Journal of Adolescent and Family Health

Volume 11 | Issue 1 Article 5

August 2020

Why do Adolescents Seek Online Mental Health Information?

Daniel G. Lannin
Illinois State University, dglann1@ilstu.edu

Jeremy B. Kanter
University of Tennessee at Knoxville, jkanter2@utk.edu

Luke Russell
Illinois State University, ltrusse@ilstu.edu

Leandra Parris
College of William and Mary, lparris@wm.edu

Ani Yazedjian
Illinois State University, ayazedj@ilstu.edu

Why do Adolescents Seek Online Mental Health Information?

Cover Page Footnote

Author Note Daniel G. Lannin, Ph.D., Department of Psychology, Illinois State University; Jeremy B. Kanter, Ph.D., Department of Child and Family Studies, University of Tennessee at Knoxville; Luke Russell, Ph.D., Department of Family and Consumer Sciences, Illinois State University; Leandra Parris, Ph.D., School of Education, College of William & Mary; Ani Yazedjian, Ph.D., Office of the Provost, Illinois State University. Correspondence concerning this article should be addressed to Daniel G. Lannin, Ph.D., Illinois State University, Department of Psychology, Campus Box 4620, Normal, IL 61790-4620, Phone: (309) 438-8137, FAX: (309) 438-5789 Acknowledgements: Funding for this research was provided by the U.S. Department of Health and Human Services, Administration for Children and Families (Grant #90FM0076). Any opinions, findings, and conclusions or recommendations expressed in this article are those of the authors and do not necessarily reflect the views of the U.S. Department of Health and Human Services, Administration for Children and Families.

Abstract

Many adolescents avoid seeking psychological help despite the increasing prevalence of mental disorders. The current study investigated whether distress and stigma exhibit differential relationships to decisions to seek online mental health information among a sample of predominantly racial/ethnic minority U.S. adolescents. In this investigation, 174 adolescents (Age: $M = 15.90$, $SD = 0.85$, *Range* = 14−19) completed assessments of help-seeking stigma, psychological distress, and a question asking if they would like to view a website with mental health information. Distress was a statistically significant predictor of decisions to seek online mental health information, but stigma was not. Severely distressed boys were more likely to seek online information than severely distressed girls. Evidence-based online resources may be particularly effective ways to support distressed adolescents.

Keywords: self-stigma; psychological help; help-seeking; distress; youth; adolescents

Why do Adolescents Seek Online Mental Health Information?

The mental health of adolescents is a public health concern approaching crisis levels (DeSilver, 2019; Gunnell et al., 2018; Torio et al., 2015). Whereas mental disorders have long been highest among adolescents aged 16-24 (Sawyer et al., 2001), hospitalizations of adolescents with mental health conditions in the United States increased by nearly 50% between 2006 and 2011, and over that same period approximately $11.6 billion was spent on hospital visits for this population (Torio et al., 2015). In 2016, approximately one in eight (12.8% of) 12-17-year-olds reported having a major depressive episode in the past 12 months, with 9% reporting their episode caused a severe impairment that limited their ability to do chores, do well at work or school, get along with their family, or have a social life (DeSilver, 2019; Substance Abuse and Mental Health Services Administration, 2017). However, adolescents are often reluctant to seek help, with less than one in four of those with mental disorders seeking treatment in a given year (e.g., Gulliver et al., 2010; Rickwood et al., 2007; Sawyer et al., 2001; Zachrisson et al., 2006). Seeking and consuming mental health information may be a critical first step in the help-seeking process (Lannin et al., 2016; Oh et al., 2009; Rogers, 2008; Ybarra & Eaton, 2005). Adolescents may want to acquire information to evaluate their symptoms or explore what treatment options are available before making help-seeking decisions. Even though increased distress may push some adolescents to seek help, many may still avoid or delay accessing mental health information because of the stigma surrounding mental illness and psychological help-seeking (Corrigan, 2004; Heflinger & Hinshaw, 2010; Yap et al., 2011). In order to develop interventions to assist adolescents in making informed decisions about their mental health it is important to examine theoretical predictors of some of the first decisions that take place in the help-seeking process, such as obtaining mental health information. Therefore, the purpose of the present study was to examine the effects of psychological distress and self-stigma on decisions to seek mental health information in a sample of predominantly racial/ethnic minority adolescents.

Differential Influences of Distress and Self-Stigma on Help-Seeking

Awareness of one's own psychological distress may be an important predictor of initial help-seeking decisions for adolescents and may be especially salient for ethnic minorities. Cauce et al.'s (2002) cultural and contextual mental health help-seeking model (rooted in Bronfenbrenner's (1979) ecological systems theory) delineates a three-step help-seeking process for racial/ethnic minority adolescents that involves problem recognition, the decision to seek help, and service selection. While the severity of mental health concerns has been identified as a key factor in facilitating help-seeking and mental health service use for racial/ethnic minority adolescent populations (Barker & Adelman, 1994; Planey et al., 2019), previous investigations have revealed that despite having similar levels of distress as their White peers, racial/ethnic minority adolescents and young adults often report less utilization of professional or school-based mental health resources (Barker & Adelman, 1994; Narendorf et al., 2018). One reason for lower rates of help-seeking among racial/ethnic minority adolescents may be due to stigma, which can be conceptualized as the negative reactions such as stereotypes, prejudice, and discrimination that society demonstrates toward those with mental health concerns and those who seek psychological help (Corrigan & Watson, 2002; Singh et al., 2019; Vogel et al., 2009). The stigma literature distinguishes between society's stigmatizing beliefs and an individual's own negative self-stigmatizing evaluations; these two constructs are often termed public stigma and self-stigma, respectively (see Corrigan, 2004; Vogel et al., 2009). Self-stigma refers to the negative self-perceptions and demoralization that occur when societal stigma is internalized and applied to one's self (Corrigan, 2004; Nearchou et al., 2018; Vogel et al., 2006).

In the present study, self-stigma of seeking psychological help refers to negative self-perceptions and demoralization that adolescents anticipate they would experience when seeking help to address mental health concerns (Vogel et al., 2006). Self-stigma of seeking psychological help is associated with labels such as insecure, inadequate, inferior, weak, disturbed, needy, oversensitive, pitiful, not in control of their emotions, and unstable (Hammer & Vogel, 2017). As such, scholars drawing on theoretical models of help-seeking have proposed adolescents may

avoid seeking help (Fisher et al., 1982; Lannin et al., 2015; Wade et al., 2011) and even avoid mental health information to reduce the threat associated with self-stigma by protecting positive self-conceptions (Self-affirmation Theory; Lannin et al., 2013, Lannin et al., 2016) and avoiding negative labels (Modified Labeling Theory; Link et al., 1989). Importantly, there is evidence that self-stigma is a more proximal predictor of help-seeking intentions and self-esteem than public stigma (Lannin et al., 2015) and is associated with reduced intentions to seek psychological help, less willingness to return for subsequent sessions, negative attitudes toward psychological help, and avoidance of mental health information in undergraduate populations (Lannin et al., 2016; Nearchou et al., 2018; Vogel et al., 2006).

