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## PREDICTING READINESS TO SEEK MENTAL HEALTH SERVICES IN COLLEGE STUDENTS

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PREDICTING READINESS TO SEEK MENTAL HEALTH SERVICES  
IN COLLEGE STUDENTS

BY

UCHENNA J. JONES

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

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OF

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## **Abstract**

Young adults and adolescents tend to be among the least likely to seek mental health services even when they may benefit from them. This is particularly concerning since most psychological disorders have the highest incidence during this period of development. Researchers have proposed a number of variables that may act as barriers to help seeking including attitudes toward seeking mental health services, mental health literacy, and symptoms of psychological distress. However, much of this research has focused only on correlations among attitudes, symptoms, and help seeking intentions. Furthermore, the assessment of readiness to seek mental health services has been inconsistent across studies. The present study has extended this line of research by including mental health literacy in the analyses as well as applying the transtheoretical model framework to readiness to seek mental health services prior to beginning treatment. 363 undergraduates completed online surveys which included demographic information as well as measures of psychological symptoms, mental health literacy, attitudes toward seeking mental health services, and stage of readiness to seek mental health services. Results suggest that attitudes and symptoms of psychological distress significantly influence readiness to seek mental health services in this sample. This study highlights the need for research examining interventions for young adults that focus on changing attitudes and informing people about the effectiveness of psychological services in treating mental health issues. The need for additional research on mental health literacy is also discussed.

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## **Chapter I: Introduction**

### **Statement of the Problem**

Research has shown that many factors serve as barriers to mental health service use among individuals who could benefit from these services. Psychological help seeking tends to be especially low among young adults and adolescents. This is particularly concerning since the age of peak onset for psychological disorders is before age 24. The current study investigated which factors may influence the intention to utilize mental health services for young people. In particular, the present study used multivariate analyses of variance to determine whether psychological symptoms of distress, attitudes toward professional help seeking, and mental health literacy are associated with stage of readiness to seek mental health services in a sample of college students. The results of this study may help to increase the use of psychological services among those in need by informing the design and implementation of interventions that encourage college students to seek help when experiencing mental health issues.

### **Review of Literature**

Approximately 25% of all Americans have a diagnosable psychological disorder (Clay, 2012). Among these individuals coping with mental illness, an estimated 70-80% do not receive psychological services (Clay, 2012; Mackenzie, Knox, Gekoski, & Macaulay, 2004). Many factors contribute to this large number of people with unmet needs including barriers such as limited access to services, cost of services, inadequate insurance coverage, limited knowledge about where to find help, among others. Most psychological disorders have the highest incidence during late adolescence and early adulthood, a developmental period when psychological distress can have major effects on

later adult life (Barksdale & Molock, 2008; Rickwood, Deane, Wilson, & Ciarrochi, 2005). Even a mild mental illness can lead to serious impairments in an adolescent's educational, professional, and social development leading to negative impacts on life opportunities in later adulthood (Rickwood et al., 2005). Left untreated, psychological disorders can increase in severity over time and may increase one's risk of completing suicide (Wilson, Bushnell, & Caputi, 2011). Research suggests that, despite these risks, college-aged individuals are among the least likely to seek mental health services even when they may benefit from them (Wilson et al., 2011). Adolescents, particularly college students, are more likely to seek help for personal issues from close friends than from mental health professionals, though the tendency to seek help appears to be a function of the type of problem being experienced and the individual's relationship with the potential helper (Barksdale & Molock, 2008; Tinsley, de St. Aubin, & Brown, 1982). For example, college students prefer to seek help from an academic advisor or instructor for academic problems, from close friends for relationship problems, and from parents for personal problems (Rickwood et al., 2005; Tinsley et al., 1982).

Women are more likely to seek mental health services than men (Levinson & Ifrah, 2010). Researchers have proposed various reasons for this gender difference. A common explanation is that women experience higher rates of mental health problems which may create an increased need and eventual use of mental health services compared to men (Levinson & Ifrah, 2010). However, several research studies have indicated that a difference in help seeking behavior across genders is maintained even after statistically controlling for reported symptoms of psychological distress (Biddle, Gunnell, Sharp, & Donovan, 2004; Levinson & Ifrah, 2010; Oliver, Pearson, Coe, & Gunnell, 2005;

Vasiliadis, Lesage, Adair, & Boyer, 2005). Help seeking research suggests that this gender difference has its onset in adolescence. High school girls tend to be socialized to seek help from friends and professionals rather than from parents; while high school boys are socialized to not seek help from anyone (Rickwood et al., 2005).

Beliefs about stigma have been demonstrated to greatly impact individuals' help seeking intentions and behavior particularly among African American college students and male college students (Barksdale & Molock, 2008; Bonner, 1997). Research shows that ethnic minority college students are more likely to underutilize mental health services than their White counterparts, especially when the area of concern is considered to be very personal (Barksdale & Molock, 2008; Bonner, 1997). Other research suggests that there are additional potential barriers to help seeking intentions and behaviors that are quite prominent for young adults. These barriers include attitudes and beliefs about mental health services, knowledge about mental health issues, and symptoms of psychological distress.

**Attitudes and beliefs about mental health services.** Attitudes toward mental health help seeking have been researched as an important indicator of intention to seek mental health services and actual use of such services. A significant association between attitudes and help seeking is consistently demonstrated (Carlton & Deane, 2000; Have et al., 2010; Mackenzie, Gekoski, & Knox, 2006). Specifically, more positive attitudes toward help seeking are associated with an increased intention to seek mental health services (Carlton & Deane, 2000; Deane & Todd, 1996). This correlation highlights the role of negative attitudes as a barrier for seeking mental health services. Researchers have

examined various correlates of attitudes toward help seeking in an effort to better understand variables that facilitate help seeking behaviors.

*Correlates of attitudes.* Although research consistently indicates that women have more positive attitudes toward help seeking (Have et al., 2010; Koydemir-Ozden, 2010; Mackenzie et al., 2006; Mackenzie et al., 2004), findings regarding other correlates of positive attitudes have been inconsistent. For example, some studies that have investigated the impact of age on attitudes suggest that older individuals tend to have more positive attitudes toward seeking mental health services than younger people (Mackenzie et al., 2006) while others found that being younger than age 65 is associated with positive attitudes about psychological help seeking (Have et al., 2010). Additionally, prior experience with mental health services has been correlated with positive attitudes in some studies (Hatchett, 2006), yet unrelated in others (Have et al., 2010). These inconsistent findings may be a result of the inconsistent measurement of attitudes toward help seeking.

*Measurement of attitudes.* Attitudes toward seeking psychological help have been assessed using a variety of measures which often lack a clear theoretical background (Mackenzie et al., 2004). Some measures of help seeking attitudes include questions about access barriers and family support (Leaf, Livingston, & Tischler, 1986) while others measure one's likelihood to seek help for a variety of problems (Currin, Hayslip, Schneider, & Kookan, 1998), and still others ask about perceived helpfulness of seeking mental health services and comfort level with discussing personal problems (Have et al., 2010). The inconsistencies in the measurement of help seeking attitudes complicate the external validity of research findings since different aspects of attitudes are being measured in these studies.

