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Predictors of Peer Referral Intentions for Individuals at Risk for Suicide Related Behavior: An Application of the Theory of Planned Behavior

Sarah J. Tarquini
University of South Florida

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Predictors of Peer Referral Intentions for Individuals at Risk for Suicide Related
Behavior: An Application of the Theory of Planned Behavior

by

Sarah J. Tarquini

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Psychology
College of Arts and Sciences
University of South Florida

Major Professor: Marc S. Karver, Ph.D.
Jennifer Bosson, Ph.D.
Ellis Gesten, Ph.D.
Krista Kutash, Ph.D.
Vicky Phares, Ph.D.

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Abstract

The role of peer gatekeepers is crucial in connecting individuals at risk for suicide related behaviors to mental health service providers. However, limited research has focused on the role of peers as potential helpers for those at-risk. The current study utilized a mixed experimental and correlational design to examine predictors of female college students' referral intentions following hypothetical interactions with peers at-risk for suicide related behavior. More specifically, the current project examined the utility of an extended Theory of Planned Behavior (TPB) model of peer-referral intentions. In addition to the original TPB constructs of attitudes, subjective norms, and perceived behavioral control associated with referring a peer to a mental health professional, attitudes towards seeking professional help, perceived stigma associated with receiving professional psychological help, emotional competence, and symptom severity were incorporated into an extended TPB model. The sample included 284 female college students. Participants completed computer-based questionnaires both before and after the presentation of a theoretically and empirically informed vignette describing a peer who was characterized as low, moderate, or high risk for suicide related behavior. The results of this study suggest the utility of applying an extended TPB model to intentions to refer

at-risk peers for mental health services. The final trimmed model, which included all of the aforementioned constructs except symptom severity, accounted for 78.9% of the variance in referral intentions. The findings indicate that, in particular, preventative interventions would likely benefit from emphasizing the role of attitudes towards receiving mental health services, attitudes towards peer referral, and subjective norms regarding peer referral, in order to maximize the role of peers as gatekeepers for college students in distress. Incorporating the findings from this study with findings from future research will hopefully lead to more informed, empirically-based interventions for enhancing peer referrals.

Introduction

The prevalence rates of death by suicide, suicidal ideation, and self-harm behaviors among adolescents and young adults in the United States are striking. For example, suicide is the third leading cause of death among 15-24 year olds (Anderson & Smith, 2005); in this age group, suicide accounts for 12.9% of deaths annually (Anderson & Smith, 2005). The most recent data available from the National Center for Injury Prevention and Control (CDC, 2007) suggest that suicide rates are higher in the 20-24 year old age group (24.43 per 100,000) than among the 15-19 year old age group (16.17 per 100,000), indicating that individuals entering young adulthood may be at an even higher risk for suicidality than adolescents. In an investigation of suicide related behavior (SRB), which has been defined as self-inflicted, potentially injurious behavior that occurs with or without the intent to die (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007), Westefeld et al. (2005) found that 24% of college students surveyed had thought about attempting suicide and 5% had attempted suicide while in college. It should also be noted that from 2003 to 2004 significant increases in suicide rates were reported for a number of different demographic groups; the suicide rate for females between the ages of 10 and 14, females between the ages of 15 and 19, and males between the ages of 15 and 19 increased by 75.9%, 32.3%, and 9%, respectively (Lubell, Kegler, Crosby, & Karch, 2007). Therefore, SRB appears to be an increasingly relevant mental health issue for a large percentage of youths and young adults nationwide.

In order to initiate efforts to address such serious public health concerns, the U.S. Department of Health and Human Services developed a National Strategy for Suicide Prevention (U.S. Department of Health and Human Services, 2001). The National Strategy was proposed in response to a recommendation made by the Surgeon General, which suggested that strategies to prevent the loss of life and the suffering caused by suicidality were warranted (Surgeon General Report, 1999). The National Strategy specifically identified the college-age population as a group, among others, that deserves attention in the realm of suicide prevention policies and programming (U.S. Department of Health and Human Services, 2001). It has been suggested that, for multiple reasons, institutions of higher education are in an optimal position to promote the mental health of young adults. First, they are involved in several aspects of students' lives, including academic, health, and residential services (Mowbray et al., 2006). In addition, one-fourth of all persons aged 18-24 years in the U.S. are either full- or part-time college students (U.S. Department of Health and Human Services, 2001); consequently, a large proportion of individuals in the 18-24 year old age range has the potential to be targeted via college-based suicide prevention efforts. Three objectives outlined in the National Strategy that are particularly relevant for college-aged individuals include (1) developing and implementing community-based suicide prevention programs, (2) implementing training programs for recognition of at-risk behavior and the delivery of effective treatment, and (3) increasing access to and linkages with mental health services.

