Does self-help increase rates of help seeking for student mental health problems by minimizing

stigma as a barrier?

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Abstract

Objective: This study examined whether self-help (books, websites, mobile apps) increases help seeking for mental health problems among college students by minimizing stigma as a barrier. **Participants and Methods:** A survey was conducted with 200 college students reporting elevated distress from February to April 2017. **Results:** Intentions to use self-help were low, but a significant portion of students unwilling to see mental health professionals intended to use self-help. Greater self-stigma related to lower intentions to seek professional help, but was unrelated to seeking self-help. Similarly, students who only used self-help in the past reported higher self-stigma than those who sought professional treatment in the past. Although stigma was not a barrier for self-help, alternate barriers were identified. **Conclusions:** Offering self-help may increase rates of students receiving help for mental health problems, possibly by offering an alternative for students unwilling to seek in-person therapy due to stigma concerns.

Keywords: University students; Treatment seeking; Stigma; eHealth; mHealth

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Mental health problems are common among college students, but many students do not

seek treatment.[1-3] For example, in one study only 36% of depressed college students and 52% of

college students with anxiety reported accessing treatment in the previous year.[4] Another study

found that only 20% of students who had experienced suicidal ideation in college sought

counseling.[3] Thus, clarifying and addressing barriers to treatment seeking in college students is

essential.

Research indicates that stigma is an important barrier to treatment seeking in general[5] and

specifically among college students.[6-10] Two distinct types of stigma have been conceptualized

and studied with regard to treatment seeking: self-stigma and perceived stigma for treatment

seeking.[7,10] Perceived stigma for seeking treatment in this case refers to concerns about

devaluation or discrimination by others for seeking mental health services, while self-stigma for

treatment seeking refers to self-devaluation that occurs due to internalization of negative

attitudes toward a stigmatized group (e.g., those seeking treatment) with which one identifies.[11]

Previous research has consistently found that self-stigma related to seeking treatment is

associated with less help seeking in college students,[7,9,10] while findings on links between

perceived stigma and help seeking are mixed.[6,8] When perceived stigma is found to predict

treatment seeking among students, this relation appears to be mediated by self-stigma.[7,10]

Therefore, self-stigma for seeking treatment may be of particular importance as a barrier to help

seeking in college students.

One potential strategy to overcome stigma as a barrier to treatment seeking is to offer

online and related self-help resources. Such self-help resources have been speculated to increase

rates of treatment seeking (considering self-help a form of treatment) among individuals struggling with stigma-related concerns by providing an anonymous means of seeking help without attending in-person meetings.[12,13] However, despite the growing research and dissemination of such resources, particularly online self-help,[14] there has been limited research to-date on whether self-help does actually provide such benefits.

One survey with 395 primary care patients found that patients rated stigma as significantly less likely to hinder seeking online treatment (self-help or therapist guided) for depression relative to face-to-face therapy.[15] Another large scale study using data from the National Survey on Drug Use and Health found that higher stigma for seeking treatment predicted a greater likelihood of using an online support group versus in-person treatment or support groups.[12] A third survey of 218 adults found that those who preferred online interventions over face-to-face therapy for a mental health problem reported greater stigmatizing attitudes towards mental illness.[13] Although this preliminary research suggests online interventions may offer an acceptable resource for those who struggle more with stigma, no studies have been conducted with college students specifically. Furthermore, these studies combined self-help with therapist/peer guided online treatment, rather than self-help specifically, which might be especially relevant for overcoming stigma.

In addition to questions regarding whether self-help can reduce the impact of stigma on treatment seeking, it is also unclear whether this translates into actual increased help seeking rates among college students (including self-help and in-person treatment). A recent review of four survey studies found that participants consistently reported low intentions to use online therapy, particularly self-help, relative to in-person treatment from a mental health professional.[16] Survey research has similarly found that few people prefer self-help books

relative to in-person treatment.[17,18] However, none of these studies were conducted specifically among college students, who due to their age and contextual factors may be more willing to adopt such technologies. To-date we are aware of only two studies examining intentions to use online treatments relative to in-person therapy among college students specifically, with one indicating higher intentions to use online resources relative to in-person treatment,[19] and another indicating lower intentions to use self-help.[20] In summary, despite the potential promise of online and related self-help for overcoming stigma and increasing treatment seeking, the research to-date is limited, particularly among students.