**Knowledge about mental health issues.** Recently, the general public's knowledge about mental health issues has received increased attention in help seeking research. This body of knowledge is represented by a construct called "mental health literacy." Mental health literacy was originally introduced by Anthony Jorm and colleagues in 1997 as the "knowledge and beliefs about mental disorders which aid their recognition, management, or prevention" (Jorm et al., 1997). Since then, the components of mental health literacy have evolved to include knowledge about prevention of psychological disorders, recognition of a developing disorder, knowledge of available treatments, knowledge of self help options for milder mental health issues, and knowledge of first aid skills to help others who are in crisis (Jorm, 2012). Research suggests that the ability to recognize and label psychological disorders, a key component of mental health literacy, impacts one's likelihood of seeking help (Coles & Coleman, 2010; Wright, Jorm, Harris, & McGorry, 2007). Unfortunately, studies consistently show that the general public has low mental health literacy which may contribute to low and/or delayed help seeking (Coles & Coleman, 2010; Jorm et al., 1997). Additionally, beliefs about the cause and prognosis of a disorder influence the type of help sought or recommended (Reavley, McCann, & Jorm, 2012). Researchers have found that this relationship can result in increased recommendations for professional help seeking for symptoms believed to be caused by mental illness or biological causes, as opposed to environmental factors or stress (Coles & Coleman, 2010). For example, in telephone interviews of a sample of Australian college undergraduates, participants reported that seeking assistance from a general practitioner would be most helpful for an individual with depressive symptoms, indicating beliefs that these symptoms are caused by

biological factors (Reavley et al., 2012). Coles and Coleman found that in another sample of undergraduate students responding to anxiety disorder vignettes, about half of all of the participants reported that the individuals with Generalized Anxiety Disorder and Social Phobia either should not seek professional help or reported uncertainty about what they should do (Coles & Coleman, 2010).

Despite the consistent finding that mental health literacy is low in the general population, research suggests that this can improve with increased attention and intervention (Jorm, Wright, & Morgan, 2007; Kitchener & Jorm, 2002). Low mental health literacy can act as a barrier to seeking professional mental health services. Research suggests that the recognition of psychological disorders is an important factor that may impact one's decision to seek professional help (Jorm, 2012; Wright et al., 2007). For example, in an Australian study where a vignette about an individual who meets diagnostic criteria for Major Depressive Disorder was presented to adolescent participants, researchers found that an inability to recognize the character's symptoms as 'depression' was associated with the belief that the character should deal with the problem alone (Jorm et al., 2006). Another study demonstrated that individuals who correctly labeled psychiatric diagnoses in a vignette were more likely to recommend seeking services from a psychologist, psychiatrist, or social worker (Wright et al., 2007). These findings indicate the importance of psychiatric symptom recognition in the help seeking process, but recognition represents only one component of mental health literacy.

***Mental health first aid.*** Assisting someone else who is in the early stages of a psychological problem is another component of mental health literacy that can impact actual help seeking. This kind of support has been termed mental health first aid, "the help provided to a person developing a mental health problem or in a mental health crisis. The first aid is given until

appropriate professional treatment is received or until the crisis resolves.” (Jorm, 2012; Jorm et al., 2007). First aid actions can include encouraging professional help, listening nonjudgmentally, asking about suicidal thoughts, and encouraging self help behaviors (Jorm, 2012; Jorm et al., 2007; Kitchener & Jorm, 2002). Mental health first aid can be particularly important for young adults who typically do not independently seek appropriate help. People experiencing mental illness are more likely to seek help if somebody else suggests the idea, and social support can reduce the impact of traumatic life events (Cusack, Deane, Wilson, & Ciarrochi, 2004).

***Limitations of mental health literacy research.*** As a new area of interest, mental health literacy research is limited in several ways and merits increased attention. A prominent limitation in this line of research is the measurement of mental health literacy. Typically, mental health literacy is measured using vignettes that describe individuals with diagnostic symptoms followed by two open ended questions: “What would you say, if anything, is wrong with this person?” and “How do you think this person could best be helped?” (Jorm et al., 1997). Unfortunately, this form of measurement makes use of hypothetical situations and may not reflect an individual’s actual recognition of mental illness in one’s self or other. Additionally, researchers often present a single vignette of a diagnosis in order to measure an individual’s mental health literacy (e.g., recognition of depression or schizophrenia). This can be problematic since one’s literacy may vary across symptoms and diagnoses.

**Symptoms of psychological distress.** Young adults’ reduced likelihood of seeking mental health services despite experiencing psychiatric symptoms has been well established in the help seeking literature. However, research investigating a relationship between symptoms of psychological distress and help seeking behaviors has resulted in



conflicting findings. It is logical to think that level and type of distress would be associated with increased help seeking, and several research studies have supported this (Cepeda-Benito & Short, 1998; Constantine, Wilton, & Caldwell, 2003; Cramer, 1999; Komiya, Good, & Sherrod, 2000; Thompson, Hunt, & Issakidis, 2004). For example, researchers have found that higher levels of reported psychological distress predict an increased willingness to seek professional help in a sample of Black and Latino college students (Constantine et al., 2003). In a separate sample of undergraduates, researchers found that students' perceived likelihood of seeking professional help could be predicted by the type of distress being experienced as measured by the Hopkins Symptom Checklist-21 (Cepeda-Benito & Short, 1998). In this sample, general symptoms of psychological distress were predictive of seeking help for interpersonal and psychological concerns, while performance distress predicted intention to seek help for academic concerns (Cepeda-Benito & Short, 1998).

Alternatively, a number of researchers have demonstrated a negative correlation between level of psychological distress and help seeking behaviors and intentions (Obasi & Leong, 2009; Sen, 2004; Wilson, 2010; Wilson et al., 2011). A recent study involving 15-25 year old Australian students demonstrated that as general symptoms of psychological distress increased, participants were more likely to report that they would not seek help from anyone (Wilson, 2010). Researchers have proposed that this correlation is indicative of a help negation process. Help negation refers to the process of help avoidance or refusal that is common among both clinical and non-clinical populations (Deane, Wilson, & Ciarrochi, 2001; Rudd, Joiner, & Rajab, 1995). Help negation demonstrates that symptoms of distress can act as barriers to seeking psychological help (Wilson et al., 2011). Wilson (2010) has suggested that the differing findings

regarding the relationship between symptoms of distress and help seeking may be due to adolescents' difficulty with problem recognition where adolescents fail to seek mental health services because they do not always recognize symptoms of psychological distress. General symptom severity may need to be perceived as being at a certain level in order for a young adult to perceive the need for professional help. It is possible that the young people who are least likely to seek professional help are those experiencing low or high symptom severity, while those who fall in the middle of this spectrum are the most likely to seek help.

**Readiness to seek psychological help.** Research on readiness to seek mental health services has investigated the processes of change in help seeking behaviors. This line of research emphasizes a multi-step process that an individual must enter prior to seeking treatment.

*Stage models of psychological help seeking.* Over decades of help seeking research, various multi-stage pathway models have been identified as the process by which individuals seek mental health services. These models are frequently used in research that aims to better understand the characteristics, beliefs, and behaviors of people who are ready to seek help versus those who are not. Typically, pathway models of psychological help seeking include three or more steps that frame a logical progression from problem recognition up to actual help seeking. Although each model generally describes similar steps or stages, there is little consistency in the number of stages or the labels for each step. For example, Fischer and colleagues developed a five stage model which flows from problem recognition to self-help to the decision to seek or accept help from others followed by a precipitating event or worsening of symptoms which leads to overt help seeking (Fischer, Winer, & Abramowitz, 1983). Alternatively, Gross and

McMullen developed a three stage model in which the individual must first decide if they have a problem that requires help, if they should ask for help, and, finally, who can provide the kind of help needed (Gross & McMullen, 1983). Additionally, these models lack empirical support for the accuracy or generalizability of these steps. Many pathway models include general steps which lack psychometrically sound measures making them difficult to research (Young, 2003).