Adolescence may be a key developmental period in which to examine help-seeking tendencies because adolescence is often when mental health concerns and opinions of treatment first develop (Cohen & Cohen, 1996). Approximately half of all lifetime mental disorders begin by the mid-teens, and the median age-of-onset for most mental disorders is in the range of late teens through early 20s (Kessler et al., 2007). Furthermore, there is evidence that adolescents in the United States are increasingly reporting severe psychological distress, with a 67% increase in the prevalence of severe psychological distress from 2008 (8.97%) to 2017 (14.97%; Twenge et al., 2019). There is also evidence that adolescents are particularly undertreated and may hold more negative attitudes towards mental health services and treatment compared to middle-aged or older adults (Mojtabai et al., 2011; Mojtabai, 2007). Nonetheless, despite low rates of mental health treatment utilization among adolescents (Gulliver et al., 2010), a paucity of research has examined the links between self-stigma and initial help-seeking decisions in racial/ethnic minority adolescents. Most prior research has often relied on self-reported outcome variables while not examining observed help-seeking decisions (cf. Planey et al., 2019). Given the low rates of professional or school-based mental health treatment utilization for racial/ethnic minority adolescents (Narendorf et al., 2018), more research in such populations is justified.

Overview

In the current study, we investigated whether the theoretically predicted differential relationships between distress and self-stigma with help-seeking tendencies apply to actual decisions to seek mental health information in a sample of predominantly racial/ethnic minority adolescents. Psychological distress represents a prerequisite for most mental health help-seeking behavior, as it allows adolescents to recognize that a problem exists and that help may be needed (Cauce et al., 2002). Therefore, we first hypothesized that greater distress would predict an increased likelihood of seeking online mental health information. In contrast, self-stigma represents a psychological barrier to decisions to seek help, as adolescents may avoid help to distance themselves from negative labels that could hurt their positive self-perceptions (Lannin et al., 2013; Link et al., 1989). As such, we also hypothesized that adolescents with higher self-stigma would be less likely to seek mental health information.

It may be especially important to examine how initial help-seeking decisions differ for subgroups of adolescents because their varied developmental contexts are composed of systems that may provide distinct influences on the perceived norms, rules, and roles that shape their help-seeking beliefs (cf. Bronfenbrenner, 1979; Cauce et al., 2002). Gender and race/ethnicity may have complex interactions with adolescents' different contextual systems to influence their help-seeking attitudes and behaviors. For example, masculine gender role socialization may promote messages about the importance of self-reliance, physical toughness, and emotional control that discourages boys from seeking help (Addis & Mahalik, 2003). Conversely, adolescent girls may be encouraged to disclose their problems and are more likely to seek help for mental health concerns (Chandra & Minkovitz, 2007; Lindsey et al., 2010).

Additionally, compared to Whites, the disparity for racial/ethnic minority adolescents is substantial, even for initial help-seeking behaviors such as seeking mental health information (Hines-Martin et al., 2004; Narendorf et al., 2018), suggesting that contextual issues may also impact the help-seeking process for racial/ethnic minority youth. Specifically, such contextual issues may influence whether an adolescent's problem is considered a "mental health problem",

whether professional help would be perceived as able to ameliorate mental health concerns, and whether service options that adolescents have access to are considered appropriate (Cauce et al., 2002). Therefore, because of these contextual considerations, we also conducted exploratory analyses to test for the possibility that adolescents' gender and race/ethnicity moderate the effects of distress and stigma on decisions to seek online mental health information.

Method

Participants

A sample of 178 high school students who participated in the Champaign Area Relationship Education for Youth (CARE4U) program provided data for quantitative measures. The total number of participants attending a welcome session for CARE4U was 224, with a survey response rate of 79%. Given our interest in gender as a moderator, we omitted two individuals who identified as transgender due to inadequate sample size to establish meaningful group comparisons or generalizability. In addition, two participants were removed who had missing data on the primary predictor variables (i.e., either psychological distress or self-stigma), resulting in an analytical sample of 174. Participants (74.7% girls) were 15.90 years old on average (SD = 0.85; $Range$ = 14−19) and were classified as Freshmen (2.9%), Sophomores (39.7%), Juniors (37.9%), and Seniors (19.5%). Over half of participants identified as Black/African American (54.9%), which were followed in prevalence in the sample by White/European American (18.5%), Asian/Asian American (12.1%), Other (5.8%), Hispanic/Latinx (5.2%), and Native American (3.5%). More than three-fourths of the sample (78.7%) reported being on some form of governmental assistance.

Study Design and Procedures

The present study utilized a convenience sample of adolescents with data collected in September of 2018. The adolescents in this study were recruited to participate in a broader program for adolescents that focuses on healthy relationships called Champaign Area Relationship Education for Youth (CARE4U), which occurs over nine months in school settings in central Illinois. The present cross-sectional research examined relationships between study

variables quantitatively via surveys before adolescents had participated in CARE4U. Parent permission for research participation was obtained for all participants separately from permission to participate in CARE4U. This allowed for the ability to opt out of the research study without withdrawing from the program. Once parent permission was obtained, minor assent to participate was obtained during an intake interview. All study procedures were approved by the university's institutional review board.

In September of 2018, adolescents were invited to complete a survey in their school classrooms using Qualtrics software on iPads or desktop computers. Participants provided demographic information and completed questionnaires assessing psychological distress (Kessler et al., 2002) and self-stigma (Vogel et al., 2006). The final question of the survey asked participants if they would like to be directed to a website that provides information about mental health concerns such as anxiety and depression; students could select either *yes* or *no*. *Yes* responses prompted survey software to open a new tab in the web-browser that directed participants to a mental health website designed for adolescents (Jed Foundation), whereas *no* responses did not present a mental health website, but instead directed participants to a screen letting them know the survey was complete. Participants were provided a $10 gift card for participating.

Measures

Psychological Distress. Distress was assessed with the K6+, a six-item measure developed for epidemiological assessment of nonspecific psychological distress in the U.S. National Health Interview Survey (Kessler et al., 2002). Participants read the sentence stem, "During the past 30 days, about how often did you feel . . ." and rate answers such as "nervous" and "hopeless" from 1 = *all the time* to 5 = *none of the time*. The scale contains items that assess anxiety and depression factors (Lace et al., 2018); however, most research has utilized the K6+ as a screener for psychological distress (Green et al., 2010; Mewton et al., 2016). Evidence for validity has been established by the ability of the K6+ to distinguish between different levels of severity of psychological distress for adult and adolescent populations (Mewton et al., 2016;

Prochaska et al., 2012). A clinical score is calculated by first converting items so that 0 = *none of the time* and 4 = *all of the time,* and then summing all six scores, with scores ranging from 0 to 24 and higher scores representing greater distress. Scores lower than 5 are indicative of low distress, scores greater than or equal to 5 are indicative of moderate distress, and scores greater than or equal to 13 are indicative of severe distress and the likely presence of a DSM–IV disorder occurring in the last 12 months (Mitchell & Beals, 2011; Prochaska et al., 2012). In the current study, $\alpha = .83$.

