

# The Relationship Between COVID-19 Social Distancing and Feelings of Anxiety and Depression in the US

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## Abstract

The COVID-19 pandemic has been associated with an increase in the level of stress and uncertainty within the US population. The emergence of unprecedented population-level stressors, such as quarantine and social distancing, can have a profound negative impact on an individual's mental health. This study aimed to assess the effects of social distancing on feelings of anxiety and depression within the US population. Results indicated that 73.60% (n=145) screened positive for symptoms of depression, and 62.44% (n=123) screened positive for symptoms of anxiety. Individuals ages 18-24, with a bachelor's degree, pet owners, self-reported drug use, and a history of mental illness had worse depression symptoms than individuals of ages 45-54, with a master's degree, without pets, no self-reported drug use, and no history of mental illness, respectively. Individuals with a history of mental illness and drug abuse were more likely to report worse feelings of anxiety than those without a history of mental illness and no reported drug use, respectively.

## Introduction

In order to control the spread of COVID-19, mandatory quarantine, curfews, social distancing, travel, and mask-wearing regulations were enacted by government officials. These changes in societal norms and policies can result in feelings of isolation, stress, and loneliness. During the Middle East Respiratory Syndrome (MERS) outbreak, individuals in quarantine were found to experience increased feelings of anxiety and anger that persisted months after the conclusion of the quarantine period (Jeong, 2016). During the severe acute respiratory syndrome (SARS) outbreak, research indicated that quarantined individuals experienced increased symptoms of fear, stigma, and frustration (Robertson, 2004). Further research is necessary to understand the impact of social distancing and isolation during this unprecedented period of social distancing, quarantine, and isolation.

## Methodology

A survey was developed using the Patient Health Questionnaire (PHQ-9), the Generalized Anxiety Disorder Assessment (GAD-7), demographic information, and other variables. The anonymous, cross-sectional questionnaire was delivered to individuals across the United States via email and social media platforms.

## Results

Of 346 respondents, 71% (n=246) were found to be residents of the United States practicing social distancing, and 60% (n=197) completed the questionnaire. **The average PHQ-9 score was 9.83, while the average GAD-7 score was 8.42**, which are associated with feelings of mild depression and anxiety, respectively. Figures 1 and 2 illustrate the sample's distribution of the severity of depression and anxiety symptoms, indicated by the PHQ-9 and GAD-7 scores. Results indicated **73.60% (n=145) of respondents screened positive for symptoms of depression and 62.44% (n=123) screened positive for symptoms of anxiety**. However, only 37.1% (n=73) reported a history of mental illness and 23.9% (n=23.9%) reported attending counseling or therapy. Of the individuals that reported a mental health condition, 20.8% (n=41) reported to be undergoing medication-based mental health therapy and 10.2% (n=20) reported receiving non-medication-based mental health therapy.

## Results

Table 1: Demographics of Respondents (n=197)							
Respondents		n	%	Race			
	Total	346	-		n	%	
	Eligible	246	71		Asian	73	37.1
	Completed	197	56.9		Black or African American	9	4.6
Age	Under 18	6	3	Residential Area Type	Hispanic or Latino	19	1
	18-24	74	37.6		Pacific Islander	1	0.5
	25-34	83	42.1		White	85	43.1
	35-44	20	10.2		Other	10	5.1
	45-54	8	4.1	Social Distancing Laws	Urban	62	31.5
	55-64	4	2		Suburban	119	60.4
	65 and older	2	1		Rural	16	8.1
	Mean	28.2	Yes		156	79.2	
Gender	Standard Deviation	9.862	History of Mental Illness	No	18	9.1	
	Male	43		21.8	Unsure	23	11.7
	Female	146		74.1	Yes	73	37.1
	Other	8		4.1	No	105	53.3
				Prefer Not to Answer	19	9.6	

Figure 1: PHQ-9 Severity (n=197) Figure 2: GAD-7 Severity (n=197)