***Theory of planned behavior.*** In an effort to investigate the help seeking process using an established theory of behavior change, a number of researchers have investigated components of Ajzen's Theory of Planned Behavior (TPB) in the context of help seeking. This theory states that one's intended behavior is influenced by a function of attitudes toward the behavior, perceived social norms, and perceived control over the behavior (Ajzen, 1985). Research that has incorporated individual constructs of the TPB (e.g. attitudes, perceived social norms, or perceived control) in help seeking has been mostly correlational and has demonstrated some support for applying this model to help seeking behaviors (Schomerus, Matschinger, & Angermeyer, 2009; Smith, Tran, & Thompson, 2008). However, it seems that the attitudes construct may be more predictive of intention than the others (Schomerus et al., 2009). Support for the TPB has also been demonstrated in the investigations of other health behaviors including blood donation, exercise, and smoking cessation (Conner, Godin, Sheeran, & Germain, 2012; Courneya, 1995; Norman, Conner, & Bell, 1999).

***Transtheoretical model.*** The Transtheoretical Model is a model of behavior change which integrates key constructs from various theories of psychotherapy (Prochaska, 2008; Prochaska, DiClemente, & Norcross, 1992). One of the main

constructs within this model is Stage of Change which includes five distinct stages (Precontemplation, Contemplation, Preparation, Action, and Maintenance) that describe when an individual intends to engage in a healthy behavior (Prochaska, 2008; Prochaska et al., 1992). In the Precontemplation stage, people are unaware of their problem and/or are not ready to change. Contemplation describes people who are beginning to consider changing, but are not ready to commit to change. People in the Preparation stage are ready to change in the next month and may have taken steps to make changes already. In the Action stage, people have made a change within the past 6 months. Finally, the Maintenance stage describes a stage where people are working to prevent regressing back to their problem behavior. Support for these stages has been established in research regarding a variety of health behaviors including smoking cessation, condom use, exercise, stress management, and psychotherapy treatment completion (DiClemente et al., 1991; Prochaska, 2008; Prochaska et al., 1994). However, the TTM has rarely been used in the measurement of psychological help seeking prior to beginning treatment. Applying the TTM to help seeking research can improve chances of developing interventions that encourage individuals to seek help when mental health issues arise.

**Purpose of the study.** Research consistently demonstrates that psychological help seeking is low among college students. The current study focused on which factors impact college students' readiness to seek professional help for mental health issues. Particularly, this study investigated whether attitudes toward seeking help, mental health literacy, and symptoms of psychological distress are associated with students' stage of readiness to seek help. Use of the TTM framework to learn about the help seeking process in college students represents a significant contribution to help seeking research

which, in turn, may provide a platform for future interventions aimed at increasing college students' use of mental health services.

*Hypotheses*

1. Participants in the later Stages of Change (Action and Maintenance) will have significantly higher scores on measures of mental health literacy and attitudes toward seeking mental health services than participants in the earlier Stages of Change (Precontemplation, Contemplation, and Preparation).
2. Participants in the earlier Stages of Change (Precontemplation, Contemplation, and Preparation) will have the highest and lowest scores on measures of symptoms of psychological distress.
3. Females will be more likely than males to be in Action or Maintenance for seeking mental health services after statistically controlling for mental health literacy, symptoms of distress, and attitudes toward seeking mental health services.
4. More advanced stage of readiness to seek mental health services, higher scores on mental health literacy and more positive attitudes toward seeking mental health services will be significantly related to prior mental health service use.

## Chapter II: Method

### Participants

Following approval from the Institutional Review Board at the University of Rhode Island, 363 undergraduate students of varying majors and education levels were recruited for the present study. All participants were enrolled in a psychology course at the time of participation. 66.9% ( $N = 243$ ) were female, 32% ( $N = 116$ ) were male, and 1.1% ( $N = 4$ ) did not report their gender. Most participants were between ages 18 and 21 ( $N = 341$ , 93.9%). Racially, 80.7% ( $N = 293$ ) of participants identified as White, 6.1% ( $N = 22$ ) identified as Black or African American, 3.6% ( $N = 13$ ) were Asian, 3.3% ( $N = 12$ ) were of mixed race, 1.7% ( $N = 6$ ) were American Indian or Alaska Native, and the remaining participants either reported that their race was not listed ( $N = 13$ ) or did not report race. Additional participant characteristics are shown in Table 1.

### Procedures

Undergraduate students enrolled in psychology classes from various academic disciplines were invited to participate in this study in exchange for optional course extra credit for research participation. Students were contacted via email and classroom announcements describing the nature of the study and providing a hyperlink to access the survey. Each participant indicated consent prior to beginning the online survey. Surveys were administered using SurveyMonkey, an online survey and questionnaire tool. The online survey included demographic information as well as measures of psychological symptoms of distress, mental health literacy, attitudes toward seeking mental health services, and readiness to seek mental health services. The survey required approximately 25 minutes to complete.

Table 1. *Participant Demographic Information*

	n	Percentage
<b>Gender</b>		
Female	243	66.9%
Male	116	32%
Not Reported	4	1.1%
<b>Education</b>		
Freshman/1 <sup>st</sup> year in college	246	67.8%
Sophomore/2 <sup>nd</sup> year in college	77	21.2%
Junior/3 <sup>rd</sup> year in college	19	5.2%
Senior/4 <sup>th</sup> year in college	14	3.9%
5 <sup>th</sup> year in college or beyond	5	1.4%
Not Reported	2	0.6%
<b>Race</b>		
White	293	80.7%
Black or African American	22	6.1%
Asian	13	3.6%
Mixed Race	12	3.3%
American Indian/Alaska Native	6	1.7%
Other Race	13	3.6%
Not Reported	4	1.1%
<b>Ethnicity</b>		
Not Hispanic or Latino(a)	316	87.1%
Hispanic or Latino(a)	40	11%
Not Reported	7	1.9%

## Measures

**Demographic questionnaire.** Questions about participants' personal and family backgrounds were included in the online survey. Specifically, participants reported their age, gender, ethnic background, college major, marital status, education level, employment status, and income for self and family. Participants were asked whether they or their parents have ever accessed mental health services and the duration of this experience. In addition, ratings of satisfaction and helpfulness of their treatment experience were requested. Lastly, physical, mental health, and medication history information were obtained. (See Appendix A)

**Symptom Checklist-90-R.** The Symptom Checklist-90-R was used to measure current psychological symptom patterns among participants (SCL-90-R; Derogatis, 1975). The SCL-90-R is a 90-item self-report measure that uses nine symptom dimensions (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) and three global indices of distress (global severity index, positive symptom distress index, and positive symptom total). Each item states a symptom (e.g., trembling) that is to be rated on a five-point scale from 0 (Not at all) to 4 (Extremely). The SCL-90-R is frequently used to screen for global psychological distress in adults 13 years and older. Reliability has been well established with internal consistency coefficients ranging from 0.77 to 0.90 and test-retest coefficients between 0.80 and 0.90 (Derogatis, 1975).

**Inventory of Attitudes Toward Seeking Mental Health Services.** The Inventory of Attitudes Toward Seeking Mental Health Services questionnaire was used as a measure of participants' attitudes about seeking mental health services (IASMHS; Mackenzie et al., 2004). This is a 24-item measure based on Ajzen's Theory of Planned Behavior which states that behavior intentions are influenced by attitudes, subjective norms, and perceived control (Ajzen, 1985). Each of these constructs is measured within subtests of the IASMHS (psychological openness, help-seeking propensity, and indifference to stigma). Participants are asked to indicate how much they agree with each attitude statement from 0 (Disagree) to 4 (Agree). This measure is an updated version of the Attitudes Toward Seeking Professional Psychological Help Scale which was also designed to measure attitudes about help seeking (Fischer & Turner, 1970). The IASMHS features updated language that is inclusive of mental health services provided by non-



psychologist professionals. Mackenzie and colleagues (2004) have determined that this measure has good test-retest reliability (Pearson's  $r=0.85$ ,  $p<0.01$ ).