Self-Stigma. The Self-Stigma of Seeking Psychological Help (SSOSH; Vogel et al., 2006) scale was used to measure participants' self-stigma related to seeking psychological help. The original 10-item scale includes items such as "If I went to a therapist, I would be less satisfied with myself" (Vogel et al., 2006, p. 328). Items are rated on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree*. Five items, which are reverse scored, were omitted to reduce the length of the survey. Higher scores correspond to higher self-stigma related to seeking psychological help. Evidence for the validity of the SSOSH scale has indicated positive associations with assessments of societal stigma of seeking psychological help, anticipated risks of disclosing in therapy, and negative associations with assessments of attitudes toward seeking professional psychological help and intentions to seek psychological help (Vogel et al., 2006). A confirmatory factor analysis indicated that standardized factor loadings of all SSOSH items loaded onto one factor, and all were above 0.70, all *p*s < .001. The SSOSH has shown high internal consistency ($\alpha = .86–.90$) in undergraduate samples (Vogel et al., 2006), and lower internal consistency in international adolescent samples ($\alpha = .75$; Chen et al., 2014), but has not been examined in studies of US adolescents. In the present study, $\alpha = .88$.

Decision to seek mental health information. Adolescents' decision to obtain mental health information (i.e. click on a link to an internet website providing additional information about anxiety and depression) was dummy coded such that 0 = *no* (did not click the link) and 1 = *yes* (did click the link). Previous research has provided evidence for validity of this measure by demonstrating positive associations with attitudes toward psychotherapy and decisions to seek

mental health information, and negative associations with self-stigma (Lannin et al., 2016).

Analytic Approach

Preliminary analyses included examining descriptive statistics as well as potential gender differences via t-tests. To examine whether psychological distress and self-stigma demonstrated statistically significant associations with the decision to seek online mental health information, we conducted logistic regression analyses via SPSS (25) software, which provides interpretable effect sizes via odds ratios (Maher et al., 2013). All continuous variables were standardized (i.e., z-scores) to facilitate comparisons between predictor variables. Unstandardized path coefficients were centered around the sample's grand-mean for ease of interpretation and to avoid issues of multicollinearity (Aiken & West, 1991). For any statistically significant predictor variable, we then calculated the predicted odds of seeking online mental health information for adolescents with high and low values of that predictor variable by substituting scores of +1 *SD* and −1 *SD* into the logistic regression model.

Following an initial regression model exploring main effects of psychological distress and stigma predicting the decision to seek mental health information, exploratory analyses tested the possibility of theoretically relevant moderation effects that included gender and race/ethnicity by including main effects and interaction effects of these variables as separate steps in hierarchical regressions. When applicable, we calculated the predicted odds of seeking online mental health information for adolescents with high distress and low distress by substituting distress scores of +1 *SD* and −1 *SD* into the logistic regression model. In these exploratory moderation analyses, gender was coded as a binary variable (0 = *girl*, 1 = *boy*), and because our sample did not include large enough numbers of each racial/ethnic category for reliable statistical modeling, racial/ethnic categories were collapsed into a binary moderator where 1 = *Black/African American*, 0 = *all other ethnicities/races*. As an additional exploratory analysis, we restructured our racial/ethnic category to examine the second largest racial/ethnic category (1 = *White/European American*, 0 = *all other ethnicities/races*) to investigate group differences.

Results

Preliminary Analyses

On average, adolescents reported moderate psychological distress (M = 8.82, SD = 5.31, Range 0–24); 26% of adolescents reported low levels of distress, 47.1% reported moderate levels of distress (scores ≥ 5 but < 13), and 26.4% reported severe levels of distress (scores ≥ 13; Mitchell & Beals, 2011; Prochaska et al., 2012). Stigma scores for the sample were lower than the midpoint for the scale (M = 2.24, SD = 0.84, *Range:* 1–5), and stigma was not associated with distress (r = .04, p = .642). Slightly less than half (42%) of all participants reported they would like to receive information about mental health concerns such as depression and anxiety.

Girls reported more distress (M = 9.56, SD = 4.88) than boys (M = 6.82, SD = 5.97), $t(172) = 3.04$, p = .003, M_{diff} = 2.74, 95% CI = [0.96, 4.52], but lower stigma (M = 2.15, SD = 0.82) than boys (M = 2.54, SD = 0.89), $t(172) = -2.49$, p = .009, M_{diff} = −0.39, 95% CI = [−0.67, −0.10]. Girls were not any more likely to request mental health information than boys, 45% vs. 34%, respectively, $\chi^2_{(df = 1)} = 1.50$, p = .221. Black/African Americans reported less distress (M = 7.47, SD = 5.21) than all other races/ethnicities (M = 10.53, SD = 4.96), $t(171) = 3.92$, $p < .001$, M_{diff} = 3.05, 95% CI = [1.51, 4.59], but their stigma (M = 2.27, SD = 0.88) did not differ from all other races/ethnicities (M = 2.21, SD = 0.82), $t(171) = -0.43$, p = .683, M_{diff} = −0.05, 95% CI = [−0.31, 0.20]. Black/African Americans were less likely to request mental health information than all other races/ethnicities, 32% vs. 55%, respectively, $\chi^2_{(df = 1)} = 9.74$, p = .002.

Main Analyses

The odds of seeking online mental health information (i.e. clicking on the link to view a website with additional mental health information) increased by 2.03 for every standard deviation increase in psychological distress, (β = 0.71, SE = 0.18, OR = 2.03, 95% CI = [1.44, 2.86], $p < .001$). An examination of odds ratios indicated that adolescents (+1 *SD)* with high distress (odds = 1.40) were more than four times as likely to decide to seek online mental health information as their (−1 *SD)* low distress peers (odds = 0.34). Self-stigma was not a statistically

significant predictor of decisions to seek online mental health information, *(β* = −0.28, *SE* = 0.17, *OR* = 0.76, 95% CI = [0.54, 1.05], *p* = .099).

Exploratory Moderation Analyses

Next, to explore potential moderators, all interaction terms for psychological distress, stigma, and gender were added to the initial main effects model. As shown in *Table 1*, only the interaction effect of psychological distress and gender was a statistically significant predictor of the decision to seek online mental health information. Compared to girls, the odds of boys deciding to seek online mental health information increased by 2.28 for every standard deviation increase in psychological distress. In comparison, the odds of girls deciding to seek online mental health information increased by 0.60 for every standard deviation increase in psychological distress. Again, we calculated scores for boys and girls with high distress and low distress by substituting distress scores of +1 *SD* and −1 *SD* into the model, controlling for self-stigma.

Table 1.

