4-29-2022

Stigma and Anxiety as Barriers to Help-Seeking Among University of Richmond Students

Allison Walters
University of Richmond

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by

Allison Walters

Honors Thesis
Submitted to:

Psychology Department
University of Richmond
Richmond, VA

April 29, 2022

Advisor: Dr. Kristjen Lundberg

Abstract

There is a growing need for mental health services in the United States due to increased rates of psychopathology. Emerging adults, ages ranging from 18 to 24 years, experience high rates of psychopathology and thus have a strong need for available mental health treatments (Eisenberg et al., 2007). Despite this need and the efficacy of mental health treatment as a whole, there are many barriers to treatment utilization, including stigma. This study examines level of anxiety and stigma as barriers to help-seeking using data collected through the Healthy Minds Survey at the University of Richmond. Moderation analyses revealed that anxiety was less strongly related to greater perceived need for mental health treatment among those with higher levels of perceived stigma. However, anxiety was more strongly related to current enrollment in therapy among those with higher levels of perceived and personal stigma, particularly for White students (though not students of color). These results suggest that anxiety itself may not be a barrier to treatment in this population, though additional research is needed to ascertain the role of stigma as a barrier to help-seeking. They also suggest the need for alternative theoretical models to be examined when exploring barriers to mental health treatment among students of color.

Stigma and Anxiety as Barriers to Help-Seeking Among University of Richmond Students

There is a growing mental health crisis in the United States. A startling 40% of Americans with a 12-month severe mental illness do not receive any treatment (Wang et al., 2007). This is unfortunate considering the reduction in symptom severity that treatment and counseling can provide (Satcher, 2000). Emerging adults in particular are likely to not utilize mental health treatment options, a concerning report given the high prevalence of mental illness within the population (American College Health Association, 2009; Drum et al., 2009; Eisenberg et al., 2007). The current study examines the extent to which anxiety symptom severity and stigma towards mental health treatments act as barriers to help-seeking. In doing so, I hope to identify means of reducing the discrepancy between the pervasiveness of mental illness and the underutilization of mental health resources by emerging adults.

Help-Seeking

Help-seeking can be characterized as one's likelihood to seek mental health treatment and includes two facets: help-seeking intentions and help-seeking behavior (Barney et al., 2006). Help-seeking *intentions* represents the extent to which an individual acknowledges their need for mental health treatment, while help-seeking *behavior* represents actions an individual has taken in seeking out mental health treatment. Perhaps it is worth stating the obvious, too: that help-seeking is a positive outcome in this context. The efficacy of treatment for mental health disorders has been repeatedly and robustly shown. Cognitive therapy has been shown to reduce symptoms of anxiety and depression, ultimately increasing the well-being of individuals who use such treatment (Hanrahan et al., 2013, Weitz et al., 2018). Individuals with symptoms of mental illness who are dissuaded from seeking treatment tend to have lower psychological well-being than peers seeking mental health treatments (Davlasheridze et al., 2018). Additionally, the chronic stress associated with impaired psychological well-being predicts reductions in physical health, with both facets of health

independently predicting reduced economic output among those with untreated mental health conditions (Davlasheridze et al., 2018).

Measuring levels of help-seeking in studies related to mental health is critical because it allows for researchers to assess treatment utilization and better identify barriers to help-seeking. The reduction of barriers to help-seeking is especially important for individuals in emerging adulthood, defined as those who are 18-24 years of age, due to their comparatively high risk of developing mental illness. People in this age group are typically living on their own for the first time and either continuing to higher education or joining the work force. Partially driven by these significant changes, symptoms of psychopathology commonly emerge in young adults (Kessler et al., 2007; Patel et al., 2007). Many emerging adults with mental health problems are experiencing these symptoms for the first time and do not utilize their available mental health resources (Vanheusden et al., 2008). For example, previous research has shown that older adolescents are less likely to seek help than younger adolescents (Nearchou et al., 2018). Although this research isn't directly related to emerging adulthood, it does suggest that levels of help-seeking may diminish as adolescents age, a trend which could potentially continue into emerging adulthood.

To gain a better contextual understanding of help-seeking, it is important to examine factors serving as barriers to help-seeking. Identifying barriers allows for the possibility of removing them, which would increase the likelihood of help-seeking. Common barriers to help-seeking include difficulty accessing help, stigmatizing beliefs, perceiving one's problem(s) as not serious enough, reliance on self, and fear of negative outcomes (Salaheddin & Mason, 2016). Barriers to help-seeking are commonly divided into two categories: internal and external (Becker et al., 2014). *Internal barriers* focus more on attitudes and beliefs preventing someone from seeking help, whereas *external barriers* focus more on systemic external structures preventing someone from seeking help (e.g., cost). Even

through both internal and external barriers need to be addressed in order to ameliorate disparities in mental health treatment utilization, the present study focuses on a specific internal barrier: stigma.