**Mental Health Literacy Vignette Questionnaire.** A Mental Health Literacy Vignette Questionnaire was developed for the present study (see Appendix B for pilot study data). This measure includes five vignettes describing individuals with symptoms of mental health issues followed by multiple choice questions that require the participant to identify what problem the character is experiencing, how the character could best be helped, and what the participant would do if the character were a good friend. Each symptom recognition response choice is assigned a score according to its proximity to the most ideal response. For example, in a vignette describing a young person with depression, the participant would receive 10 points for the most accurate diagnosis (depression), 7 points for identifying the diagnostic category (mood or emotional problem), 5 points for a generic problem description (stress), and 2 points for indicating that there is a medical problem or a problem that was not listed.

This questionnaire was developed using three vignettes that have previously been utilized in measuring mental health literacy in young adults and college students (Jorm et al., 2007) and two additional vignettes that were developed for this study. Four of these vignettes describe a young person who meets criteria for a diagnosis of Major Depressive Disorder, Social Phobia, Substance Abuse Disorder, and Schizophrenia, respectively. The fifth vignette describes an individual who is experiencing symptoms of distress that do not meet diagnostic criteria according to the Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000). The two

vignettes that were developed for this study describe substance abuse and general life stress (See Appendix C).

**Stages of Change algorithm.** Readiness to seek professional help was determined using a Stages of Change algorithm developed for this study. This measure includes questions designed to identify certain help seeking behaviors consistent with each stage of change. Each response choice reflects participants' intention or readiness to begin treatment with a mental health professional within a specified time period. For example, participants are asked if they are ready to begin treatment with a mental health professional for emotional distress. Each response choice identifies how soon the participant intends to start treatment, if at all. Additionally, each response choice is used to categorize participants by stage of change. Follow up questions are presented after each response choice in order to help clarify participants' reasons for their response choice (See Appendix D).

### Chapter III: Results

Prior to analyzing each hypothesis, descriptive statistics and correlations among each dependent variable were computed for this sample. This information is helpful in understanding the characteristics of the current sample. Means and standard deviations for symptoms of psychological distress, attitudes towards seeking mental health services, and mental health literacy are shown in Table 2. As can be seen in Table 3, each of these continuous variables is significantly correlated with each other. Additionally, an assessment of participants' current stages of readiness to seek mental health services indicated that the majority of students in this sample are not ready to seek services at this time. The stage distribution for the participants in this study can be seen in Table 4.

Table 2. *Descriptive Statistics for Dependent Variables*

	N	Mean	Standard Deviation
Symptom Checklist-90-R (SCL-90-R, Global Severity Index)	339	0.49	0.53
Inventory of Attitudes Toward Seeking Mental Health Services	300	58.84	12.47
Mental Health Literacy	339	39.28	7.29

Table 3. *Correlation Coefficients for Dependent Variables*

	1.	2.	3.
1. Mental Health Literacy	-	-	-
2. Global Severity Index (SCL-90-R)	-0.11*	-	-
3. Attitudes Toward Seeking Mental Health Services	0.15**	-0.19*	-

\*\*  $p < 0.001$

\*  $p < 0.01$

Table 4. *Stages of Change Distribution*

	n	Percentage
Precontemplation	287	79.1%
Contemplation	15	4.1%
Preparation	7	1.9%
Action	10	2.8%
Maintenance	14	3.9%

## **Hypothesis 1**

Participants in the later Stages of Change (Action and Maintenance) will have significantly higher scores on measures of mental health literacy and attitudes toward seeking mental health services than participants in the earlier Stages of Change (Precontemplation, Contemplation, and Preparation).

**Analysis 1.** In order to test whether there is a significant difference between participants in Pre-Action and those in Action/Maintenance on their scores of mental health literacy and attitudes toward seeking mental health services, a between-subjects multivariate analysis of variance (MANOVA) was conducted. For this analysis, there were two dependent variables: mental health literacy and attitudes toward seeking mental health services. The independent variable was readiness to seek mental health services (Pre-Action and Action/Maintenance). IBM SPSS Statistics 21 was used for this analysis.

According to all four MANOVA summary indices (Wilks' Lambda, Pillai's Trace, Hotelling's Trace, and Roy's Largest Root), the combined dependent variables did not significantly differ by readiness to seek mental health services,  $F(2, 293) = 2.707, p > 0.05$ . Univariate analyses of variance (ANOVA) revealed that mental health literacy was not different between participants in Pre-Action and in Action/Maintenance,  $F(1, 294) = 0.258, p > 0.05$ . However, the ANOVA on attitudes toward seeking mental health services was significant,  $F(1, 294) = 5.406, p < 0.05, \eta^2 = 0.018$ , indicating more positive attitudes for those in Action/Maintenance.

## **Hypothesis 2**

Participants in the Pre-Action Stages of Change (Precontemplation, Contemplation, and Preparation) will have the highest and lowest scores on measures of symptoms of psychological distress.

**Analysis 2.** A chi-square analysis was used to test this hypothesis. This allowed for the evaluation of the relationship between Global Severity Index (GSI) of the SCL-90-R and readiness to seek mental health services. GSI scores were categorized using cutoff scores identifying participants' GSI scores as low (T score <40), moderate (T score = 40-60), or clinically significant (T score >60) using the adolescent non-patient norms of the SCL-90-R. As can be seen by the percentages in Table 3, a comparison between symptom severity and readiness to seek mental health services yielded a significant result,  $\chi^2(2, N = 328) = 22.695, p < 0.001$ . The percentages in Table 3 indicate that there is a difference in GSI scores for participants in Pre-Action and Action/Maintenance. Those in Pre-Action (i.e., not intending to seek mental health services in the next month) tended to have low symptoms while those in Action/Maintenance (i.e., began treatment within the last 6 months) were more likely to have moderate to clinically significant symptoms. An inspection of standardized residuals (*SR*) indicated that there were fewer participants in Action/Maintenance with low symptoms than would be expected by chance alone in this sample (*SR* = -2.8). Additionally, more students in Action/Maintenance reported clinically significant symptoms than would be expected if symptoms and readiness to seek services were independent of each other (*SR* = 3.4).

Table 5. Crosstabulation of Symptom Severity Level and Readiness to Seek Mental Health Services

	Pre-Action	Action/Maintenance	$\chi^2$
Low Symptoms	155 (51%)	2 (8.3%)	22.69**
Standard Residual	0.8	-2.8	
Moderate Symptoms	122 (40.1%)	14 (58.3%)	
Standard Residual	-0.4	1.3	
Clinically Significant Symptoms	27 (8.9%)	8 (33.3%)	
Standard Residual	-1	3.4	

Note. Percentage of participants in each category of readiness to seek mental health services are listed in parentheses.

\*\*  $p < 0.001$

### Hypothesis 3

Females will be more likely than males to be in Action or Maintenance for seeking mental health services after statistically controlling for mental health literacy, symptoms of distress, and attitudes toward seeking mental health services.

**Analysis 3.** A logistic regression was conducted to assess the likelihood of females and males being in the Action/Maintenance stages to seek mental health services as opposed to the Pre-Action stages while controlling for mental health literacy, symptoms of psychological distress, and attitudes toward seeking services. The outcome variable was readiness to seek mental health services and the main predictor variable was gender.

A test of the model including the control variables (mental health literacy, symptoms of psychological distress, and attitudes toward seeking services) was statistically significantly different from a constant-only model,  $\chi^2 (3, N = 294) = 37.83$ ,  $p < .001$ . This indicates that these variables, together, distinguish between participants in Pre-Action stages of readiness to seek mental health services and those in Action/Maintenance.

In order to assess whether gender contributes to the model above and beyond the control variables, the predictor variable (gender) was added to the model. A test comparing this new model to the previous model which included only the control variables indicated that there was no significant improvement to the model when gender was added,  $\chi^2 (1, N = 294) = 1.33, p > .05$ .