Thus, the current study sought to test the hypothesis that self-help can increase the rate of college students seeking help for mental health problems by reducing stigma as a barrier. An online survey was completed with 200 college students with elevated distress who were participating for course credit. Study predictions included that 1) rates of help seeking intentions and past usage would be significantly higher when including self-help resources in addition to mental health professionals, 2) intentions to use self-help would be unrelated to stigma, despite stigma correlating with intentions to see a mental health professional, and 3) past use of self-help would be related to higher stigma than past use of in-person professional help. If these predictions were confirmed it would suggest that stigma is not a barrier to using self-help, which may account for why self-help increases rates of seeking help for mental health problems.

As a secondary aim, the study also sought to explore alternative barriers to using self-help besides stigma. The low adoption of self-help found in existing research[16] suggests there are notable barriers to using self-help resources, even if stigma is not a barrier. Previous research suggests that variables indicated in the Theory of Planned Behavior[21] are predictive of intentions to use online self-help including normative beliefs, attitudes, and self-efficacy.[22,23] Thus, we

predicted that lower self-efficacy, attitudes, knowledge, and normative beliefs regarding self-help would all relate to lower intentions to use self-help. Evaluating these barriers could serve to inform future efforts seeking to increase rates of self-help usage among college students.

Methods

Participants and Procedures

This study used a sample of 200 college students identified as elevated in distress on at least one domain (depression, general anxiety, social anxiety, academic distress, hostility, or alcohol abuse) according to empirically validated cutoff scores for the Counseling Center Assessment of Psychological Symptoms (CCAPS-34).[24] These participants were selected from a larger cross-sectional survey study conducted with 425 college students (i.e., we screened out 225 participants who were not elevated on a CCAPS subscale and only included the 200 who were elevated on one or more subscales from this original sample of 425 participants). Although the CCAPS-34 also provides a cutoff score for eating concerns, individuals who were only elevated on this subscale were omitted from the sample as it appeared that this cutoff was insufficiently specific ($n = 140$ met criteria for elevated score on eating concerns, 33% of the larger sample of 425 students).

All participants were 18 years of age or older and provided informed consent before completing study procedures. This study was approved by the Institutional Review Board of the authors' university. Participants were recruited through the online Sona research participation platform, which is a commonly used online system on university campuses where students in relevant departments (primarily psychology at the authors' institution) can look up studies to participate in for course credit. Participants received course credit for completing the survey. After providing informed consent online, participants were automatically directed to complete a

series of measures administered through the online Qualtrics platform, including all measures listed below as well as additional measures not related to the current study.

Measures

      Stigma scale for receiving psychological help (SSRPH).[8] The SSRPH measures perceived stigma of help-seeking (i.e., belief that seeking help for a mental health issue is stigmatized by others). It consists of five items rated from 0 (*strongly disagree*) to 3 (*strongly agree*). Higher scores indicate greater perceived stigma. A sample item is "Seeing a psychologist for emotional or interpersonal problems carries social stigma." The SSRPH has acceptable internal consistency and support for construct validity in college students.[8] Internal consistency was good in the present sample ($\alpha = 0.82$).

      Self-stigma of seeking help (SSOSH).[25] The SSOSH measures self-stigma associated with help-seeking (i.e., self-directed stigmatization for seeking help with a mental health problem). It includes 10 items rated from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is, "I would feel worse about myself if I could not solve my own problems." Higher scores indicate greater self-stigma. The SSOSH has demonstrated reliability and validity in college students,[25] and had good internal consistency in the present sample ($\alpha = 0.88$)

      Help seeking intentions. Intentions to seek help for a mental health problem were assessed with a modified version of the General Help Seeking Questionnaire (GHSQ),[26] which included items assessing intentions to seek help from a mental health professional as well as various self-help resources.[20] Participants were asked "If you were struggling with a significant personal, emotional, or other mental health problem, how likely is it that you would seek help from the following sources?" Each resource was rated on a 7-point scale from 1 (*extremely unlikely*) to 7 (*extremely likely*), with 4 being a neutral score between 3 (*unlikely*) and 5 (*likely*).