Stigma

Stigma is the second most commonly reported barrier to help-seeking (Radez et al., 2021). This means that the presence of stigma creates a discrepancy between mental health need and treatment utilization. To properly understand the mechanism by which stigma functions as a barrier, it is first necessary to understand the four types of stigma related to mental illness: public stigma, perceived public stigma, personal stigma, and self-stigma (Eisenberg et al., 2009). *Public stigma* refers to "negative stereotypes and prejudice about mental illness held collectively by people in a society or community" (Eisenberg et al., 2009). *Perceived public stigma* then refers to an individual's own perceptions of the public stigma. In contrast, *personal stigma* is one's personally held beliefs about mental illness, including stereotypes and prejudices. Finally, *self-stigma* is when an individual identifies as being mentally ill and applies their own stereotypes and prejudices to the self (Eisenberg et al., 2009).

Perceived public stigma and personal stigma are two constructs useful to study as barriers to help-seeking because they are easily operationalized. While it may be that self-stigma is the mechanism by which personal stigma reduces help-seeking, self-stigma is extremely hard to measure. Personal stigma gives a better sense of attitudes toward mental illness regardless of the presence of mental illness or one's acknowledgement of their own potential mental health problems (Eisenberg, 2009). Understanding these personal attitudes are important because internal attitudes influence behavior. It may be that someone with more personally held negative attitudes about mental health treatment would then be less likely to seek treatment. Additionally, someone who perceives a strong public stigma against mental health treatment may avoid getting help for fear of judgement. The

literature does not question the validity of stigma as a barrier to help-seeking, but there are discrepancies as to which type of stigma is considered a more influential barrier to help-seeking.

One study found that higher levels of personal stigma were associated with lower levels of help-seeking in college students. Even though perceived public stigma was considerably higher than personal stigma in this study, perceived public stigma was not significantly associated with help-seeking (Eisenberg et al., 2009). This finding is supported by that of a later study which found that higher levels of personal stigma were associated with lower levels of perceived need. This combination would then lead to lower levels of help-seeking by those with higher levels of personal stigma (Schomerus et al., 2012). In contrast, other studies have argued that perceived public stigma, rather than personal stigma, is more influential for help-seeking (Nearchou et al., 2018). This finding that perceptions of other people's beliefs are more influential barriers to help-seeking than individual beliefs implies that the fear of public ridicule is the driving factor preventing help-seeking.

Level of Anxiety

Anxiety is another barrier to mental health treatment utilization (Radez et al., 2021). Although one may think that as level of anxiety increases, an individual would be more likely to seek treatment, it may be that after a certain threshold of anxiety is reached, they would then become less likely to seek treatment. In one study about depression, it was found that more intense symptoms predicted lower perceived need for care, which would then lead to lower help-seeking for the highly depressed person (Schomerus et al., 2012). Even though anxiety and depression are different disorders, they tend to follow the same trends; thus, this negative quadratic trend could be expected regarding anxiety due to the relationship shown in the previous study conducted on depression (Schomerus et al., 2012).

In addition to level of anxiety being an individual barrier to help-seeking, it may also serve as a base to examine stigma's moderating effect on help-seeking. One study examined the interaction

between depression symptom severity and stigma as barriers to help-seeking, finding that symptom severity moderated the effect of stigma on help-seeking. When stigma was low, those with higher symptom severity were significantly more likely to seek mental health treatment than those with lower symptom severity; however, when stigma was high there was no significant difference in help-seeking between those with high symptom severity and low symptom severity (Fox et al., 2018). There are no studies of this nature, to my knowledge, examining stigma as a moderator for the relationship between anxiety symptom severity and help-seeking; therefore, the present study will attempt to close this gap in the literature.

Research Questions

This study was driven by three research questions: (1) Do stigma and anxiety symptom severity act as barriers to help-seeking? (2) Is perceived public stigma or personal stigma more significant in barring mental health treatment utilization in emerging adulthood? (3) Does anxiety symptom severity moderate the relationship between stigma and help-seeking? This study will examine both stigma and level of anxiety as individual barriers to help-seeking, as well as the potential moderating effect of level of anxiety in the relationship between stigma and help-seeking.

Methods

Participants

Participants for this study were recruited as part of the 2018 Healthy Minds Study's annual student survey (https://healthymindsnetwork.org/hms/). Recruitment messages were sent via email, which instructed participants to access a Qualtrics survey. The Healthy Minds Survey is approved by the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board. Participants and researchers are further protected by a Certificate of Confidentiality from the National Institutes of Health. Approval was obtained via the University of Richmond Institutional Review Board for this specific study.

Measures

      Anxiety. Level of anxiety is measured using the General Anxiety Disorder (GAD)-7 (Spitzer et al., 2006). This measure consists of 7 questions asking about frequency of symptoms in the past 2 weeks (e.g., "Over the last 2 weeks, how often have you been bothered by the following problems? Feeling nervous, anxious or on edge"). Each question is measured on a scale from 1-4 from where 1 = *not at all*, 2 = *several days*, 3 = *over half the days*, and 4 = *nearly every day*. The responses from the 7 questions are summed to determine the severity of anxiety. A cumulative score from 0-4 indicates no anxiety, 5-9 indicates mild anxiety, 10-14 indicates moderate anxiety, and 15-21 indicates severe anxiety (α = .83).