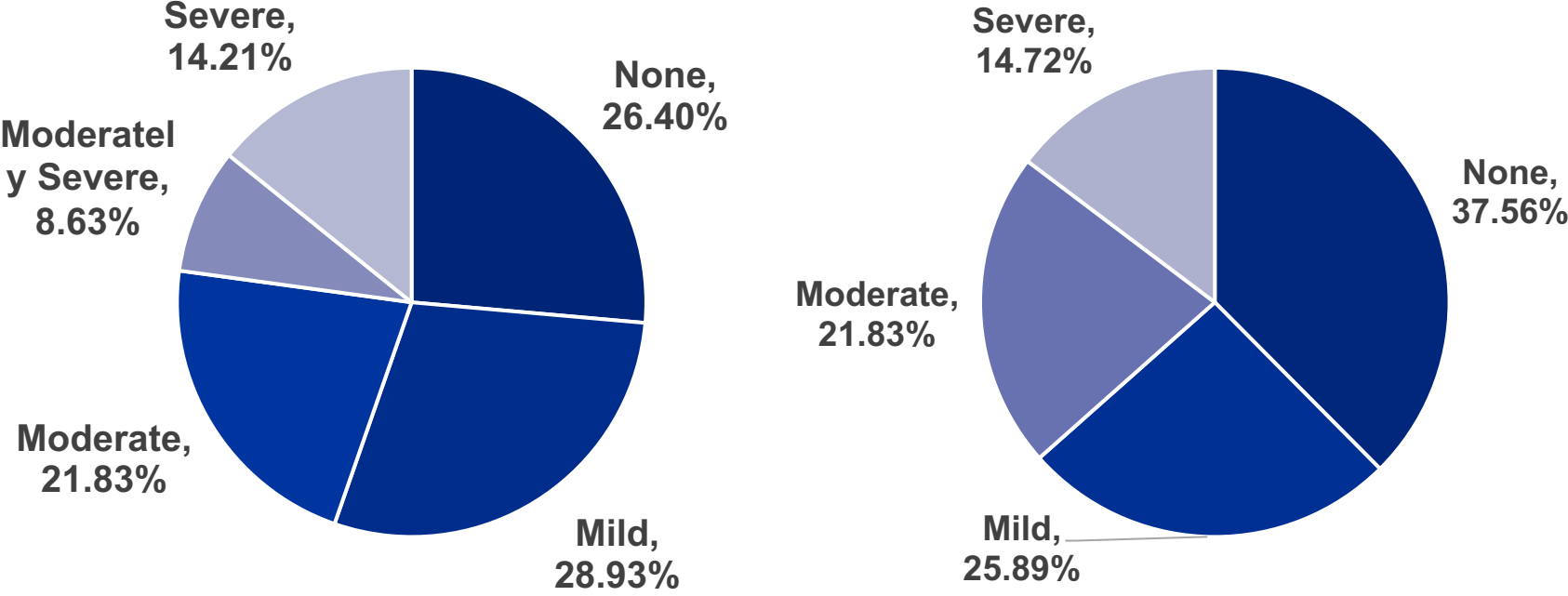


Figure 3: Average PHQ-9 and GAD-7 Scores by Age Group (n=197)