Summary of Logistic Regression Examining Gender as a Moderator of Seeking Online Mental Health Information

	Unstandardized			Standardized			
Predictors	β (SE)	OR	95% CI	β (SE)	OR	95% CI	*p*
Step 1							
Stigma	−0.33 (0.21)	0.72	[0.48, 1.08]	−0.28 (0.17)	0.76	[0.54, 1.06]	.108
Distress	0.13 (0.03)	1.14	[1.07, 1.22]	0.71 (0.18)	2.03	[1.43, 2.89]	<.001
Gender	0.002 (0.40)	1.00	[0.45, 2.21]	0.002 (0.40)	1.00	[0.45, 2.21]	.996
Cox and Snell R^2 = .11; Ngagelkerke R^2 = .15							
Step 2							
Stigma	−0.26 (0.23)	0.77	[0.49, 1.20]	−0.22 (0.19)	0.80	[0.55, 1.17]	.246
Distress	0.09 (0.04)	1.09	[1.01, 1.18]	0.47 (0.20)	1.59	[1.07, 2.38]	.023
Gender	0.31 (0.50)	1.36	[0.51, 3.61]	0.31 (0.50)	1.36	[0.51, 3.61]	.536
Gender × Stigma	−0.74 (0.64)	0.48	[0.14, 1.68]	−0.63 (0.55)	0.53	[0.18, 1.55]	.249
Gender × Distress	0.23 (0.10)	1.25	[1.02, 1.54]	1.20 (0.55)	3.31	[1.12, 9.78]	.031
Stigma × Distress	−0.01 (0.04)	0.99	[0.91, 1.08]	−0.03 (0.20)	0.97	[0.65, 1.44]	.889
Cox and Snell R^2 = .14; Ngagelkerke R^2 = .19							

Note. CI = confidence interval; All main effects were mean centered for unstandardized analyses. Gender is dummy coded such that 0 = *girl* and 1 = *boy.*

As shown in *Figure 1*, boys reporting high distress (odds = 5.19) were more than four times as likely to decide to seek online mental health information compared to their girl peers (odds = 1.16). However, girls (odds = 0.46) who reported low distress were more than two times as likely to seek out mental health information compared to their low distressed boy peers (odds = 0.19). Taken together, both genders were likely to seek mental health information when reporting greater psychological distress, but the association of additional distress on increasing the likelihood of seeking online mental health information was stronger for boys.

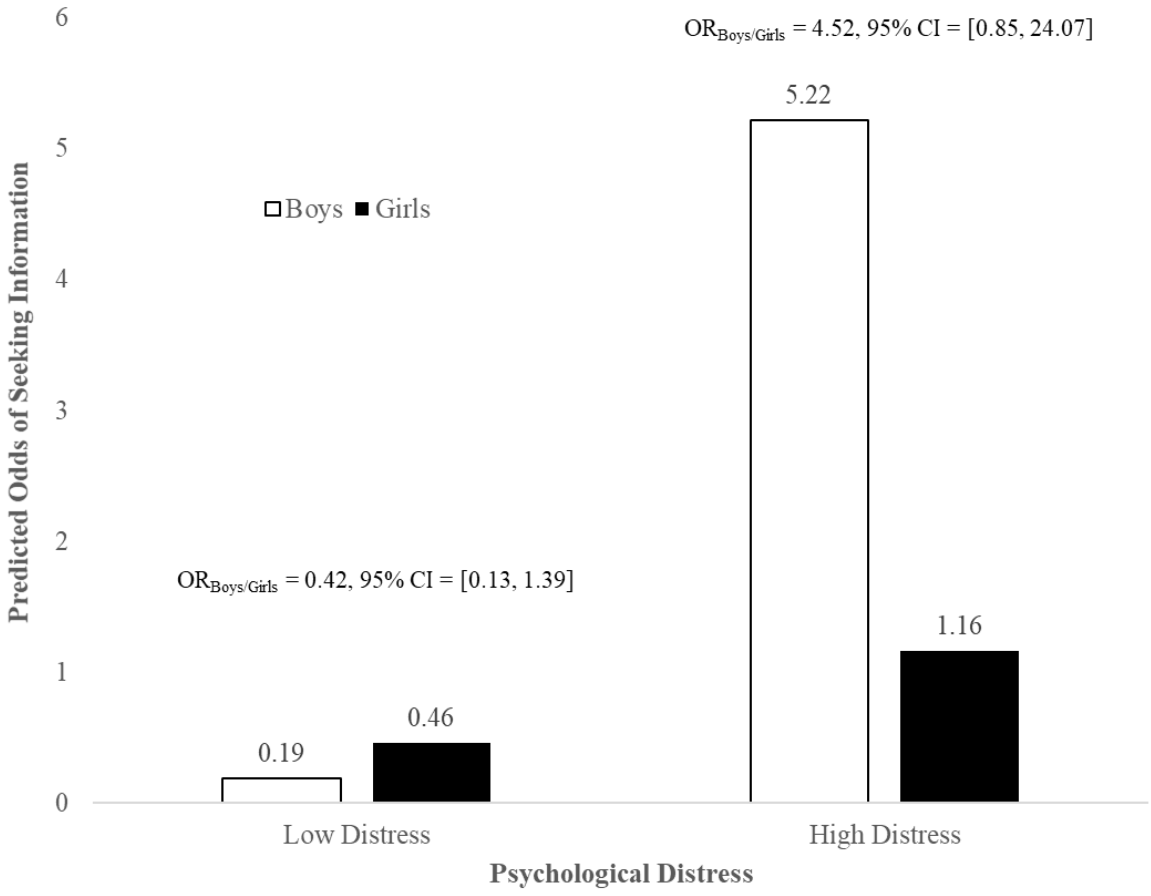

Figure 1. Predicted odds of seeking online mental health information for boys and girl by high (+1 *SD*) and low (−1 *SD*) distress levels. $OR_{Boys/Girls}$ = Odds ratio, calculated by dividing boys' odds of seeking information by girls' odds of seeking information.

As shown in *Table 2*, when using Black/African American as the reference category, the main effect for race/ethnicity was a statistically significant predictor of decisions to seek online mental health information. Compared to the composite of other races/ethnicities, adolescents who identified as Black/African Americans were half (odds = 0.50) as likely to seek online mental health information. We also explored potential moderation effects when coding race/ethnicity such that 1 = *White/ European American* and 0 = *all other races/ethnicities*. The main effect was not significant (p = .134) and there were no significant moderation effects with stigma (p = .293) or distress (p = .674). Regardless of how race/ethnicity was coded, it was not a statistically significant moderator of distress or stigma on decisions to seek online mental health information, all ps > .597. Exploratory analyses should be interpreted with caution because when a Bonferroni corrected alpha (p = .025) was used, these exploratory results are no long statistically significant. Replicating such effects for gender and race/ethnicity may require larger samples.