      Stigma. Stigma is measured in two domains, personal and perceived stigma (Eisenberg et al., 2009). Questions assessing *perceived stigma* ask about perceptions of others' beliefs (e.g., "Most people feel that receiving mental health treatment is a sign of personal failure"), whereas questions assessing *personal stigma* ask about personal beliefs (e.g., "I feel that receiving mental health treatment is a sign of personal failure"). Each domain includes three questions on a 6-point Likert scale: *strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree* (Eisenberg et al., 2009) (α = .89 for perceived stigma, α = .78 for personal stigma). Responses were reversed (as appropriate) and then averaged within each domain such that higher scores indicate higher stigma.

      Help-Seeking. Help-seeking is measured in two ways: *perceived need for help* and *help-seeking action*. Perceived need for help is measured by the following statement: "In the past 12 months, I needed help for emotional or mental health problems such as feeling sad, blue, anxious or nervous" This statement were measured on a 6-point Likert scale: *strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree* (Eisenberg et al., 2009). Responses were then reversed such that higher scores indicate greater perceived need.

Help-seeking actions are measured by the following question: "Are you currently receiving counseling or therapy?" with response choices *yes* (1) and *no* (0) (Eisenberg et al., 2009).

Data Analysis Plan

Data were analyzed using multiple linear and logistic regression. First, I planned to examine whether the relationship between level of anxiety and help-seeking is linear or quadratic. Second, I planned to test whether stigma moderates the relationship between anxiety and help-seeking such that there will be a stronger relationship between anxiety and help-seeking when stigma is low and a weaker relationship between anxiety and help-seeking when stigma is high. I planned to run this analysis with both personal and perceived stigma and both perceived need for help and help-seeking actions. Overall, I expected to see a statistically significant interaction between stigma and level of anxiety such that people with higher (versus lower) stigma and higher levels of anxiety are less likely to perceive the need for and to seek treatment.

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Results

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In total, 547 University of Richmond participants completed the 2018 Healthy Mind Survey, though not all participants completed all measures of interest, therefore Ns vary across analyses. Of those who reported demographic information, 63.9% identified as female ($n = 355$), 32.9% male ($n = 180$), 1.1% gender non-conforming ($n = 6$), 0.5% self-identifying ($n = 3$), and 0.4% trans men ($n = 2$). Participants were between the ages of 18 and 54 years ($M = 20.36$, $SD = 3.452$). Racial-ethnic identities were as follows: 75.3% white ($n = 412$), 13.5% Asian ($n = 74$), 7.7% Hispanic ($n = 42$), 3.1% Middle Eastern ($n = 17$), 0.4% native Hawaiian or Pacific Islander ($n = 2$), and 0.7% "other" ($n = 4$). In total, 13.7% of participants identified as LGBTQ+ ($n = 75$).

Descriptive statistics for anxiety, perceived stigma, personal stigma, current enrollment in therapy and perceived need are shown in Table 1. Bivariate correlations for anxiety, perceived stigma, personal stigma, current enrollment in therapy, and perceived need are shown in Table 2.

There was a statistically significant relationship between anxiety ($M = 6.39$, $SD = 5.28$) and perceived stigma ($M = 2.77$, $SD = 1.01$) such that higher anxiety was correlated with higher perceived stigma ($r = .17$, $p < .001$). Additionally, there was a statistically significant relationship between perceived stigma and personal stigma ($M = 1.53$, $SD = 0.69$) such that higher perceived stigma was associated with higher personal stigma ($r = .32$, $p < .001$).

Relationship between Anxiety and Help-Seeking

To evaluate the nature of the relationship between anxiety and help-seeking, a quadratic term for anxiety was created by squaring individual mean-centered scores. Raw mean-centered scores and squared scores for anxiety were then regressed on help-seeking to represent linear and quadratic effects, respectively.

To examine perceived need, a multiple linear regression analysis was conducted, which indicated statistically significant linear ($B = 0.20$, $SE = 0.02$, $p < .001$) and quadratic effects ($B = -0.01$, $SE = 0.002$, $p = .002$). These estimates suggest that while perceived need increases as the level of anxiety increases, the rate of increase slows down at higher levels of anxiety. (See Figure 1.)

To examine current enrollment in therapy, a binary logistic regression analysis was conducted, which indicated only a statistically significant linear relationship ($B = 0.12$, $SE = 0.05$, $p = .02$), but not a quadratic one ($B = -0.004$, $SE = 0.01$, $p = .44$).

Given that the quadratic relationship only occurred for the perceived need variable and to simplify the analyses presented, only linear effects are included in subsequent models.

Does Stigma Moderate the Relationship between Anxiety and Help-Seeking?

The moderating effects of stigma on the relationship between anxiety and help-seeking behaviors was evaluated using multiple linear and logistic regression analyses performed using an SPSS macro developed by Hayes (2013). Variables of interest were mean-centered prior to their analysis, such that a score of zero represented the sample mean.

In the model predicting perceived need using perceived stigma, I observed a significant main effect of anxiety ($B = 0.16$, $SE = 0.02$, $p < .0001$) and a marginal main effect of perceived stigma ($B = 0.16$, $SE = 0.08$, $p = .06$). These results were qualified by a statistically significant interaction term ($B = -0.03$, $SE = 0.01$, $p = .02$) that indicated differences in the magnitude of the relationship between anxiety and perceived need across levels of perceived stigma. Further probing of the interaction revealed that though there is a significant and positive relationship between anxiety and perceived need across levels of perceived stigma ($p < .0001$ for all simple slopes), that relationship is weakened at higher levels of perceived stigma. (See Figure 2.)