The three self-help items listed were "Mobile app for improving mental health," "Self-help website for improving mental health," and "Self-help book." The item used to measure professional mental health services was "Mental health professional (e.g., psychologist, social worker, counselor)."

An additional four items assessed whether participants ever used each resource (mental health professional, self-help book, website, mobile app) for a mental health concern. Responses were provided on a dichotomous yes/no format.

The three items assessing intention to use self-help books, apps, and websites were highly correlated (inter-item correlation r between .46 and .79) and were combined into an average intention to seek self-help variable ($\alpha = .85$). Preliminary past research indicates the reliability and validity of the GHSQ[26] as well as the validity of the modified GHSQ items assessing intentions and past use of self-help resources.[20]

Self-help barriers. Potential barriers to the use of self-help were measured with nine items created for this study assessing knowledge, self-efficacy, attitudes, perceived injunctive and descriptive norms, and perceived stigma of using self-help (items are listed in Table 2). Each item was rated on a 6-point scale from 1 (*strongly disagree*) to 6 (*strongly agree*), with a score of 4 (*slightly agree*) or higher indicating agreement.

Data analysis plan

The first set of analyses tested the prediction that including self-help as a mental health resource option significantly increased the rates of help seeking. To determine relative rates of intentions, a paired sample *t*-test compared intentions to see a mental health professional versus to use self-help. A dichotomous variable of intentions to seek self-help was then calculated based on rating any of the three self-help items at a value of 5 (*likely*) or higher. A dichotomous

variable of ever using self-help was similarly calculated based on indicating "yes" for past use of any of the three self-help options. Rates of participants who intended to use/used self-help only were examined in relation to rates of those intending to see/saw a mental health professional. Binomial tests compared whether the rate of participants who intended to use (or used in the past) either a mental health professional or self-help were higher than the rate of only seeing a mental health professional (i.e., does including self-help increase the rate of help seeking).

The second set of analyses sought to test the prediction that intentions to use self-help would be unrelated to stigma, despite stigma predicting intentions to see a mental health professional. Zero order correlations were examined between intentions and stigma. Fisher's Z tests further examined whether the correlations between stigma and intentions to see a mental health professional were significantly stronger than correlations between stigma and intentions to use self-help.

The third set of analyses tested the prediction that stigma would be higher among students who have only used self-help in the past relative to students who have sought in-person professional treatment. One-way ANOVAs compared scores on each stigma variable between students who have never sought help, have sought help from a mental health professional before, or sought help only from self-help sources. Post hoc analyses using least significant difference were conducted to explore any significant between group effects.

The fourth set of analyses tested whether intentions to seek help were predicted by variables based on the Theory of Planned Behavior. Descriptive statistics and one-sample t-tests were conducted to examine the average rating of each self-help barrier. Zero order correlations examined the relation of each barrier to self-help intentions. Finally, hierarchical regressions

tested the incremental utility of each barrier category in predicting self-help intentions and the proportion of variance in intentions accounted for by these barriers.

Results

Sample characteristics

Preliminary descriptive analyses examined the demographic characteristics of the sample. Of the 200 participants with elevated CCAPS scores, 49% were elevated on general anxiety, 48% social anxiety, 48% eating concerns, 47% depression, 35% academic distress, 32% hostility, and 22% alcohol abuse. The mean age of this sample was 21.07 ($SD = 4.74$). The sample was largely female (64.5% compared to 35.0% male and 0.5% other) and relatively homogeneous in ethnicity (95.0% not Hispanic or Latino) and race (90.5% White, 4.5% bi/multiracial, 2.0% Black, 1.5% American Indian/Alaska Native, 1.0% Asian, and 0.5% Other). Median household income was between $40,000 and $60,000.

Does including self-help increase rates of help seeking?

Participants reported weaker intentions on average to use self-help resources ($M = 3.39$, $SD = 1.56$) relative to seeking help from a mental health professional ($M = 3.90$, $SD = 1.80$), $t(199) = 3.40$, $p = .001$, $d = .30$. One-sample t-tests indicated that intentions to use self-help were significantly lower than a neutral score of 4 (between 3 "unlikely" and 5 "likely"), $t(199) = 5.59$, $p < .001$, $d = .40$. Thus, overall participants rated themselves as somewhat unlikely to use self-help and intentions to use self-help were lower than in-person mental health.