Table 2

Summary of Logistic Regression Analysis for Race/Ethnicity Predicting Seeking Mental Health Information

	Unstandardized			Standardized			
Predictors	β (SE)	OR	95% CI	β (SE)	OR	95% CI	*p*
Step 1							
Stigma	−0.31 (0.20)	0.73	[0.49, 1.09]	−0.26 (0.17)	0.77	[0.55, 1.08]	.124
Distress	0.12 (0.03)	1.13	[1.05, 1.21]	0.64 (0.18)	1.89	[1.32, 2.70]	.000
B/AA	−0.70 (0.34)	0.50	[0.26, 0.96]	−0.70 (0.34)	0.50	[0.26, 0.96]	.038
Cox and Snell R^2 = .13; Ngagelkerke R^2 = .18							
Step 2							
Stigma	−0.43 (0.30)	0.65	[0.36, 1.17]	−0.37 (0.26)			.151
Distress	0.12 (0.05)	1.13	[1.13, 1.02]	0.64 (0.28)			.022
B/AA	−0.68 (0.34)	0.51	[0.26, 0.99]	−0.68 (0.34)	0.51	[0.26, 0.99]	.046
B/AA × Stigma	0.20 (0.42)	1.25	[0.55, 2.81]	0.19 (0.35)	1.21	[0.60, 2.40]	.597
B/AA × Distress	0.00 (0.07)	1.00	[0.87, 1.15]	−0.002 (0.37)	1.00	[0.48, 2.07]	.996
Stigma × Distress	0.02 (0.04)	1.00	[0.94, 1.11]	0.09 (0.19)	1.10	[0.76, 1.58]	.986
Cox and Snell R^2 = .14; Ngagelkerke R^2 = .18							

Note. CI = confidence interval; All main effects were mean centered for unstandardized analyses; B/AA = Black/African American vs. all other races/ethnicities, coded such that 0 = *All Other Races/Ethnicities* and 1 = *Black/African American*.

Discussion

The present study examined psychological distress and stigma as predictors of online mental health information seeking behavior among adolescents. In line with previous research (Lannin et al., 2016; Planey et al., 2019), we hypothesized that students experiencing more distress would be more likely to seek online information about mental health issues such as anxiety and depression. Results supported this hypothesis, indicating that students who reported having more psychological distress were in fact more likely to click on the link to additional resources. This supports the notion from Cauce et al. (2002) that the first step to help-seeking behavior requires recognition that a problem exists. Because psychological distress was self-reported, participants who were most likely to seek mental health information were likely experiencing distress and were also aware they were experiencing it.

One important implication of the present research is that many adolescents may only be motivated to seek out mental health information when their mental health is personally relevant. First, this suggests that it may be important to provide distressed adolescents with opportunities to reflect on their reasons for seeking help to increase their awareness that a problem exists. Yet, there is also evidence that contemplating the reasons for seeking help can actually exacerbate defensiveness and barriers to seeking mental health information, unless individuals are also reminded of positive aspects of their identity that can bolster self-worth (Lannin et al., 2013). Therefore, more overt efforts to remind adolescents they need help may also require support and affirmation. Second, this suggests that more preventative efforts, such as increasing mental health literacy, may be more difficult among less distressed adolescents because they may view such information as less personally relevant.

We also hypothesized self-stigma of seeking psychological help would reduce the likelihood of adolescents seeking information about mental health when presented with a link to a website with more information about anxiety and depression. Results did not support this hypothesis. One reason for this finding may be because adolescents do not have the same autonomy in help-seeking decisions as adults due to the fact that they may not have complete

confidentiality in therapy and also rely on parents or caregivers to find psychological help outside of school counselors. For adults, their own beliefs about psychological help (i.e., self-stigma) is a more proximal to help-seeking intentions than their perceptions of other peoples' stigma (i.e., public stigma; Lannin et al., 2015); however, for adolescents, mental illness self-stigma may be less predictive of help-seeking intentions than public stigma of mental illness (Nearchou et al., 2018). Relatedly, another reason for the lack of any observed relationship between self-stigma and help-seeking decisions may be due to the anonymity of the online help-seeking decisions the present study assessed; previous research has found that many adolescents prefer online mental health services due to their perceived anonymity, confidentiality, and privacy (Kauer et al., 2014).

Another possibility is that contemporary adolescents may have less stigma of mental health issues and help-seeking as compared to their historical peers. Given previous recognition of the importance of self-stigma's impact on mental health help-seeking, many schools, public health officials, and mental health clinicians have instigated interventions to try and reduce the stigma of accessing services and support for mental health (cf. Corrigan, & Shapiro, 2010; Murman et al., 2014; Sampogna et al., 2017). Evidence from the United States and Europe have demonstrated that ongoing campaigns over the past two decades to reduce mental health and help-seeking stigma appear to have been widely effective (Mojtabai, 2007; Sampogna et al., 2017). Our sample reported an average level of self-stigma of 2.25 (*SD* = .85) on a scale that ranges from 1-5, indicating relatively low to moderate levels of self-stigma for seeking psychological help (i.e., the average participant tended to slightly disagree with stigmatizing statements that were presented). It is possible that the success of interventions to reduce stigma surrounding accessing mental health services may have contributed to the lack of association between self-stigma and behavior identified in this study.

Exploratory moderation analyses also provided evidence that the relationship between psychological distress and decisions to seek mental health information was stronger for boys than for girls. This seems to ostensibly contradict the extant literature, which indicates that girls

have more positive attitudes toward professional psychological help and seek help at higher rates than boys (Hunter et al., 2004; Nam et al., 2010; Sen, 2004). Our result also seems to contradict the notion that contextual factors often encourage girls to disclose their worries and seek out help, while boys are encouraged to be independent and tough (Addis & Mahalik, 2003; Stefic & Lorr, 1974). Yet, in the present study, the decision to click on a link for more information represents a help-seeking decision that was relatively confidential and benign, not requiring an overt disclosure of personal information that would suggests vulnerability. That is, deciding to anonymously seek mental health information may have been less personally stigmatizing than help-seeking decisions like deciding to schedule and attend a session with a school counselor. It is conceivable that boys who are distressed are more likely to seek anonymous information because they feel uncomfortable in asking another person for help. This aligns with findings from Sen (2004), which indicated that black adolescent boys were especially prone to avoid asking an actual person for help. This is especially important given prior research that has found that even though girls are more likely to be distressed by mental health concerns, boys may be at a greater risk for adverse outcomes such as completing suicide (Evans et al., 2016). Developing online mental health resources and services that cater to adolescents engaging in online help-seeking behaviors may be one avenue to explore for all genders, but such interventions could be particularly beneficial for boys.

Relatedly, Black/African American adolescents sought online mental health information at half the rate of other races/ethnicities. This aligns with previous research that has found Black/African Americans often mistrust mental health clinicians (Whaley, 2001); this may be due to factors including the well-documented and pervasive overdiagnosis of more serious psychiatric disorders among Blacks/African Americans (Schwartz & Blankenship, 2014), as well as racial mistrust and beliefs that originate in family, religious, and cultural contexts (Kranke et al., 2012). Relatedly, Black/African American children may tend to stigmatize those with mental illness (Dupont-Reyes et al., 2019) and seek professional psychological help at lower rates than Whites (Barksdale & Molock, 2009; Yeh, et al., 2003). The present study extends this research to

include initial help-seeking tendencies of adolescents. Peer and family norms may contribute to reduced tendencies to seek out initial information about mental health concerns for racial/ethnic minority adolescents (Clement, et al., 2015; Gary, 2005). It is also possible that reduced access to treatment may be a salient factor that influences interest in mental health treatment (Mojtabai et al., 2011). Another possible explanation for this finding is that Black/African American adolescents in the present sample reported lower psychological distress than the composite of other races/ethnicities. This aligns with previous large-scale studies that have found distress scores of African Americans to be similar to Non-Hispanic Whites, and lower than many other racial/ethnic groups (Bratter & Eschbach, 2005).