In the model predicting perceived need using personal stigma, I observed a statistically significant main effect of anxiety ($B = 0.16$, $SE = 0.02$, $p < .0001$) and a non-significant main effect of personal stigma ($B = 0.02$, $SE = 0.12$, $p = .87$). These results were not qualified by a statistically significant interaction term ($B = -0.03$, $SE = 0.02$, $p = .25$).

In the model predicting current enrollment in therapy using perceived stigma, I observed a statistically significant main effect of anxiety ($B = 0.09$, $SE = 0.03$, $p = .004$) and a non-significant main effect of perceived stigma ($B = -0.08$, $SE = 0.18$, $p = .66$). These results were not qualified by a statistically significant interaction term ($B = 0.04$, $SE = 0.03$, $p = .12$).

In the model predicting current enrollment in therapy using personal stigma, I observed a significant main effect of anxiety ($B = 0.11$, $SE = 0.04$, $p = .002$) and a non-significant main effect of perceived stigma ($B = -0.29$, $SE = 0.32$, $p = .37$). These results were qualified by a statistically significant interaction term ($B = 0.16$, $SE = 0.07$, $p = .02$) that indicated differences in the magnitude of the relationship between anxiety and current enrollment in therapy across levels of personal stigma. Further probing of the interaction revealed that, though there is a significant and positive relationship between anxiety and current enrollment in therapy at moderate and high levels

of personal stigma (ps = .002), this relationship weakens to non-significance at low levels of personal stigma (p = .28). (See Figure 3.)

Exploring Gender and Racial Differences

To explore the nature of the observed relationships among demographic subgroups, gender and racial-ethnic identities were introduced as higher-order moderators. Gender was dichotomized such that gender only included male and female students. Gender minority students were removed from analysis due to limited numbers. Race was dichotomized such that race included monoracial white students and students of color. Three-way interactions between anxiety, stigma, and the demographic variable were added to all base models for gender and race respectively (as well as all lower-level interactions and main effects). Although there was a main effect of gender for perceived need (B = -0.57, SE = 0.19, p = .002) such that males reported greater need than females, all other main effects and interactions involving gender were non-significant (ps > .25). Therefore, these results are not discussed further.

When examining whether the preceding results were moderated by participant race, the three-way interactions between anxiety, stigma, and participant race were not significant when predicting perceived need (model with perceived stigma: B = 0.01, SE = 0.03, p = .70; model with personal stigma: B = -0.03, SE = 0.05, p = .51). However, the three-way interactions between anxiety, stigma, and participant race when predicting current enrollment in therapy were marginal for personal stigma and statistically significant for perceived stigma (model with perceived stigma: B = -0.15, SE = 0.07, p = .03; model with personal stigma: B = -0.25, SE = 0.15, p = .09). To further probe this interaction, data were disaggregated, and models were re-run separately for white students and students of color.

Perceived Stigma. Anxiety and perceived stigma predicted current enrollment in therapy for white participants with a significant main effect of anxiety (B = 0.09, SE = 0.04, p = .02) and a

non-significant main effect of perceived stigma ($B = 0.85$, $SE = 0.23$, $p = .71$). These results were qualified by a statistically significant interaction term ($B = 0.10$, $SE = 0.04$, $p = .02$) that indicates differences in the magnitude of the relationship between anxiety and current enrollment in therapy across levels of perceived stigma. Further probing of the interaction revealed that there is a significant and positive relationship between anxiety and current enrollment in therapy at moderate ($p = .02$) and high ($p = .002$) levels of personal stigma, but not at low levels of perceived stigma ($p = .97$). In contrast, upon examination of whether anxiety and perceived stigma predicted current enrollment in therapy for students of color, the main effect of anxiety was non-significant ($B = 0.12$, $SE = 0.07$, $p = .10$), as was the main effect of perceived stigma ($B = -0.43$, $SE = 0.36$, $p = .23$). These main effects were not qualified by a statistically significant interaction term ($B = -0.06$, $SE = 0.06$, $p = .34$), indicating no differences in the magnitude of the relationship between anxiety and current enrollment in therapy across levels of perceived stigma for students of color. (See Figure 4.)

Notably, an independent samples t-test found that white students ($M = 2.68$, $SD = 0.99$) had higher levels of perceived stigma than students of color ($M = 2.97$, $SD = 1.00$), a statistically significant difference of -0.28, 95% CI [-0.50, 0.07], $t(377) = -2.58$, $p = .01$.