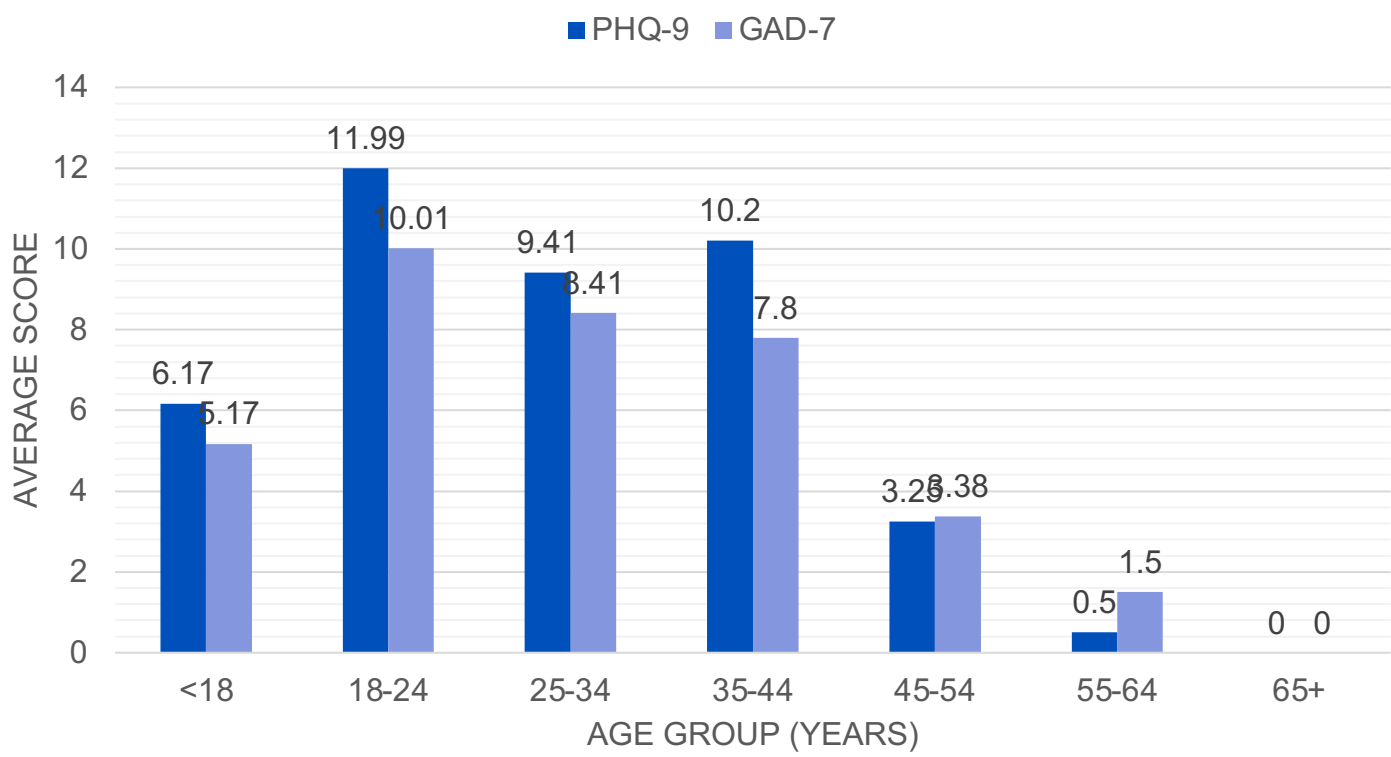


Figure 3 shows that the average PHQ-9 and GAD-7 scores decrease across increasing age groups.

## Results

**Women were more likely to have higher GAD-7 scores than men (p<0.05).** Additionally, essential workers were more likely to report anxiety symptoms than non-essential workers (p<0.05). There was also a statistically significant difference in PHQ-9 scores between the 18-24 and 45-54 age groups (p<0.05) and between the 25-34 and 45-54 age groups (p<0.05).

Individuals that owned pets were found to have higher PHQ-9 scores than those that don't own pets (p<0.05). In addition, it was found that essential workers reported an increased frequency of feelings of poor appetite or overeating (p<0.05). It was also found that essential healthcare workers were less likely to report feelings of self-harm (p<0.05). There was a statistically significant difference in the PHQ-9 scores of individuals of ages 18-24 and 45-54 (p<0.05). In addition, participants ages 18-24 were more likely to report they were worrying too much in comparison to individuals ages 45-54 (p<0.05). Individuals that reported drug use had a significantly higher PHQ-9 (p<0.05) and GAD-7 score (p<0.05) than those that reported not using drugs.

## Conclusion

Individuals engaging in social distancing due to COVID-19 appear to be experiencing new or exacerbated symptoms of anxiety or depression, even without a prior history of a diagnosed mental health disorder. Younger individuals, in particular, were more likely to present with exacerbated symptoms of depression and feelings of worrying too much. Individuals that identified as nonbinary, reported drug use, or had a history of diagnosed mental illness were more likely to report an increased severity of symptoms of both anxiety and depression than their respective counterparts. The extended duration of COVID-19 restrictions has impacted the mental health of the US population, and increased efforts to provide mental health care to those who are social distancing is needed. In addition, a greater emphasis should be placed on mental health care during the post-social distancing phase.

One limitation is that the PHQ-9 and GAD-7 scores are not the only criteria applicable in diagnosing depression or anxiety, as a comprehensive mental health assessment by a professional is required. However, it is important to note that the PHQ-9 and GAD-7 are both validated instruments for identification of those that present with depression or anxiety. In addition, the distribution of the survey through the virtual platform has resulted in a limited sample size for individuals aged 55 and older.

The next steps of this project involve obtaining follow-up data from this cohort after the official conclusion of social distancing to assess the change in prevalence and severity of depressive and anxiety symptoms.

## References

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