Although average intentions to use self-help were low, the availability of these resources may still increase the overall rates of students receiving help. To test this, analyses examined rates of participants who indicated being likely to use professional mental health and self-help resources. Overall, 36% of participants reported a 5 (*likely*) or higher for intentions to seek help

from a mental health professional and 48% reported intentions to use one or more self-help resources (website, app, and/or book). Of note, 26% of students specifically intended to seek self-help (5 or higher on one or more self-help resources), but not help from a mental health professional (4 or lower). A binomial test indicated the rate of intentions to likely seek help was significantly higher when including both mental health professionals and self-help options relative to only professional help (62% versus 36%, $p < .001$).

In terms of ever using mental health resources, 52% reported seeing a mental health professional before and 52% reported using a self-help resource before. Of note, 17% of participants who never saw a mental health professional reported using a self-help resource. A binomial test indicated that the rate of seeking help in the past was significantly higher when including both mental health professionals and self-help options relative to only professionals (69% versus 52%, $p < .001$).

Overall, these results indicate that a significant proportion of students who do not see (or intend to see) a mental health professional are willing to use self-help to address mental health issues. Thus, the availability of self-help resources increased observed rates of help seeking.

Are intentions to use self-help unrelated to stigma for seeking help?

If self-help is effective in circumventing stigma as a barrier, we would predict that stigma would not be correlated with intentions to use self-help, while stigma would be more strongly related to intentions to seek in-person help. To test this, a series of correlations examined the relations between intentions and stigma (Table 1).

Associations with stigma were significantly weaker for intentions to use self-help versus intentions to see mental health professionals for three of the four stigma variables (self-stigma, both perceived stigma for using self-help items). In each case, higher stigma was significantly

correlated with lower intentions to see a mental health professional, but stigma was not correlated with self-help intentions. The remaining variable, perceived stigma towards help seeking, did not correlate with either self-help or professional intentions. However, there was a trend in the opposite direction such that greater perceived stigma actually related to a higher likelihood of seeking self-help. Thus, intentions to use self-help were not associated with stigma and had a significantly weaker correlation with this barrier relative to intentions to see a mental health professional.

Is stigma higher among students who only seek self-help versus in-person therapy?

If self-help overcomes stigma as a barrier, one would also expect stigma to be higher among students who chose to only seek self-help versus those who sought in-person therapy. To test this, a series of one-way ANOVAs compared stigma variables between students who have never sought help ($n = 62$), have sought help from a mental health professional before ($n = 104$), or sought help only from self-help sources ($n = 34$). A significant difference was found between conditions on self-stigma for help seeking, $F(2, 195) = 7.41, p < .001$. Post hoc analyses indicated that participants who have sought therapy before ($M = 25.96, SD = 7.45$) reported lower self-stigma than participants who only sought self-help ($M = 29.50, SD = 6.51$), $M_{diff} = -3.54, SE = 1.40, p < .01, d = .51$, or did not seek help before ($M = 29.90, SD = 6.77$) $M_{diff} = -3.92, SE = 1.41, p < .001, d = .55$. There was no difference in self-stigma between those who only sought self-help and those who never sought help before, suggesting self-help may have offered a way to receive help for individuals struggling with self-stigma. There were no between group differences found on the other three stigma variables.

What are the barriers to using self-help?

Although self-help appears to overcome stigma and to increase rates of treatment seeking, this study also found that many students do not intend to or use self-help as a mental health treatment option. Thus, additional analyses further examined potential alternate barriers that impede self-help usage including knowledge, self-efficacy, attitudes, and normative beliefs.

Descriptive statistics for each self-help barrier are provided in Table 2. One-sample *t*-tests indicated all items were rated significantly different from a neutral score of 3.5 (3 = slightly disagree, 4 = slightly agree). On average, students tended to have more positive attitudes towards self-help, higher perceived injunctive norms supporting self-help (i.e., that people approve of self-help), and lower perceived stigma for using self-help. However, students did tend to disagree with descriptive norms (that students commonly use self-help), and reported limited knowledge of effective self-help resources. Despite significant differences, means were fairly close to neutral with notable variability, which might account for differences in students who are more or less willing to use self-help.