Personal Stigma. Anxiety and personal stigma predicted current enrollment in therapy for white participants with a significant main effect of anxiety ($B = 0.14$, $SE = 0.05$, $p = .003$) and a non-significant main effect of personal stigma ($B = -0.65$, $SE = 0.45$, $p = .15$). These results were qualified by a statistically significant interaction term ($B = 0.29$, $SE = 0.11$, $p = .009$) that indicates differences in the magnitude of the relationship between anxiety and current enrollment in therapy across levels of personal stigma. Further probing of the interaction revealed that there is a significant and positive relationship between anxiety and current enrollment in therapy at moderate ($p = .003$) and high ($p = .002$) levels of personal stigma but not at low levels of personal stigma ($p = .61$). In contrast, upon examination of whether anxiety and personal stigma predicted current enrollment in

therapy for students of color, the main effect of anxiety was non-significant ($B = 0.10$, $SE = 0.06$, $p = .12$), as was the main effect of personal stigma ($B = -0.002$, $SE = 0.54$, $p = .997$), with neither effect qualified by a statistically significant interaction term ($B = 0.03$, $SE = 0.10$, $p = .72$). (See Figure 5.)

Notably, an independent samples t-test found no evidence to suggest that white students ($M = 1.51$, $SD = 0.70$) differed from students of color ($M = 1.56$, $SD = 0.66$) in their levels of personal stigma, a non-significant difference of -0.05, 95% CI [-0.20, 0.10], $t(377) = -0.68$, $p = .50$. Additionally, there were no statistically significant mean differences in levels of anxiety and current enrollment in therapy based on race, bolstering the credibility of the moderation analysis. (See Table 3.)

Discussion

This study aimed to determine the relationship between stigma, anxiety, and help-seeking among a sample of emerging adults. Stigma was examined within the domains of personal stigma and perceived stigma, while help-seeking was operationalized as perceived need for therapy and current enrollment in therapy. The present study sought to answer the fundamental question: Do anxiety and stigma function as barriers to help-seeking?

The current study suggests that anxiety is not a barrier to help-seeking, at least for this population. Anxiety and help-seeking are related in such a way that individuals with higher levels of anxiety have both a higher perceived need for therapy and a higher likelihood of being enrolled in therapy. The relationship between anxiety and perceived need for therapy is weaker at higher levels of anxiety (the quadratic effect), possibly suggesting that anxiety functions as a barrier to help-seeking once a certain threshold of anxiety is reached. Generally, as levels of anxiety increase, individuals experience more distress which, in turn, leads them to seek mental health treatment. However, at higher levels of anxiety, an individual may be so anxious that they are deterred from

going to therapy, possibly due to anxiety about therapy itself. This idea is similar to that of depression as both a motivator and barrier for getting mental health treatment (Schomerus et al., 2012). However, the observed results could also be simply due to a ceiling effect for the perceived need variable.

Neither perceived nor personal stigma were associated with current enrollment in therapy, meaning that level of stigma did not directly relate to one's likelihood to be enrolled in therapy. Personal stigma was also not associated with the perceived need for therapy, though individuals with higher levels of perceived stigma also had higher levels of perceived need for therapy. Although this is weak evidence to suggest that stigma functions as a direct barrier to help-seeking, the story becomes more complex when examining stigma as a barrier in the context of anxiety.

I predicted that there would be a stronger relationship between anxiety and help-seeking when stigma is low and a weaker relationship between anxiety and help-seeking when stigma is high. In the case of perceived stigma and help-seeking *intentions*, my hypothesis was supported: Among individuals with low levels of perceived stigma, anxiety levels were positively related to perceived need. However, as levels of perceived stigma increased, this relationship weakened such that an individuals' level of anxiety was less related with how much they thought they needed to be in therapy. This suggests that perceived stigma acts as a barrier to help-seeking on the domain of perceived need. This both extends and contradicts past literature as some studies have cited perceived stigma as a barrier to help-seeking, whereas other studies have failed to find such evidence (Nearchou et al., 2018; Eisenberg et al., 2009). Despite this discrepancy, the results of the present study make sense under the presumption that a person with high levels of perceived stigma would be less likely to seek help even despite having high levels of anxiety as a result of fear regarding public perceptions of being in therapy.

However, in the case of help-seeking *action*, not only was my hypothesis not supported, but the results suggested the opposite was true, that there was a weaker relationship between anxiety and help-seeking when stigma was low, particularly among white students: White students with low levels of perceived stigma were not more likely to be enrolled in therapy at higher (versus lower) levels of anxiety. In contrast, as levels of perceived stigma increased, white students were more likely to be enrolled in therapy at higher (versus lower) levels of anxiety. This same relationship was also present for white students on the domain of personal stigma. Neither perceived nor personal stigma had a significant effect on the relationship between anxiety and help-seeking for students of color, suggesting that stigma works as a barrier in different ways dependent on race. This set of findings suggests that increased levels of personal and perceived stigma may actually increase a person's likelihood of being in therapy which is quite inconsistent with past literature (Schomerus et al., 2012). One explanation for these results is that levels of stigma may amplify anxiety symptoms which would then further motivate (white) individuals to seek help. On the other hand, it is also possible that the data could be skewed by participants who were low in anxiety and were not interested in mental health treatment. For this reason, future research on this topic should consider limiting this type of analysis to participants who screen positive for an anxiety disorder.