Table 4 shows the regression coefficients, Wald statistics, odds ratios, and 95% confidence intervals for odds ratios for the final model, with all predictors in the equation (mental health literacy, symptoms of psychological distress, attitudes, and gender). The Wald criterion indicated that only attitudes toward seeking mental health services and psychological symptom severity reliably predicted participants' likelihood of being in Action/Maintenance,  $\chi^2 (1, N = 294) = 7.93, p < .01$ ; and  $\chi^2 (1, N = 294) = 27.19, p < .001$ , respectively.

Table 6. *Predictors of Readiness to Seek Mental Health Services*

	B	Wald Chi-Square	Odds Ratio	95% Confidence Interval	
				Lower	Upper
Mental Health Literacy	0.01	0.05	1.01	0.93	1.09
Global Symptom Severity	2.06	27.19**	7.82	3.61	16.94
Attitudes Toward Seeking Mental Health Services	0.06	7.93*	1.07	1.02	1.11
Gender	0.89	1.17	2.43	0.49	12.19

\*\*  $p < 0.001$

\*  $p < 0.01$

#### **Hypothesis 4**

Prior mental health service use will predict a more advanced stage of readiness to seek services, higher scores on the mental health literacy measure, and more positive attitudes toward seeking mental health services.

**Analysis 4.** A logistic regression was used to examine the likelihood of participants being in Action and/or Maintenance stages, having higher mental health literacy or more positive attitudes toward seeking services given previous use of mental health services. Prior mental health service use was used as the outcome variable and the three predictors were readiness to seek mental health services, mental health literacy, and attitudes toward seeking mental health services (categorized into the following three groups: least positive attitudes, moderately positive attitudes, and most positive attitudes). Attitude categories were created by dividing attitudes scores into three equally sized groups where the least positive attitudes are scores that were less than or equal to 52, moderately positive scores were greater than 52 and less than or equal to 64, and the most positive attitudes were greater than 64.

A test of the full model with all three predictors compared to a constant-only model was statistically significant,  $\chi^2(3, N = 296) = 48.39, p < .001$ , indicating that the predictors, as a group, distinguished between participants who had previously used mental health services and those who had not. The full model correctly classified 99% of the students who had not previously received mental health services and 22.2% of those students who had received services, with an overall success rate of 75.7%.

Table 5 shows regression coefficients, Wald statistics, odds ratios, and 95% confidence intervals for odds ratios for each of the three predictors. According to the Wald criterion, only being in Action/Maintenance to seek mental health services and attitudes toward seeking mental health services reliably predicted a student's prior mental health service use status. The odds ratio indicated that participants in Action/Maintenance were more than 27 times more likely than those in Pre-Action to have used mental health



services in the past ( $OR = 27.66 [6.19, 123.56], p < .001$ ). Participants with the most positive attitudes toward seeking mental health services were more than twice as likely to have used mental health services as those with the least positive attitudes ( $OR = 2.63 [1.32, 5.25], p < .01$ ).

Table 7. Predictors of Prior Mental Health Service Use

	B	Wald Chi-Square	Odds Ratio	95% Confidence Interval	
				Lower	Upper
Least Positive Attitudes		8.70*			
Moderately Positive Attitudes	0.24	0.44	1.27	0.63	2.57
Most Positive Attitudes	0.97	7.48*	2.63	1.32	5.25
Action/Maintenance Mental Health Literacy	3.32	18.90**	27.66	6.19	123.56
	-0.02	0.82	0.98	0.95	1.02

\*\*  $p < 0.001$

\*  $p < 0.05$

### Additional Exploratory Analyses

An additional chi-square analysis was conducted in order to better understand the relationship between attitudes toward seeking mental health services and GSI. The chi-square between attitudes (least positive, moderately positive, most positive attitudes) and GSI (low, moderate, clinically significant symptoms) yielded a significant result,  $\chi^2 (4, N = 297) = 21.316, p < 0.001$  (Table 6). Furthermore, the standardized residuals suggest that there were more participants with clinically significant symptoms and the least positive attitudes than would be expected by chance ( $SR = 2.7$ ). Additionally, there were more participants with low symptoms and the most positive attitudes toward seeking mental health services than would be expected if these variables were independent of each other ( $SR = 2.0$ ).

Table 8. Crosstabulation of Symptom Severity Level and Attitude Level

	Low Symptoms	Moderate Symptoms	Clinically Significant Symptoms	$\chi^2$
Least Positive Attitudes	38 (26.4%)	42 (35%)	20 (60.6%)	21.32**
Standard Residual	-1.5	0.3	2.7	
Moderately Positive Attitudes	46 (31.9%)	49 (40.8%)	6 (18.2%)	
Standard Residual	-0.4	1.3	-1.6	
Most Positive Attitudes	60 (41.7%)	29 (24.2%)	7 (21.2%)	
Standard Residual	2	-1.6	-1.1	

Note. Percentage of participants in each symptom severity level listed in parentheses.

\*\*  $p < 0.001$

## **Chapter IV: Discussion**

The results of this study suggest that attitudes toward seeking mental health services and general symptom severity predict readiness to seek mental health services in college students. Additionally, those students who were categorized as being in Action/Maintenance for seeking mental health services were more likely to have received mental health services in the past. Since individuals in Action and Maintenance stages were, by definition, already using mental health services within the last six months, it follows that they would have also reported mental health service use. This result provides some validation for the staging algorithm that was developed for this study. Results also suggest that mental health literacy is not significantly related to readiness to seek mental health services or prior service use. Additionally, gender was not a significant predictor of readiness. Readiness to seek help was related to psychological symptom severity. Specifically, the results indicate that those who were in Action and Maintenance had more severe symptoms than those in Pre-Action.

Overall, the results of this study indicate that both attitudes and symptom severity are important areas to consider when targeting college students who are the least likely to seek help for mental health issues. Prior research has also identified attitudes as an important predictor of individuals' likelihood of seeking mental health services (Carlton & Deane, 2000; Deane & Todd, 1996; Have et al., 2010; Mackenzie et al., 2006).

The results of this study are consistent with research that suggests a relationship between psychological symptoms and an increased likelihood of seeking mental health services (Cepeda-Benito & Short, 1998; Constantine et al., 2003; Cramer, 1999; Komiya et al., 2000; Thompson et al., 2004). This finding is encouraging because it suggests that

those participants who seem to be in the most need of professional help are also the most likely to seek it out. However, the findings of the additional chi square analysis between symptoms and attitudes toward seeking mental health services suggest that 60.6% of the individuals in this sample who have clinically significant symptoms also have the most negative attitudes. This may represent a barrier to seeking services for this subset of students with a clinical level of symptoms. Future research might focus more on students with higher symptom levels and more negative attitudes toward seeking help in order to understand how and if this combination of characteristics impacts their likelihood of seeking mental health services.

Hypotheses 1 and 4 both proposed that mental health literacy would be related to readiness to seek mental health services and prior mental health service use, respectively. Contrary to previous research which highlights the impact of mental health literacy on help seeking behavior, neither of these hypotheses were fully supported in this sample (Coles & Coleman, 2010; Wright et al., 2007). Specifically, mental health literacy was not significantly associated with readiness to seek mental health services or prior mental health service use in this sample. This finding seems to be more consistent with research focusing on other types of behavior including condom use, safe food selection, and weight management (Morrison-Beedy, Carey, & Lewis, 2002; Sealy & Farmer, 2011; Takeda, Akamatsu, Horiguchi, & Marui, 2011; Winston et al., 2014). In these studies, knowledge about the behavior in question did not directly impact stage of readiness for behavior change. The results of a study focusing on college students' food safety indicated that a combination of knowledge and beliefs impacted participants' readiness to select safer foods (Takeda et al., 2011). It is possible that, in the case of help seeking

behaviors for mental health services, knowledge does not directly impact readiness, but some interaction between mental health literacy and attitudes does.

