-.88	.38	
Political Ideology	0	.08	-.01	-.10	.91	
Media Usage	-.18	.11	-.15	-1.5	.13	

*Significant at alpha level $p < .05$

Discussion

In line with the first hypothesis, we found that females show higher levels of anxiety sensitivity, stress, political ideology, and body vigilance than males.

In support of the second hypothesis, we only found stress to differentially predict COVID-19-related anxiety between males and females. Contrary to our second hypothesis, we found that media usage and anxiety sensitivity, body vigilance, and political ideology do not predict COVID-19-related anxiety.

In line with the third hypothesis, females reported higher levels of COVID-19-related anxiety than males. In support of our fourth hypothesis, we found that higher COVID-anxiety scores were associated with greater compliance with CDC guidelines.

In summary, findings from the present study supported that anxiety sensitivity, stress, body vigilance, political ideology, and media usage were correlated with COVID-19-related anxiety at the bivariate level but did not emerge as significant individual predictors of COVID-19-related anxiety at the regression level. Moreover, sex differences in factors associated with COVID-19-related anxiety were found suggesting that some of these factors, particularly stress, may contribute to higher COVID-19-related anxiety among females compared to males. Furthermore, a weak to moderate correlation between higher COVID-19-related anxiety and compliance with CDC guidelines was determined. Predicting COVID-19-related anxiety has important implications for exploring behavioral outcomes of disease-related pandemics. Our study offers a deeper insight into the differences found between genders for future psychological distress interventions.

References

- Albanese, B. J., Boffa, J. W., Macatee, R. J., & Schmidt, N. B. (2017). Anxiety sensitivity mediates gender differences in post-concussive symptoms in a clinical sample. *Psychiatry research*, 252, 242–246. <https://doi.org/10.1016/j.psychres.2017.01.099>
- Aljadar, R., Hmaid, M. M., Samha, T. E., Kilani, M. M., & Hasswan, A. M. (2019). Gender variations in social media usage and academic performance among the students of University of Sharjah. *Journal of Taibah University Medical Sciences*, 14(4), 390–394. <https://doi.org/10.1016/j.jtumed.2019.05.002>
- Blakey, S. M., Reuman, L., Jacoby, R. J., & Abramowitz, J. S. (2015). Tracing "Fearbola": Psychological Predictors of Anxious Responding to the Threat of Ebola. *Cognitive therapy and research*, 39(6), 816–825. <https://doi.org/10.1007/s10608-015-9701-9>
- Blakey, S.M., Abramowitz, J.S. Psychological Predictors of Health Anxiety in Response to the Zika Virus. *J Clin Psychol Med Settings* 24, 270–278 (2017).
- 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.