Past literature has debated whether personal or perceived stigma was a more significant barrier to help-seeking. Nearchou and colleagues' (2018) research suggested perceived stigma was a more significant barrier to help-seeking, whereas Schomerus and colleagues' (2012) research suggested personal stigma was a more significant barrier. If anything, the results of the present study suggest that perceived stigma may be a more significant barrier to help-seeking than personal stigma, implying that perceived stigmatizing attitudes of the public are more likely affect one's likelihood to seek help than stigmatizing beliefs held by an individual. However, it is important to note that

perceived stigma was only a barrier for one domain of help-seeking, limiting the scope of this finding.

This study is potentially limited by socially desirable responding on the measures of stigma. Because these measures are self-report and certain responses may appear callous, it is possible that respondents responded in a manner to appear socially desirable. This might lead participants to report lower levels of anxiety or stigma than they experience in efforts to be more socially appropriate. Such a phenomenon could reduce the likelihood of observing significant relationships between the variables; however, it is also not clear that it would lead to different conclusions drawn about the relationships between these variables, especially considering the statistically significant results that did emerge despite the possibility for socially desirable responding. Additionally, there were low numbers of students in minority racial groups, necessitating that they all be combined into one group for the purposes of analysis: students of color. Such a strategy eliminates the possibility of analyzing potentially important differences across racial identities. Furthermore, this study involves a correlational and cross-sectional design, which limits the ability for drawing causal conclusions about anxiety and stigma as contributors to help-seeking. Finally, these results were specific to emerging adulthood and to a population with broad access to free mental health treatment on a university campus, so the generalizability is limited.

Future studies should explore alternate theoretical models for students of color. It is likely that there are simply additional variables at play when examining the effects of stigma and anxiety on help-seeking, especially considering students of color are on average less likely to seek help for mental health concerns than white students (Lipson et al., 2018). Future studies should further explore potential interventions to decrease the impact of stigma on help-seeking for college students. Discovering efficacious interventions would help decrease the level of unmet mental health need among emerging adulthood and increase well-being for this age group.

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Tables and Figures

Table 1

Descriptive Statistics

Variable	Min.	Max.	Mean	*SD*
Anxiety	0.00	21.00	6.39	5.28
Perceived Stigma	1.00	6.00	2.77	1.01
Personal Stigma	1.00	4.67	1.53	0.69
Current Enrollment in Therapy	0.00	1.00	0.48	0.50
Perceived Need for Therapy	1.00	6.00	3.86	1.81

Note. 0 = *not currently in therapy*, 1 = *currently in therapy*.

Table 2

Bivariate Correlations

Variable	1	2	3	4
1. Anxiety				
2. Perceived Stigma	.17***			
3. Personal Stigma	.05	.32**		
4. Current Enrollment in Therapy	.24**	.003	-.11	
5. Perceived Need for Therapy	.47***	.15**	.02	.32***

Note. 0 = *not currently in therapy*, 1 = *currently in therapy*. * *p* < .05. ** *p* < .01. *** *p* < .001.
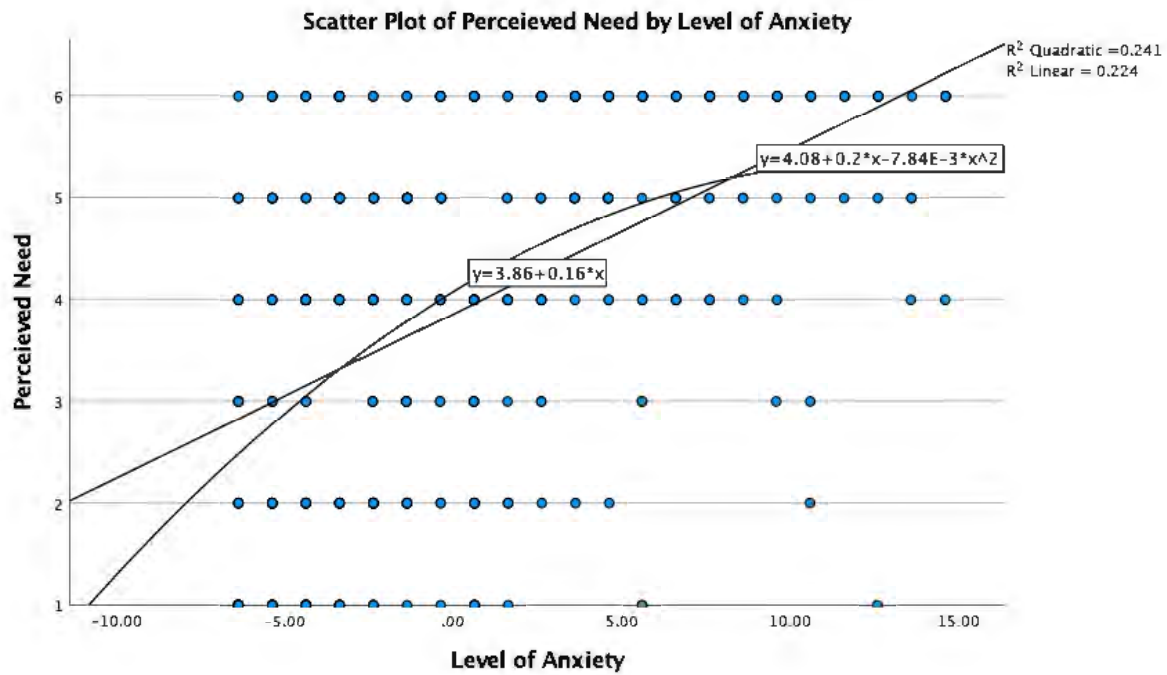
Table 3