A series of correlation analyses examined the relationship of each potential barrier to self-help intentions (see Table 2). All of the knowledge, self-efficacy, attitudes, and normative belief items had significant small to medium correlations with intentions to use self-help resources. Correlation coefficients ranged between .18 and .43. In each case, greater knowledge, self-efficacy, positive attitudes, and positive norms were related to higher intentions.

A series of hierarchical regressions were conducted to examine the combined predictive relation between barriers and intentions to use self-help. In step 1, normative belief items significantly predicted self-help intentions, $F(3, 196) = 8.44$, $R^2 = .11$, $p < .001$. In step 2, adding attitudes towards self-help significantly increased the proportion of variance accounted for in self-help intentions, $F(2, 194) = 10.51$, $\Delta R^2 = .09$, $p < .001$. In step 3, adding knowledge and self-

efficacy related to self-help further increased the proportion of variance accounted for in self-help intentions, $F(2, 192) = 6.51$, $\Delta R^2 = .05$, $p = .002$. Overall, these combined norms, attitudes, self-efficacy, and knowledge items accounted for 25% of the variance in self-help intentions. Of note, when steps were re-arranged so that norms were added last, there was no significant increase in variance accounted for, $F(3, 192) = 2.09$, $\Delta R^2 = .02$, $p = .10$, suggesting normative beliefs may not have added to the prediction of intentions over and above other variables.

Comment

This study sought to examine whether self-help resources increase seeking help for mental health problems among college students by reducing stigma as a barrier. Results indicated that although intentions to use self-help were low on average, there was a significant portion of students unwilling to see a mental health professional that would use self-help. Consistent with the hypothesis that self-help overcomes stigma as a barrier, correlations indicated that stigma was unrelated to intentions to seek self-help, in contrast to the significant correlations found with intentions to seek professional help. Similarly, students who used self-help reported higher self-stigma than those who sought professional treatment, with equivalent scores to those who had not sought help before. Although self-help appeared unrelated to stigma as a barrier, alternate barriers to seeking self-help were identified including knowledge, self-efficacy, attitudes, and normative beliefs about self-help.

These results replicated previous research indicating that college students who struggle more with stigma, particularly self-stigma, are less likely to seek in-person mental health treatment.[7,9,10] This study was also consistent with previous research indicating that stigma is less of a barrier to using online treatments relative to in-person treatment.[12,13,15] However, this is the first study of which we are aware that demonstrates such effects among college students

specifically and in relation to the range of self-help resources to which students might receive access. These findings suggest that offering an assortment of self-help mental health resources (e.g., apps, websites, books) to students might increase the reach of services to students in need, particularly those for whom self-stigma is a barrier. Thus, universities should consider providing clear resource lists and opportunities to access such self-help materials as part of their outreach efforts to support student mental health, or as an alternative treatment option for students in distress who are unable or unwilling to engage in in-person counseling.

It is important to note that the average intentions to use self-help were relatively low and significantly lower than intentions to see a mental health professional. This is consistent with research in other populations that regularly finds lower intentions to use self-help versus in-person treatment,[16-18] as well as a recent study finding similar results with college students.[20] However, self-help is more likely to be viewed as an additional, low intensity treatment option rather than a replacement for in-person therapy so this comparison is not the most relevant in determining whether self-help might improve treatment seeking rates. Rather, the question is whether a notable portion of individuals who are not willing to seek in-person treatment are willing to use self-help, which the current study found. More specifically, 26% of the sample reported intending to use one or more self-help options, but did not intend to see a mental health professional (raising overall intentions to seek help from 36% to 62%). Similarly, 17% of the sample had not seen a mental health professional before, but reported using one or more self-help resource (raising overall rates of past treatment from 52% to 69%).