Also contrary to prior research which reports low mental health literacy among the general public, participants in this study generally seemed to have high mental health literacy (Coles & Coleman, 2010; Jorm et al., 1997). This may be due to the fact that the participants in the current study were college students enrolled in a psychology course at the time of participation. It is likely that students' enrollment in a college level psychology course distinguishes them from the general population in their level of interest in the subject as well as their overall level of education. Additionally, the measure of mental health literacy used in the current study is not a validated measure. Furthermore, the final score on the Mental Health Literacy Vignette Questionnaire may not fully capture all aspects of mental health literacy since it only scores symptom recognition in hypothetical cases. A psychometrically valid and reliable measure of mental health literacy is needed for future investigations of its impact on mental health help seeking behavior.

Hypothesis 3 predicted that females would be more ready to seek mental health services than male participants. This hypothesis was not supported by the data which is inconsistent with previous research (Levinson & Ifrah, 2010). The current sample consisted of a large percentage of females (about 67%) compared to males. It is possible that the large number of female participants and the comparatively small number of males reduced the likelihood of detecting any significant differences between genders. Alternatively, it is also possible that gender does not represent a strong predictor of readiness to seek mental health services in this sample. As previously mentioned, the

participants in the current study are likely different from a non-college student sample in education and interest in psychology. This difference may impact male participants' readiness to seek mental health services making them more likely to seek services than men in a non-college student sample.

### **Limitations**

In the interpretation of these findings, it is important to consider the limitations that exist in this study. These limitations include the study's small sample size, the sample's homogeneity, and the use of self-report measures. The homogeneity and small size of this study's sample limits the generalizability of the findings. The sample primarily consisted of White, non-Hispanic, college students between the ages of 18 and 21 years old. Therefore, these results do not necessarily apply to the larger population. Additionally, all data was collected via self-report measures completed on an online survey rather than using actual mental health records. Self-report measures are vulnerable to responses that reflect false or biased memories and socially desirable responses. This makes it difficult to confirm participants' use of mental health services, any current or past diagnoses, and any current symptoms.

### **Future Research**

These findings help to indicate which factors contribute to one's likelihood of seeking mental health services and to identify where to focus future interventions aimed at increasing individuals' help seeking behaviors. Additionally, this study represents the first use of the transtheoretical model to measure readiness to seek mental health services. The results of this study will be useful in the development of interventions that encourage individuals to seek help when experiencing mental health issues. Specifically, future

interventions that aim to increase college students' likelihood of seeking mental health services may be improved by providing both information about the effectiveness of mental health services in reducing symptoms and information that is geared toward improving attitudes toward seeking mental health services.

Future research should focus on the use of the processes of change in an effort to help people advance through the stages of readiness to seek mental health services. Such research would require a larger, more diverse sample in order to have a better representation of each stage and varying symptom severity. Additionally, the sample in this future research should be more diverse in terms of ethnicity, gender, age, and level of education in order to enhance generalizability of the study findings. This would improve the external validity of the research beyond college students. Besides adjusting the diversity and size of the sample, future research would also benefit from not relying solely on self-report data. Mental health records would be helpful in corroborating reports about participation in mental health services as well as current and past psychological symptoms. A longitudinal research design would also be helpful in the investigation of factors that predict actual mental health service use and transitions among the stages of change.

Future research should also focus on the true nature of the relationship between psychological symptoms and readiness to seek mental health services. Previous research supports both a positive and a negative correlation between symptom severity and help seeking. Although the current study suggests that more severe symptoms are related to an increased likelihood of seeking help, studies suggesting the opposite relationship must continue to be investigated. Those studies which indicate that young people with more

severe symptoms are the least likely to seek help have been said to be indicative of a help negation process. The results of the additional chi square analysis between symptoms and attitudes seem to be related to such findings in that they suggest that those with more severe symptoms also have more negative attitudes. The concept of help negation, or help refusal, in the context of individuals with clinically significant symptom severity may result in detrimental outcomes due to not receiving help for severe mental health issues. For this reason, it is important to continue to research this relationship in order to better understand why some researchers find that those with severe symptoms are more likely to seek help while others find that those with severe symptoms are the least likely to seek help. It is possible that an important mediator or moderator, such as mental health literacy, exists that would be helpful in understanding this relationship.

Additional research is also needed in order to better understand mental health literacy. In order to develop a valid measure of mental health literacy, a more precise definition of the construct is needed. Currently, the definition references knowledge and beliefs about disorders as well as the recognition, management, and prevention of these disorders. However, ideas about the recognition, management, and prevention of mental health issues is somewhat subjective and may vary by culture, context, or other factors that are not accounted for in any existing measurement of mental health literacy. Future research should focus on a further developed definition of mental health literacy which is culturally relevant to the population being studied.

## **Conclusion**

Young adults' low likelihood of seeking mental health services is an issue of concern particularly because of the fact that the age of peak onset for psychiatric



disorders is prior to age 24. Previous research on the factors that influence mental health help seeking among young adults and adolescents has typically focused on the impact of attitudes toward help seeking and psychological symptoms. The current study has extended this line of research by adding to the limited amount of research on mental health literacy as well as applying the transtheoretical model framework to mental health help seeking prior to beginning treatment. The results of this study have highlighted the influence of attitudes toward seeking mental health services and general psychological symptom severity on readiness to seek services. This implies that future interventions ought to focus on changing attitudes in order to help individuals seek out help if a mental health issue arises. However, future research is needed to examine exactly how such interventions will function for a broader sample of young adults.

## APPENDIX A

### PERSONAL BACKGROUND

We would like to know more about your background. Please complete the following sections as truthfully as possible.

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Major: \_\_\_\_\_

What is your current education level? What year are you?

- Freshman/1<sup>st</sup> year in college
- Sophomore/2<sup>nd</sup> year in college
- Junior/3<sup>rd</sup> year in college
- Senior/4<sup>th</sup> year in college
- 5<sup>th</sup> year in college and beyond

Where do you live?

- On campus
- At home with parents
- Off campus, not with parents

Which of the following groups best describes your race?

- American Indian / Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- A group not listed here (Please specify: \_\_\_\_\_)

Which of the following groups best describes your ethnicity?

- Hispanic or Latino(a)
- Not Hispanic or Latino(a)

What is your current relationship status (please select one)?

- Single/Never Married
- Married
- Living with partner
- Divorced
- Separated
- Widowed
- Other (Explain: \_\_\_\_\_)

What is your current employment status?

- Working full time
- Working part time
- Not currently working

What is **YOUR PERSONAL** total income (please select one)?

Annual Income	Monthly Income	Weekly Income
<input type="checkbox"/> \$0 – 15,000	\$0 – 1,250	\$0 – 288
<input type="checkbox"/> \$15,001 – 25,000	\$1,251 – 2,083	\$289 – 480
<input type="checkbox"/> \$25,001 – 35,000	\$2,084 – 2,916	\$481 – 673
<input type="checkbox"/> \$35,001 – 50,000	\$2,917 – 4,166	\$674 – 961
<input type="checkbox"/> \$50,001 or more	\$4,167 or more	\$962 or more

Have you ever met with a professional because of emotional distress or issues with alcohol and/or drugs?

- Yes, I met with a counselor
- Yes, I met with a psychologist
- Yes, I met with a social worker
- Yes, I met with a psychiatrist
- Yes, I met with a \_\_\_\_\_
- No, I never met with a professional because of emotional distress or issues with alcohol and/or drugs

About how many times did you meet with this professional? \_\_\_\_\_ times

How would you describe your experience with this professional?