Mean Differences by Race

	White		Students of Color						95% Confidence Interval	
	M	SD	M	SD	*t*-test	df	*p*	Mean Difference	Lower	Upper
Level of Anxiety	6.61	5.41	5.97	5.09	1.18	438	0.24	0.64	-0.42	1.7
Current Enrollment in Therapy	0.46	0.5	0.49	0.5	-0.28	153	0.78	-0.03	-0.2	0.15

Figure 1

Scatterplot Depicting the Linear and Quadratic Relationship between Anxiety and Perceived Need

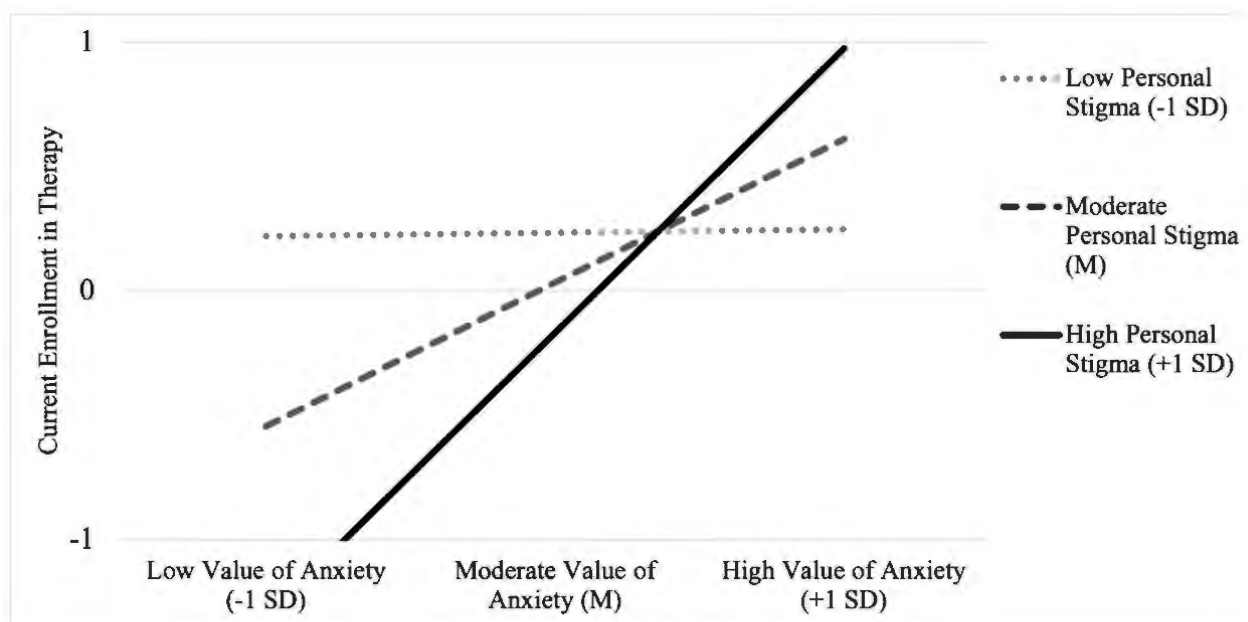*Note.* Mean-centered anxiety is shown on the *X*-axis.