Although intentions to use self-help were unrelated to stigma, other barriers were identified that might contribute to the relatively low average intention ratings for these resources. Consistent with the Theory of Planned Behavior,[21] greater self-help intentions were predicted by

greater positive attitudes, self-efficacy, and normative beliefs about self-help as well as knowledge of self-help resources. This is consistent with previous research in other populations for ehealth more broadly,[22,23] but is the first study to examine these factors with college student mental health specifically. Future research seeking to increase the adoption of self-help resources among college students might evaluate interventions to improve knowledge of effective self-help resources, attitudes towards self-help[27] or normative beliefs about treatment.[28] In the meantime, university staff should consider addressing barriers related to knowledge, attitudes, and norms when recommending the use of such self-help tools (e.g., discussing how such apps are commonly used, the potential benefits of these apps, and specific apps one might use).

It is important to note that although use of self-help may increase access to effective mental health resources, this is an unregulated area with many more resources that are *not* evidence-based relative to those that are evidence-based.[29,30] There is a large body of research indicating the efficacy of online self-help materials[31] and a smaller, yet growing, research base for mobile apps,[32] particularly those based on cognitive behavior therapy and related treatments. Thus, promotion of self-help would best be served in combination with efforts to guide students to evidence-based resources. Furthermore, guidance may be needed for when students would benefit from self-help or when more intensive in-person treatment is indicated. An important area for future research is to develop guidelines for which resources counseling centers and other relevant student services should guide students to and factors that might guide tailoring what resources are recommend to what students. There are websites currently available that provide reviews and recommendations of evidence-based self-help resources more broadly (e.g., PsyberGuide, the Association for Behavioral and Cognitive Therapies self-help book

recommendation list), which university staff might reference when recommending resources to students.

This study focused on the use of book, web, and mobile-based self-help. Previous research has primarily emphasized only web and mobile-based self-help intentions,[13,15,16] but it seems that bibliotherapy may offer many similar benefits in delivering evidence-based therapies in a format that is more acceptable to some students. That said, this still represents a limited examination of potential online and self-guided treatments, excluding formats such as online support groups, therapist guided treatment, and videoconferencing therapy. Previous research suggests individuals prefer online treatments that include therapist guidance and support, rather than purely self-guided treatments.[13,16] Thus, the assessment of only self-help may have provided a more conservative estimate of the impact on treatment seeking afforded through online treatments. Future research might seek to examine blended online approaches (e.g., therapist guided, videoconferencing) in addition to self-help.

Limitations

The generalizability of the study's findings is limited by the sample, which was a convenience sample of college students participating for course credit who were notably homogeneous with regards to race and ethnicity. Future research is needed to examine whether findings replicate in more diverse and representative samples. The inclusion of a more diverse sample would also allow for examination of demographic and cultural variables that may moderate or further predict intentions to use self-help.

The study was also limited in the use of unvalidated measures to assess key constructs, particularly those related to self-help barriers. For example, the only validated measures of stigma tended to emphasize stigma related to in-person therapy, which might have inflated

differences in correlations between treatment modalities. Yet it is worth noting similar correlation patterns were found with newly created items assessing stigma related to self-help. On a related note, the study focused on testing barriers related to the Theory of Planned Behavior, but this excluded a number of additional variables related to technology adoption such as those specified in the unified theory of acceptance and use of technology.[33]

We hypothesized that increases in treatment seeking rates from self-help may be due to overcoming stigma as a barrier. However, this is inferred from two patterns of results – the weaker relations to stigma and greater help seeking rates with self-help. Causal relations between self-help, stigma, and treatment seeking rates cannot be directly tested with the current design. For example, there may be other reasons self-help increases treatment seeking such as convenience, low cost, and so on. Future studies may seek to more directly test why students might choose self-help over in-person treatment to determine the role of stigma in this process.

Conclusions

In summary, self-help delivered online or through books provides an important opportunity to increase the reach and impact of mental health services among college students. The current findings suggest that offering self-help can help overcome stigma, a common barrier to treatment seeking. Furthermore, self-help can do so in a way that is cost effective, convenient, and that reduces burden on counseling centers and other university services. However, rates of self-help adoption might remain relatively low without additional outreach efforts. In order to realize the potential benefits of self-help more research is needed to identify and address existing barriers.