- Not at all helpful
- Slightly helpful
- Moderately helpful
- Very helpful
- Extremely helpful

Have you ever been diagnosed with any health/medical issues?

- No
- Yes (please describe \_\_\_\_\_)

If yes, is this diagnosis current?

- No
- Yes (How long have you had this diagnosis? \_\_\_\_\_)

Are you currently taking any medication for any health/medical issues?

- No
- Yes (please name \_\_\_\_\_)

Have you been diagnosed with any mental health issues?

- No
- Yes (please describe \_\_\_\_\_)

If yes, is this diagnosis current?

- No
- Yes (How long have you had this diagnosis? \_\_\_\_\_)

Are you currently taking any medication for any mental health issues?

- No
- Yes (please name \_\_\_\_\_)

PARENT BACKGROUND

What is your mother's highest education level?

- 8<sup>th</sup> grade or less
- 1-3 years of high school
- 12<sup>th</sup> grade, high school diploma
- Vocational school/other non-college
- 1-3 years of college
- College degree (e.g. Bachelor's degree)
- Master's degree (e.g. MA or MBA)
- Professional degree (e.g. MD or Ph.D.)

What is your father's highest education level?

- 8<sup>th</sup> grade or less
- 1-3 years of high school
- 12<sup>th</sup> grade, high school diploma
- Vocational school/other non-college
- 1-3 years of college
- College degree (e.g. Bachelor's degree)
- Master's degree (e.g. MA or MBA)
- Professional degree (e.g. MD or Ph.D.)

Which of the following groups best describes your mother's race?

- American Indian / Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- A group not listed here (Please specify: \_\_\_\_\_)

Which of the following groups best describes your mother's ethnicity?

- Hispanic or Latino(a)
- Not Hispanic or Latino(a)

Which of the following groups best describes your father's race?

- American Indian / Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- A group not listed here (Please specify: \_\_\_\_\_)

Which of the following groups best describes your father's ethnicity?

- Hispanic or Latino(a)
- Not Hispanic or Latino(a)

What is your mother's current relationship status (please select one)?

- Single/Never Married
- Married

- Living with partner
- Divorced
- Separated
- Widowed
- Other (Explain: \_\_\_\_\_)

What is your father's current relationship status (please select one)?

- Single/Never Married
- Married
- Living with partner
- Divorced
- Separated
- Widowed
- Other (Explain: \_\_\_\_\_)

Are your mother and father married to each other?

- Yes
- No

What is your mother's current employment status?

- Working full time
- Working part time
- Not currently working

What is your father's current employment status?

- Working full time
- Working part time
- Not currently working

What is **YOUR PARENTS'** total income (please select one)?

Annual Income	Monthly Income	Weekly Income
<input type="checkbox"/> \$0 – 15,000	<input type="checkbox"/> \$0 – 1,250	<input type="checkbox"/> \$0 – 288
<input type="checkbox"/> \$15,001 – 25,000	<input type="checkbox"/> \$1,251 – 2,083	<input type="checkbox"/> \$289 – 480
<input type="checkbox"/> \$25,001 – 35,000	<input type="checkbox"/> \$2,084 – 2,916	<input type="checkbox"/> \$481 – 673
<input type="checkbox"/> \$35,001 – 50,000	<input type="checkbox"/> \$2,917 – 4,166	<input type="checkbox"/> \$674 – 961
<input type="checkbox"/> \$50,001 or more	<input type="checkbox"/> \$4,167 or more	<input type="checkbox"/> \$962 or more

Has your mother ever met with a mental health professional because of emotional distress or issues with alcohol and/or drugs?

- Yes
- No
- I don't know

Has your mother ever been diagnosed with any mental health issues?

- No
- Yes (please describe \_\_\_\_\_)

If yes, is this diagnosis current?

- No
- Yes (About how long has she had this diagnosis? \_\_\_\_\_)

Has your mother ever sought or received treatment (e.g. support group, outpatient or inpatient therapy) for this diagnosis?

- No
- Yes (What kind of treatment? \_\_\_\_\_)

Has your father ever met with a mental health professional because of emotional distress or issues with alcohol and/or drugs?

- Yes
- No
- I don't know

Has your father ever been diagnosed with any mental health issues?

- No
- Yes (please describe \_\_\_\_\_)

If yes, is this diagnosis current?

- No
- Yes (About how long has he had this diagnosis? \_\_\_\_\_)

Has your father ever sought or received treatment (e.g. support group, outpatient or inpatient therapy, medication) for this diagnosis?

- No
- Yes (What kind of treatment? \_\_\_\_\_)

## **APPENDIX B**

### **Mental Health Literacy Vignette Questionnaire Pilot Data**

This questionnaire was piloted among a sample of clinical psychology graduate students and a sample of undergraduate students in an introductory psychology class. The piloted version of this questionnaire included thirteen multiple choice and true/false questions regarding facts about mental illness, psychotherapy, and mental health professionals in addition to the five vignettes followed by a scored symptom recognition question. Each response was scored as either correct (1 point) or incorrect (0 points). Clinical psychology graduate students were expected to score significantly higher than undergraduate students on this measure in both the mental health facts section and the vignette recognition section. T-test results indicated that clinical graduate students only scored significantly higher on the vignette recognition questions ( $t(18) = 0.024$ ,  $p < 0.05$ ), and not the questions on mental health facts ( $t(18) = 0.104$ , ns,  $\alpha = 0.05$ ). As a result, the mental health fact questions were removed from the current version of the Mental Health Literacy Vignette Questionnaire.

## APPENDIX C

Brian is a young person who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. Brian does not feel like eating and has lost weight. He cannot keep his mind on his schoolwork and his grades have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. His parents are very concerned about him.

1. What, if anything, do you think is wrong with Brian?
  - a) Stress (5pts)
  - b) Mood or emotional problem (7pts)
  - c) Depression (10pts)
  - d) Medical problem (2pts)
  - e) Something not listed here (explain: \_\_\_\_\_) (2pts)
  - f) Nothing (0pts)
  - g) Don't know (0pts)
  
2. How do you think Brian could best be helped?
  - a) Talking to friends and/or family
  - b) Talking to a counselor
  - c) Take medication
  - d) Physical activity
  - e) Seeing his primary care or family doctor
  - f) Seeing a psychologist
  - g) Don't know
  - h) Dealing with his problems alone
  
3. Imagine Brian is someone you have known for a long time and care about. You want to help him. What would you do?
  - a) Encourage him to get professional help
  - b) Listen without judging
  - c) Suggest he have a few drinks to forget his problems
  - d) Ignore him until he gets over his problems
  - e) Ask if he feels suicidal
  - f) Get friends to cheer him up
  - g) Keep him busy to get his mind off his problems
  - h) Encourage physical activity



Mackenzie is a young person living at home with her parents. Since starting college last year, she has become even more shy than usual and has made only one friend. She would really like to make more friends but is scared that she'll do or say something embarrassing when she's around others. Although Mackenzie's work is okay, she rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like she might vomit if she has to answer a question or speak in front of the class. At home, Mackenzie is quite talkative with her family, but becomes quiet if anyone she doesn't know well comes over. She never answers the phone and she refuses to attend social gatherings. She knows her fears are unreasonable but she can't seem to control them and this really upsets her.