Figure 2

The Relationship between Anxiety and Perceived Need as Moderated by Perceived Stigma
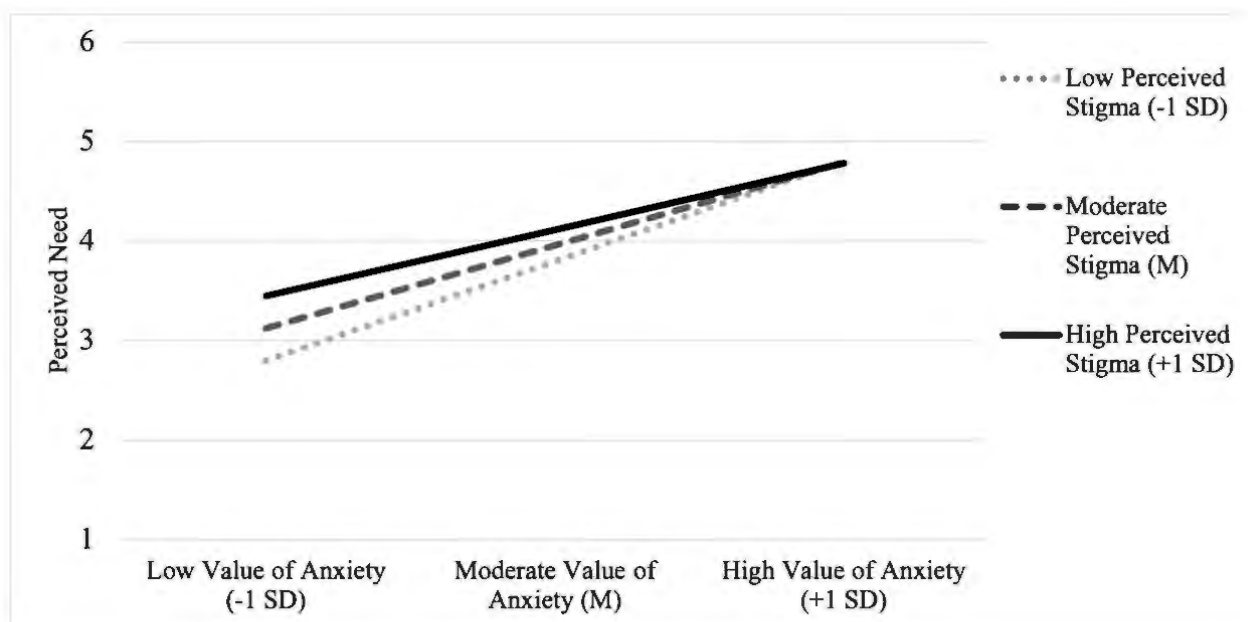
Note. Evaluated using a multiple logistic regression model and PROCESS macro v. 4.0 (Hayes, 2013). B = -0.03, SE = 0.01, p = .02. Additionally, $p < .0001$ for all simple slopes.
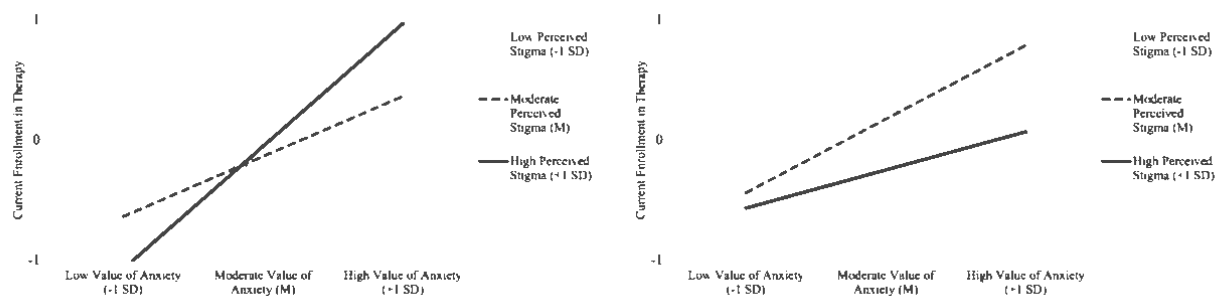
Figure 3

The Relationship between Anxiety and Current Enrollment in Therapy as Moderated by Personal Stigma

Note. Evaluated using a multiple logistic regression model and PROCESS macro v. 4.0 (Hayes, 2013). $B = 0.16$, $SE = 0.07$, $p = .02$. Additionally, $p = .002$ for moderate and high levels of stigma, and $p = .28$ at low levels of personal stigma for simple slopes (*note* $*p < .05$).

Figure 4

The Relationship between Anxiety and Current Enrollment in Therapy as Moderated by Perceived Stigma Disaggregated by Race

Note. Evaluated using a multiple logistic regression model and PROCESS macro v. 4.0 (Hayes, 2013). White students (left graph): $B = 0.10$, $SE = 0.04$, $p = .02$. Additionally, $p = .97$ for low, $p = .02$ for moderate, and $p = .002$ for high levels of perceived stigma for simple slopes. Students of color (right graph): $B = -0.43$, $SE = 0.36$, $p = .23$. All simple slopes *ns.*

Figure 5

The Relationship between Anxiety and Current Enrollment in Therapy as Moderated by Personal Stigma Disaggregated by Race
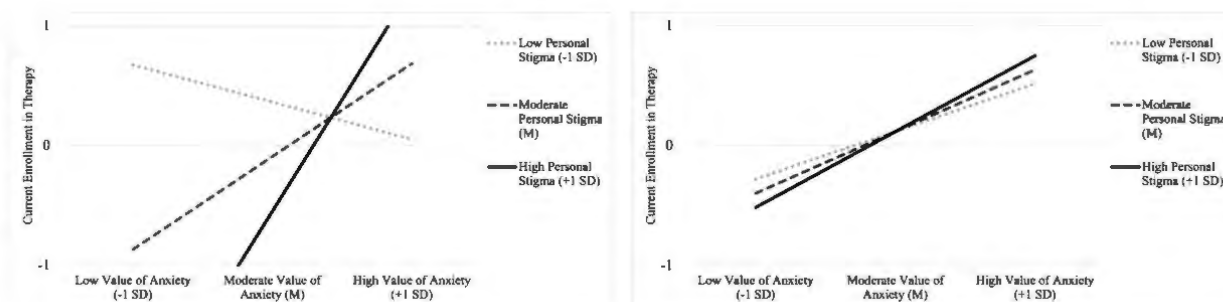
Note. Evaluated using a multiple logistic regression model and PROCESS macro v. 4.0 (Hayes, 2013). White students (left graph): $B = 0.29$, $SE = 0.11$, $p = .009$. Additionally, $p = .61$ for low, $p = .003$ for moderate, and $p = .002$ for high levels of perceived stigma for simple slopes. Students of color (right graph): $B = 0.03$, $SE = 0.10$, $p = .72$. All simple slopes *ns.*