Overall, our findings, in conjunction with previous research, demonstrate that making high quality, evidence-based online resources available to adolescents may be a particularly effective (and potentially low-cost) way to support distressed adolescents from racial/ethnic minority backgrounds (Le et al., 2019). The use of confidential online forms that include links to evidence-based resources for adolescents' mental health seems promising for intervening early with distressed and vulnerable individuals. Nonetheless, there are many different types of interventions such as community-wide campaigns, psychoeducation in classrooms, and training on bystander and mental health first aid that may help increase awareness and literacy of mental health-related issues (Jorm, 2012).

Limitations and Future Directions

Although our sample was relatively diverse in comparison to prior research with youth, most of the sample were Black/African American high school girls, which poses potential generalizability limitations. Given that the influence of stigma can differ depending on ethnicity, race, and other cultural factors (Brown et al., 2010; Vogel et al., 2013; Vogel et al., 2011), the results of the current study require replication with additional samples to bolster external validity. Relatedly, because our sample was relatively small, exploratory race/ethnicity analyses may have been underpowered, suggesting the need for future studies that utilize large diverse samples to conduct multigroup analyses to more thoroughly explore variations across racial and

ethnic groups. Second, although psychological distress exhibited a relatively strong effect on decisions to seek mental health information, it is possible that the present sample lacked adequate variability in self-stigma to detect a statistically significant effect. Third, though we modeled the relationship between self-stigma with a subsequent decision to seek mental health information, the observed relationships were correlational. The classroom setting could have also introduced a social desirability bias, despite the anonymity of the survey; future research could investigate whether anonymous help-seeking decisions differ in surveys administered in classrooms with other students versus those administered online.

Future studies may therefore consider experimental manipulations of variables that approximate self-stigma to examine self-stigma's causal influence on decisions to engage with information about mental health concerns and psychological help. It is also conceivable that adolescents may seek mental health information only after consulting informal sources of support such as talking to family and friends, the latter of which was a variable we did not assess. Future research may therefore benefit from examining how consulting informal sources of support influence more formal sources of help. Further, qualitative methods might provide open-ended opportunities for students to discuss factors that lead to seeking help, and the role that self-stigma and gender may play in that decision. Finally, given that stigma is a multifaceted construct, future research may benefit from disentangling and testing how conceptually distinct stigmas relate to different help-seeking outcomes (Lannin et al., 2015; Nearchou et al., 2018; Tucker et al., 2013).

Conclusion

Results of the present study extend previous research by demonstrating that increased distress among adolescents was associated with decisions to seek online mental health information, particularly for boys. This suggests that adolescents may not be motivated to learn about mental health until their own mental health is personally relevant. Interestingly, self-stigma was not associated with these same decisions. Adolescents do not have the same autonomy or rights to confidentiality in help-seeking decisions as adults, and thus may prefer online

applications that are anonymous, confidential, and private. Creating high quality, evidence-based online resources that are made available to adolescents may be a particularly effective (and potentially low-cost) way to support distressed adolescents from a variety of backgrounds.

References

Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist, 58*, 5-14. https://doi.org/10.1037/0003-066X.58.1.5

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Barker, L. A., & Adelman, H. S. (1994). Mental health and help-seeking among ethnic minority adolescents. *Journal of Adolescence, 17*, 251-263. https://doi.org/10.1006/jado.1994.1024

Barksdale, C. L., & Molock, S. D. (2009). Perceived norms and mental health help seeking among African American college students. *The Journal of Behavioral Health Services & Research*, *36*, 285-289. https://doi.org/10.1007/s11414-008-9138-y

Bratter, J. L., & Eschbach, K. (2005). Race/ethnic differences in nonspecific psychological distress: Evidence from the National Health Interview Survey. *Social Science Quarterly*, *86*, 620-644. https://doi.org/10.1111/j.0038-4941.2005.00321.x

Bronfenbrenner, U. (1979). *The ecology of human development.* Harvard University Press.

Brown, C., Conner, K. O., Copeland, V. C., Grote, N., Beach, S., Battista, D., & Reynolds, C. F. (2010). Depression stigma, race, and treatment seeking behavior and attitudes. *Journal of Community Psychology*, *38*, 350-368. https://doi.org/10.1002/jcop.20368

Cauce, A. M., Domenech-Rodríguez, M., Paradise, M., Cochran, B. N., Shea, J. M., Srebnik, D., & Baydar, N. (2002). Cultural and contextual influences in mental health help seeking: A focus on ethnic minority youth. *Journal of Consulting and Clinical Psychology*, *70*, 44-55. https://psycnet.apa.org/doi/10.1037/0022-006X.70.1.44

Chandra, A., & Minkovitz, C. S. (2007). Factors that influence mental health stigma among 8th grade adolescents. *Journal of Youth and Adolescence*, *36*, 763-774. https://doi.org/10.1007/s10964-006-9091-0

Chen, H., Fang, X., Liu, C., Hu, W., Lan, J., & Deng, L. (2014). Associations among the number of mental health problems, stigma, and seeking help from psychological services: A path analysis model among Chinese adolescents. *Children and Youth Services Review, 44*, 356-362. https://doi.org/10.1016/j.childyouth.2014.07.003

Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezdorodovs, N., … Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine, 45,* 11-27. https://doi.org/10.1017/S0033291714000129

Cohen, P., & Cohen, J. (1996). *Life values and adolescent mental health*. Erlbaum.

Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist, 59,* 614–625. http://doi.org/10.1037/0003-066X.59.7.614

Corrigan, P. W., & Shapiro, J. R. (2010). Measuring the impact of programs that challenge the public stigma of mental illness. *Clinical Psychology Review, 30,* 907-922. https://doi.org/10.1016/j.cpr.2010.06.004

Corrigan, P. W., & Watson, A. C. (2002). The paradox of self-stigma and mental illness. *Clinical Psychology: Science and Practice*, *9*(1), 35-53. https://doi.org/10.1093/clipsy.9.1.35

DeSilver, D. (2019). *The concerns and challenges of being a U.S. teen: What the data show*. Washington, DC: Pew Research Center. Retrieved from: https://www.pewresearch.org/fact-tank/2019/02/26/the-concerns-and-challenges-of-being-a-u-s-teen-what-the-data-show/

DuPont-Reyes, M. J., Villatoro, A. P., Phelan, J. C., Painter, K., & Link, B. G. (2019). Adolescent views of mental illness stigma: An intersectional lens. *American Journal of Orthopsychiatry*. Advance online publication. http://dx.doi.org/10.1037/ort0000425

Evans, R., Scourfield, J., & Moore, G. (2016). Gender, relationship breakdown, and suicide risk: A review of research in Western countries. *Journal of Family Issues, 37,* 2239-2264. https://doi.org/10.1177%2F0192513X14562608

Fisher, J. D., Nadler, A., & Whitcher-Alagna, S. (1982). Recipient reactions to aid. *Psychological Bulletin, 91*, 27-54. https://doi.org/10.1037/0033-2909.91.1.27

Gary, F. A. (2005). Stigma: Barriers to mental health care among ethnic minorities. *Issues in Mental Health Nursing, 26,* 979-999. https://doi.org/10.1080/01612840500280638

Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Improving the K6 short scale to predict serious emotional disturbance in adolescents in the USA. *International Journal of Methods in Psychiatric Research, 19,* 23-35. https://doi.org/10.1002/mpr.314

Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC Psychiatry, 10,* 113-122. https://doi.org/10.1186/1471-244X-10-113

Gunnell, D., Kidger, J., & Elvidge, H. (2018). Adolescent mental health in crisis: We need to understand the causes to inform prevention. *BMJ, 361,* K2608-K2609. https://doi.org/10.1136/bmj.k2608

Hammer, J. H., & Vogel, D. L. (2017). Development of the Help-Seeker Stereotype Scale. *Stigma and Health, 2,* 121-136. https://doi.org/10.1037/sah0000048

Heflinger, C. A., & Hinshaw, S. P. (2010). Stigma in child and adolescent mental health services research: Understanding professional and institutional stigmatization of youth with mental health problems and their families. *Administration and Policy in Mental Health and Mental Health Services Research, 37,* 61-70. https://doi.org/10.1007/s10488-010-0294-z

Hines-Martin, V. P., Usui, W., Kim, S., & Furr, A. (2004). A comparison of influences on attitudes towards mental health service use in an African-American and White community. *Journal of National Black Nurses Association, 15,* 17-22.

Hunter, S. C., Boyle, J. M., & Warden, D. (2004). Help seeking amongst child and adolescent victims of peer-aggression and bullying: The influence of school-stage, gender, victimisation, appraisal, and emotion. *British Journal of Educational Psychology, 74*, 375-390. https://doi.org/10.1348/0007099041552378

JED Foundation. (n.d.). *Half of us: The pain is real.* Retrieved from http://www.halfofus.com

Jorm, A. F. (2012). Mental health literacy: empowering the community to take action for better mental health. *American Psychologist, 67*, 231-243. https://doi.org/10.1037/a0025957

Kauer, S. D., Mangan, C., & Sanci, L. (2014). Do online mental health services improve help-seeking for young people: A systematic review. *Journal of Medical Internet Research, 16*, e66, https://doi.org/10.2196/jmir.3103

Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustun, T. B. (2007). Age of onset of mental disorders: a review of recent literature. Current opinion in psychiatry, 20, 359-364. https://doi.org/10.1097/YCO.0b013e32816ebc8c

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., ... & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine, 32*, 959-976. https://doi.org/10.1017/S0033291702006074

Kranke, D., Guada, J., Kranke, B., & Floersch, J. (2012). What do African American youth with a mental illness think about help-seeking and psychiatric medication?: Origins of stigmatizing attitudes. *Social Work in Mental Health, 10*, 53-71. https://doi.org/10.1080/15332985.2011.618076

Lace, J. W., Merz, Z. C., Grant, A. F., Emmert, N. A., Zane, K. L., & Handal, P. J. (2018). Validation of the K6 and its depression and anxiety subscales for detecting nonspecific psychological distress and need for treatment. *Current Psychology*, 1-10. https://doi.org/10.1007/s12144-018-9846-2

Lannin, D. G., Guyll, M., Vogel, D. L., & Madon, S. (2013). Reducing the stigma associated with seeking psychotherapy through self-affirmation. *Journal of Counseling Psychology*, *60*, 508–519. https://doi.org/10.1037/a0033789

Lannin, D. G., Vogel, D. L., Brenner, R. E., Abraham, W. T., & Heath, P. J. (2016). Does self-stigma reduce the probability of seeking mental health information?. *Journal of Counseling Psychology*, *63*, 351-358. http://doi.org/10.1037/cou0000108

Lannin, D. G., Vogel, D. L., Brenner, R. E., & Tucker, J. R. (2015). Predicting self-esteem and intentions to seek counseling: The Internalized Stigma Model. *The Counseling Psychologist*, *43*, 64–93. https://doi.org/10.1177/0011000014541550

Le., L. K., Sanci, L., Chatterton, M. L., Kauer, S., Buhagiar, K., & Mihalopoulos, C. (2019). The cost-effectiveness of an internet intervention to facilitate mental health help-seeking by young adults: Randomized controlled trial. *Journal of Medical Internet Research, 21*, e13065. https://doi.org/10.2196/13065

Lindsey, M. A., Joe, S., & Nebbitt, V. (2010). Family matters: The role of mental health stigma and social support on depressive symptoms and subsequent help seeking among African American boys. *Journal of Black Psychology*, *36*, 458-482. https://doi.org/10.1177/0095798409355796

Link, B. G., Cullen, F. T., Struening, E., Shrout, P. E., & Dohrenwend, B. P. (1989). A modified labeling theory approach to mental disorders: An empirical assessment. *American Sociological Review*, 400-423. https://www.jstor.org/stable/2095613

Maher, J. M., Markey, J. C., & Ebert-May, D. (2013). The other half of the story: effect size analysis in quantitative research. *CBE—Life Sciences Education*, *12*, 345-351. https://doi.org/10.1187/cbe.13-04-0082

Mewton, L., Kessler, R. C., Slade, T., Hobbs, M. J., Brownhill, L., Birrell, L., Tonks, Z., Teesson, M., Newton, N., Chapman, C., Allsop, S., Hides, L., McBride, N., & Andrews, G. (2016). The psychometric properties of the Kessler Psychological Distress Scale (K6) in a general population sample of adolescents. *Psychological Assessment, 28*, 1232–1242. https://doi.org/10.1037/pas0000239

Mitchell, C. M., & Beals, J. (2011). The utility of the Kessler Screening Scale for Psychological Distress (K6) in two American Indian communities. *Psychological Assessment, 23*, 752-761. https://doi.org/10.1037/a0023288

Mojtabai, R. (2007). Americans' attitudes toward mental health treatment seeking: 1990-2003. *Psychiatric Services, 58*, 642-651. https://doi.org/10.1176/ps.2007.58.5.642

Mojtabai, R., Olfson, M., Sampson, N. A., Jin, R., Druss, B., Wang, P. S., Wells, K. B., Pincus, H. A., & Kesslar, R. C. (2011). Barriers to mental health treatment: Results from the National Comorbidity Survey Replication. *Psychological Medicine, 41*, 1751-1761. https://doi.org/10.1017/S0033291710002291

Murman, N. M., Buckingham, K. C. E., Fontilea, P., Villanueva, R., Leventhal, B., & Hinshaw, S. P. (2014). Let's Erase the Stigma (LETS): A quasi-experimental evaluation of adolescent-led school groups intended to reduce mental illness stigma. *Children & Youth Care Forum, 43*, 621-637. https://doi.org/10.1007/s10566-014-9257-y

Nam, S. K., Chu, H. J., Lee, M. K., Lee, J. H., Kim, N., & Lee, S. M. (2010). A meta-analysis of gender differences in attitudes toward seeking professional psychological help. *Journal of American College Health*, *59*, 110-116. https://doi.org/10.1080/07448481.2010.483714

Narendorf, S. C., Munson, M. R., Ben-David, S., Cole, A. R., & Scott, L. D., Jr. (2018). Race and gender differences in attitudes toward help seeking among marginalized young adults with mood disorders: A mixed-methods investigation. *Psychiatric Rehabilitation Journal, 41*, 277-289. https://doi.org/10.1037/prj0000312