References

1. Blanco C, Okuda M, Wright C, Hasin DS, Grant BF, … Olfson M. Mental health of college students and their non-college-attending peers: Results from the national epidemiologic study on alcohol related conditions. *Arch Gen Psychiat.*2008;65:1429-1437.

2. Eisenberg D, Gollust SE, Golberstein E, Hefner JL. Prevalence and correlates of depression, anxiety, and suicidality among university students. *Am J Orthopsychiat.*2007;77:534-542.

3. Furr SR, Westefeld JS, McConnell GN, Jenkins JM. Suicide and depression among college students: A decade later. *Prof Psychol-Res Pr.*2001;32:97-100.

4. Eisenberg D, Golberstein E, Gollust SE. Help-seeking and access to mental health care in a university student population. *Med Care.*2007;45:594–601.

5. Clement S, Schauman O, Graham T, Maggioni F, Evans-Lacko S, Bezborodovs N, ... Thornicroft G. What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychol Med.*2015;45:11-27.

6. Eisenberg D, Downs MF, Golberstein E, Zivin K. Stigma and help seeking for mental health among college students. *Med Care Res Rev.*2009;66:522-541.

7. Jennings KS, Cheung, JH, Britt TW, Goguen KN, Jeffirs SM, Peasley AL, Lee AC. How are perceived stigma, self-stigma, and self-reliance related to treatment-seeking? A three-path model. *Psychiatr Rehabil J.*2015;38:109-116.

8. Komiya N, Good GE, Sherrod NB. Emotional openness as a predictor of college students' attitudes toward seeking psychological help. *J Couns Psychol.*2000;47:138-143.

9. Lannin DG, Vogel DL, Brenner RE, Abraham WT, Heath PJ. Does self-stigma reduce the probability of seeking mental health information? *J Couns Psychol.*2016;63:351-358.

10. Vogel DL, Wade NG, Hackler AH. Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes toward counseling. *J Couns Psychol.*2007;54:40-50.

11. Corrigan P. How stigma interferes with mental health care. *Am Psychol.*2004;59:614-625.

12. DeAndrea DC. Testing the proclaimed affordances of online support groups in a nationally representative sample of adults seeking mental health assistance. *J Health Commun.*2015;20:147-156.

13. Klein B, Cook S. Preferences for e-mental health services amongst an online Australian sample?. *Sensoria: A Journal of Mind, Brain & Culture.*2010;6:28-39.

14. Farrer L, Gulliver A, Chan JKY, Batterham PJ, Reynolds J, Calear A, ... Griffiths KM. Technology-based interventions for mental health in tertiary students: Systematic review. *J Med Internet Res.*2013;15:e101.

15. Choi I, Sharpe L, Li S, Hunt C. Acceptability of psychological treatment to Chinese-and Caucasian-Australians: Internet treatment reduces barriers but face-to-face care is preferred. *Social Psychiatry and Psychiatric Epidemiology.*2015;50:77-87.

16. Apolinário-Hagen J, Kemper J, Stürmer C. Public acceptability of e-mental health treatment services for psychological problems: A scoping review. *J Med Internet Res Mental Health.*2017;4:e10.

17. Musiat P, Goldstone P, Tarrier N. Understanding the acceptability of e-mental health-attitudes and expectations towards computerised self-help treatments for mental health problems. *BMC Psychiatry.*2014;14:109.

18. Walters K, Buszewicz M, Weich S, King M. Help-seeking preferences for psychological distress in primary care: Effect of current mental state. *Brit J Gen Pract*.2008;58:694-698.

19. Lungu A. *Time for a change: College students' preference for in-person versus technology mediated help for emotional distress*. Unpublished thesis, University of Washington. Seattle: WA; 2014.

20. Levin ME, Stocke K, Pierce B, Levin C. Do college students use online self-help? A survey of intentions and use of mental health resources. *Journal of College Student Psychotherapy*. In Press.

21. Ajzen I. The Theory of Planned Behaviour. *Organ Behav Hum Dec Processes*.1991;50:179–211.

22. Hennemann S, Beutel ME, Zwerenz R. Drivers and barriers to acceptance of web-based aftercare of patients in inpatient routine care: A cross-sectional survey. *J Med Internet Res*.2016;18:e337.