1. What, if anything, do you think is wrong with Mackenzie?
 

a) Anxiety (7pts)	_____)
b) Medical problem (2pts)	(2pts)
c) Social anxiety (10pts)	f) Nothing (0pts)
d) Shyness (5pts)	g) Don't know (0pts)
e) Something not listed here (explain:	
  
2. How do you think Mackenzie could best be helped?
 

a) Talking to friends and/or family	e) Seeing her primary care or family doctor
b) Talking to a counselor	f) Seeing a psychologist
c) Take medication	g) Don't know
d) Physical activity	h) Dealing with her problems alone
  
3. Imagine Mackenzie is someone you have known for a long time and care about. You want to help her. What would you do?
 

a) Encourage her to get professional help	e) Ask if she feels suicidal
b) Listen without judging	f) Encourage her to make friends
c) Suggest she have a few drinks to loosen up	g) Keep her busy to get her mind off her problems
d) Ignore her until she gets over her problems	h) Talk to her about getting her act together

Derrick is a young man who has a high stress job that involves work with heavy machinery. He's been working with the company for over a year. To cope with the stress of his job, he began drinking whiskey over the past year. He got in trouble with his supervisor at work for being late. His supervisor was unaware that he had been up late drinking the night before. His girlfriend has expressed concern about Derrick's drinking and her concern has resulted in numerous arguments between them.

1. What, if anything, do you think is wrong with Derrick?
 

<ol style="list-style-type: none"> <li>a) Stress (5pts)</li> <li>b) Drug or alcohol problem (7pts)</li> <li>c) Substance abuse (10pts)</li> <li>d) Medical problem (2pts)</li> </ol>	<ol style="list-style-type: none"> <li>e) Something not listed here (explain: _____) (2pts)</li> <li>f) Nothing (0pts)</li> <li>g) Don't know (0pts)</li> </ol>
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2. How do you think Derrick could best be helped?
 

<ol style="list-style-type: none"> <li>a) Talking to friends and/or family</li> <li>b) Talking to a counselor</li> <li>c) Take medication</li> <li>d) Physical activity</li> </ol>	<ol style="list-style-type: none"> <li>e) Seeing his primary care or family doctor</li> <li>f) Seeing a psychologist</li> <li>g) Don't know</li> <li>h) Dealing with his problems alone</li> </ol>
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3. Imagine Derrick is someone you have known for a long time and care about. You want to help him. What would you do?
 

<ol style="list-style-type: none"> <li>a) Encourage him to get professional help</li> <li>b) Listen without judging</li> <li>c) Suggest he have a few drinks to forget his problems</li> <li>d) Ignore him until he gets over his problems</li> </ol>	<ol style="list-style-type: none"> <li>e) Ask if he feels suicidal</li> <li>f) Get friends to cheer him up</li> <li>g) Encourage him to tell someone</li> <li>h) Talk to him about getting his act together</li> </ol>
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Tamia is a young person who lives at home with her parents. She has missed several classes over the past year and has recently stopped going to school altogether. Over the last 6 months, she has stopped seeing her friends and begun locking herself in her bedroom and refusing to eat with the family or to take a bath. Her parents also hear her walking around in her bedroom at night while they are in bed. Even though they know she is alone, they have heard her shouting and arguing as if someone else is there. When they try to encourage her to do more things, she whispers she won't leave home because the FBI is spying on her. They realize that she is not taking drugs because she never sees anyone or goes anywhere.

1. What, if anything, do you think is wrong with Tamia?
 

a) Paranoid (5pts)	_____)
b) Psychotic (7pts)	(2pts)
c) Schizophrenia (10pts)	f) Nothing (0pts)
d) Medical problem (2pts)	g) Don't know (0pts)
e) Something not listed here	

(explain:
  
2. How do you think Tamia could best be helped?
 

a) Talking to friends and/or family	e) Seeing her primary care or family doctor
b) Talking to a counselor	f) Seeing a psychologist
c) Take medication	g) Don't know
d) Physical activity	h) Dealing with her problems alone
  
3. Imagine Tamia is someone you have known for a long time and care about. You want to help her. What would you do?
 

a) Encourage her to get professional help	e) Ask if she feels suicidal
b) Listen without judging	f) Ask someone for advice
c) Suggest she have a few drinks to loosen up	g) Get friends to cheer him up
d) Ignore her until she gets over her problems	h) Talk to her about getting her act together

Jordan is a young person who has been employed for the past five years. About one week ago, he lost his job. Since this time, he has been feeling irritable each day. Jordan has also been getting into serious arguments with his friends; afterwards, he feels badly about losing his temper. He has stopped participating in activities he used to enjoy and has been socializing less than usual. Jordan admits that unemployment makes him feel empty and worthless.

1. What, if anything, do you think is wrong with Jordan?
 

a) Stress (10pts)	_____)
b) Emotional problem (5pts)	(2pts)
c) Depression (7pts)	f) Nothing (0pts)
d) Medical problem (2pts)	g) Don't know (0pts)
e) Something not listed here	

(explain:
2. How do you think Jordan could best be helped?
 

a) Talking to friends and/or family	e) Seeing his primary care or family doctor
b) Talking to a counselor	f) Seeing a psychologist
c) Take medication	g) Don't know
d) Physical activity	h) Dealing with his problems alone
3. Imagine Jordan is someone you have known for a long time and care about. You want to help him. What would you do?
 

a) Encourage him to get professional help	e) Ask him if he feels suicidal
b) Listen without judging	f) Encourage him to talk to someone
c) Suggest he have a few drinks to forget about his problems	g) Talk to him about getting his act together
d) Ignore him until he gets over his problems	h) Encourage physical activity

## APPENDIX D

### Staging Algorithm

Are you ready to begin treatment with a mental health professional (e.g., psychologist, counselor, social worker, or psychiatrist) for emotional distress?

- a) No, I do not intend to begin treatment with a mental health professional in the next 6 months
- a.1) Why don't you intend to begin treatment with a mental health professional in the next 6 months?
- I don't have any emotional distress
  - I can handle my problems by myself
  - I can't afford it
  - It would be embarrassing
  - I don't have time for it
  - Other reason(s) \_\_\_\_\_
- a.2) Would you be willing to talk to a non-professional (e.g., friend, family member, or pastor) about your emotional distress?
- I don't have any emotional distress
  - Yes
  - No
  - It depends (Explain \_\_\_\_\_)
- a.3) Have you ever attempted to begin treatment with a mental health professional in the past?
- Yes
  - No
- a.4) If you have emotional distress in the future, how likely would you be to begin treatment with a mental health professional?
- Extremely likely
  - Very likely
  - Neither likely nor unlikely
  - Likely
  - Not likely
- b) Yes, I intend to begin treatment with a mental health professional in the next 6 months
- b.1) Are you willing to call the office of a mental health professional?
- Yes
  - No
- b.2) Have you made an appointment to meet with a mental health professional?
- Yes
  - No
- b.3) Are you willing to talk to another type of professional (e.g., physician or professor) about your emotional distress?
- Yes
  - No
- c) Yes, I intend to begin treatment with a mental health professional in the next 30 days

- c.1) Have you taken steps on your own to address your emotional distress (e.g., joining a support group, talking to others, exercise)?
- Yes (What have you done?  
\_\_\_\_\_)
- No
- d) Yes, I began treatment with a mental health professional within the last 6 months
- d.1) Do you meet with this person regularly?
- Yes
- No
- d.2) Have you and your mental health professional identified a treatment plan?
- Yes
- No
- d.3) Are you satisfied with your relationship with this mental health professional?
- Yes (What do you like about it?  
\_\_\_\_\_)
- No (What don't you like about it?  
\_\_\_\_\_)
- d.4) Do you plan to continue meeting with this person?
- Yes
- No
- e) Yes, I began treatment with a mental health professional more than 6 months ago
- e.1) Are you satisfied with your relationship with this mental health professional?
- Yes (What do you like about it?  
\_\_\_\_\_)
- No (What don't you like about it?  
\_\_\_\_\_)
- e.2) Are you satisfied with your progress thus far?
- Yes
- No
- e.3) Do you plan to continue meeting with this person?
- Yes
- No

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