Nearchou, F. A., Bird, N., Costello, A., Duggan, S. Gilroy, J., Long, R., McHugh, L., & Hennessy, E. (2018). Personal and perceived public mental-health stigma as predictors of help-seeking intentions in adolescents. *Journal of Adolescence*, *66*, 83-90. https://doi.org/10.1016/j.adolescence.2018.05.003

Oh E. Jorm A. & Wright A. (2009) Perceived helpfulness of websites for mental health information. *Social Psychiatry and Psychiatric Epidemiology*, *44*, 293–299. https://doi.org/10.1007/s00127-008-0443-9

Planey, A. M., McNeil Smith, S., Moore, S., & Walker, T. D. (2019). Barriers and facilitators to mental health help-seeking among African American youth and their families: A systematic review study. *Children and Youth Services Review*, *101*, 190-200. https://doi.org/10.1016/j.childyouth.2019.04.001

Prochaska, J. J., Sung, H. Y., Max, W., Shi, Y., & Ong, M. (2012). Validity study of the K6 scale as a measure of moderate mental distress based on mental health treatment need and utilization. *International Journal of Methods in Psychiatric Research*, *21*, 88-97. https://doi.org/10.1002/mpr.1349

Rickwood, D. J., Deane, F. P., & Wilson, C. J. (2007). When and how do young people seek professional help for mental health problems?. *Medical journal of Australia*, *187*, S35-S39. https://doi.org/10.5694/j.1326-5377.2007.tb01334.x

Rogers, V. (2008). *Emotional self-disclosure: Differences between young adults who prefer face-to-face therapy and those who prefer Internet therapy*. Unpublished Doctoral Dissertation. Case Western Reserve University, OH

Sampogna, G., Bakolis, I., Evans-Lacko, S., Robinson, E., Thornicroft, G., & Henderson, C. (2017). The impact of social marketing campaigns on reducing mental health stigma: Results from the 2009-2014 Time to Change programme. *European Psychiatry*, *40*, 116-122. https://doi.org/10.1016/j.eurpsy.2016.08.008

Sawyer, M. G., Arney, F. M., Baghurst, P. A., Clark, J. J., Graetz, B. W., Kosky, R. J., ... & Rey, J. M. (2001). The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. *Australian and New Zealand Journal of Psychiatry, 35*, 806-814. https://doi.org/10.1046/j.1440-1614.2001.00964.x

Schwartz, R. C., & Blankenship, D. M. (2014). Racial disparities in psychotic disorder diagnosis: A review of empirical literature. *World Journal of Psychiatry*, *4*, 133-140. https://dx.doi.org/10.5498%2Fwjp.v4.i4.133

Sen, B. (2004). Adolescent propensity for depressed mood and help seeking: race and gender differences. *Journal of Mental Health Policy and Economics, 7*, 133-145.

Singh, S., Zaki, R. A., & Farid, N. D. N. (2019). A systematic review of depression literacy: Knowledge, help-seeking and stigmatizing attitudes among adolescents. *Journal of Adolescence*, *74*, 154-172. https://doi.org/10.1016/j.adolescence.2019.06.004

Stefic, E. C., & Lorr, M. (1974). Age and sex differences in personality during adolescence. *Psychological Reports*, *35*(3), 1123-1126. https://doi.org/10.2466%2Fpr0.1974.35.3.1123

Substance Abuse and Mental Health Services Administration. (2017). *Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health.* (HHS Publication NO. SMA 17-5044, NSDUH Series H-52). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data/

Torio, C. M., Encinosa, W., Berdahl, T., McCormick, M. C., & Simpson, L. A. (2015). Annual report on health care for children and youth in the United States: National estimates of cost, utilization and expenditures for children with mental health conditions. *Academic Pediatrics*, *15*, 19-35. https://doi.org/10.1016/j.acap.2014.07.007

Tucker, J. R., Hammer, J. H., Vogel, D. L., Bitman, R. L., Wade, N. G., & Maier, E. J. (2013). Disentangling self-stigma: Are mental illness and help-seeking self-stigmas different? *Journal of Counseling Psychology, 60*, 520–531. https://doi.org/10.1037/a0033555

Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology*. *128*, 185–199. https://doi.org/10.1037/abn0000410

Vogel, D. L., Armstrong, P. I., Tsai, P. C., Wade, N. G., Hammer, J. H., Efstathiou, G., ... & Topkaya, N. (2013). Cross-cultural validity of the Self-Stigma of Seeking Help (SSOSH) scale: Examination across six nations. *Journal of Counseling Psychology*, *60*, 303-310. https://doi.org/10.1037/a0032055

Vogel, D. L., Heimerdinger-Edwards, S. R., Hammer, J. H., & Hubbard, A. (2011). "Boys don't cry": Examination of the links between endorsement of masculine norms, self-stigma, and help-seeking attitudes for men from diverse backgrounds. *Journal of Counseling Psychology, 58,* 368-382. https://doi.org/10.1037/a0023688

Vogel, D. L., Wade, N. G., & Ascheman, P. L. (2009). Measuring perceptions of stigmatization by others for seeking psychological help: Reliability and validity of a new stigma scale with college students. *Journal of Counseling Psychology, 56,* 301-308. https://doi.org/10.1037/a0014903

Vogel, D. L., Wade, N. G., & Haake, S. (2006). Measuring the self-stigma associated with seeking psychological help. *Journal of Counseling Psychology*, *53*, 325–337. https://doi.org/10.1037/0022-0167.53.3.325

Wade, N. G., Post, B. C., Cornish, M. A., Vogel, D. L., & Tucker, J. R. (2011). Predictors of the change in self-stigma following a single session of group counseling. *Journal of Counseling Psychology, 58,* 170–182. https://doi.org/10.1037/a0022630

Whaley, A. L. (2001). Cultural mistrust of white mental health clinicians among African Americans with severe mental illness. *American Journal of Orthopsychiatry, 71*, 252–256. https://doi.org/10.1037/0002-9432.71.2.252

Yap, M. B., Wright, A., & Jorm, A. F. (2011). The influence of stigma on young people's help-seeking intentions and beliefs about the helpfulness of various sources of help. *Social Psychiatry and Psychiatric Epidemiology, 46*, 1257-1265. https://doi.org/10.1007/s00127-010-0300-5

Ybarra M. & Eaton W. (2005) Internet based mental health interventions. *Mental Health Services Research 7*, 75–87. https://doi.org/10.1007/s11020-005-3779-8

Yeh, M., McCabe, K., Hough, R. L., Dupuis, D., & Hazen, A. (2003). Racial/ethnic differences in parental endorsement of barriers to mental health services for youth. *Mental Health Services Research, 5*, 65-77. https://doi.org/10.1023/A:1023286210205

Zachrisson, H. D., Rödje, K., & Mykletun, A. (2006). Utilization of health services in relation to mental health problems in adolescents: a population based survey. *BMC Public Health*, 6, 34-41. https://doi.org/10.1186/1471-2458-6-34