23. Levy MA, Holttum S, Dooley J, Ononaiye M. Predictors of IAPT psychological well-being practitioners' intention to use CBT self-help materials routinely in their clinical practice. *The Cognitive Behaviour Therapist.2016;9*:e11.

24. Center for Collegiate Mental Health. *CCAPS 2012 Technical Manual*. University Park: PA; 2012.

25. Vogel DL, Wade NG, Haake S. Measuring the self-stigma associated with seeking psychological help. *J Couns Psychol*.2006;53:325-337.

26. Wilson CJ, Deane FP, Ciarrochi JV, Rickwood D. Measuring help seeking intentions: Properties of the General Help Seeking Questionnaire. *Canadian Journal of Counselling.*2005;39:15-28.

27. Casey LM, Joy A, Clough BA. The impact of information on attitudes toward e-mental health services. *Cyberpsychology, Behavior, and Social Networking.*2013;16:593-598.

28. Levin C. *Evaluating the use of social norms in treatment seeking attitudes and preliminary behaviors*. Unpublished dissertation, University of Nevada Reno. Reno: NV; 2017.

29. Richardson R, Richards DA, Barkham M. Self-help books for people with depression: A scoping review. *J Ment Health.*2008;17:543-552.

30. Sucala M, Cuijpers P, Muench F, Cardoş R, Soflau R, Dobrean A, ... David D. There is an app for that. A systematic review of anxiety apps. *Depress Anxiety.*2017;34:518-525.

31. Andersson G. Internet-delivered psychological treatments. *Annu Rev Clin Psycho.*2016;12:157-179.

32. Torous JB, Levin ME, Ahern D, Oser M. Cognitive behavioral mobile applications: Research literature, marketplace data, and evaluation guidelines. *Cogn Behav Pract.*2017;24:215-225.

33. Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of information technology: Toward a unified view. *MIS Quarterly.*2003;27:425-478.

Table 1. Correlations between stigma variables and mental health professional versus self-help intentions.

Stigma Variables	Professional r	Self-help r	Professional vs. self-help Z
Self-stigma	-.35***	-.08	2.83**
Perceived stigma towards help seeking	-.01	.14†	1.50
"It would be embarrassing if someone I knew found out I used self-help"	-.19**	.05	2.41*
"People would judge me negatively if they found out I was using self-help"	-.20**	.11	3.11**

Notes: †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$. Negative correlations indicate greater stigma is related to lower intentions. Z tests compared correlations between stigma and in-person professional intentions vs. stigma and self-help intentions.

Table 2. Descriptive statistics and correlations with barriers and intentions to seek self-help.

Barriers to seek self-help	M (SD)	Cohen's d vs. neutral score 3.5[a]	Self-help intentions r
Knowledge and Self-Efficacy Variables			
"I know of effective self-help resources for addressing mental health problems"	3.24 (1.40)	-.19**	.32***
"If I was struggling with a mental health issue and wanted to use self-help, I would be able to find a resource to use"	4.21 (1.31)	.54***	.39***
Attitudinal Variables			
"Self-help can be an effective way to get support for a personal, emotional, or other mental health issue"	4.29 (1.04)	.76***	.43***
"There are self-help resources available that can help college students struggling with mental health issues"	4.43 (1.06)	.88***	.31***
Normative Belief Variables			
"Many college students who struggle with mental health issues use self-help resources for support"	3.17 (1.09)	-.30***	.23**
"College students approve of the use of self-help resources for addressing mental health issues"	3.85 (.97)	.36***	.32***
"Mental health professionals approve of the use of self-help resources for addressing mental health issues"	3.74 (1.04)	.23**	.18*
Stigma Variables			
"It would be embarrassing if someone I knew found out I used self-help"	3.29 (1.48)	-.15*	.05
"People would judge me negatively if they found out I was using self-help"	3.15 (1.39)	-.25***	.11

Notes: †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$. Positive correlations indicate greater knowledge/attitude/norms is related to greater intentions. [a] Statistical significance for effect sizes is based on one sample t-tests comparing each barrier to a neutral score of 3.5 (between 3 "slightly disagree" and 4 "slightly agree").