Empirical evidence indicates that linking individuals at risk for SRB to appropriate mental health service providers is crucial, and should be a focus of suicide-prevention efforts. Research has demonstrated that there is a high risk of death by suicide

for individuals at risk who do not receive appropriate treatment (Rosenberg, Eddy, Wolpert, & Broumas, 1989). However, individuals who receive appropriate treatment targeting SRB or other psychiatric symptoms from a mental health professional (MHP) will likely experience a decrease in risk and overall distress (e.g., Rudd et al., 1996; Rudd & Joiner, 1998; Tarrier, Taylor, & Gooding, 2008). To date, very little is known about underlying mechanisms, such as self- and peer-referral processes, that are presumed to link individuals at-risk for SRB to much needed, yet often not received, mental health services. The current study extended the literature in this area by examining factors hypothesized to influence college-aged peer referrals to MHPs. Identifying and gaining greater understanding regarding the mechanisms by which at-risk individuals are referred to MHPs may have tremendous implications for the development and refinement of suicide prevention and intervention efforts designed for college-aged populations.

Formal Help-Seeking: The Mental Health Service Gap

It is a well established finding that formal mental health services, such as those provided by psychologists, psychiatrists, and mental health counselors, are consistently underutilized (e.g., Biddle, Donovan, Sharp, & Gunnell, 2007; Brinson & Kottler, 1995; Cramer, 1999; Thompson, Hunt, & Issakidis, 2004). This discrepancy between the need for and the utilization of mental health services has been referred to as a mental health “service gap” in the literature. Unfortunately, individuals experiencing significant psychological distress rarely seek professional help (e.g., Boldero & Fallon, 1995; Carlton & Deane, 2000; Deane, Wilson, & Ciarrochi, 2001; Kessler et al., 2001). Researchers have demonstrated that, overall, less than one-third of people with mental disorders consult mental health treatment providers (Andrews, Issakidis, & Carter, 2001).

More specifically, data suggest young adults are a group particularly unlikely to seek help when suffering from mental disorders (Andrews et al., 2001; Bebbington et al., 2000). A study examining the help-seeking behavior of adolescents and young adults between the ages of 16 and 24 years found that fewer than 10% of respondents with a probable mental disorder had recently consulted a professional. Similarly, Rickwood and Braithwaite (1994) reported that only 17% of a distressed adolescent sample, which included individuals between the ages of 16 and 19 years, sought professional help.

Regrettably, similar findings have been reported regarding individuals experiencing suicide related thoughts or behaviors; a significant proportion of this population does not seek help from formal sources (e.g., Cheung & Dewa, 2007). As reported by Kessler et al. (2005), a minority of individuals in their nationally representative sample of 18 to 54 year olds received treatment for emotional problems related to suicidality in the previous 12 months. Only 21% of suicide attempters, 7.2% of individuals who made a suicide related gesture, and 35.6% of individuals who experienced suicidal ideation without making a gesture or an attempt sought treatment within the 12-month follow-up period. It has also been reported that approximately 50% of individuals who die by suicide never receive formal mental health services (Goldsmith, Pellmar, Kleinman, & Bunney, 2002; WHO, 2001). These statistics are discouraging given that psychological services have been shown to be effective in alleviating symptomatology related to depression (e.g., Bergin and Garfield, 1994; Chambless & Ollendick, 2001) and suicidality (e.g., Brown, Ten Have, Henriques, Xie, Hollander, & Beck, 2005; Tarrier et al., 2008). Given the severity of the problem, the fact that at-risk individuals rarely receive mental health services is highly alarming. There is a

critical need to better understand why these individuals are not seeking treatment for such a serious, life-threatening problem.

Informal Help-Seeking

One explanation for why most individuals in distress do not seek help from formal sources is that many report a preference for seeking help from informal sources, such as from family members or friends. A preference for support from informal sources has been demonstrated across genders and ethnicities and it has been shown in a variety of child, adolescent, and young adult samples (Bee-Gates, Howard-Pitney, LaFromboise, & Rowe, 1996; Boldero & Fallon, 1995; Rickwood, Deane, Wilson, & Ciarrochi, 2005; Rickwood & Braithwaite, 1994). For example, Deane et al. (2001) reported that although undergraduate university students indicated that they would seek help from a variety of sources for different types of problems, friends were consistently rated as the most likely source of help.

Consistent with the findings on general informal help-seeking, the behavior of individuals experiencing issues related to suicidality suggests a preference for seeking help from informal versus formal sources. In a population-based, case control study of the help-seeking behavior of 13 to 34 year olds prior to nearly lethal suicide attempts, Barnes, Ikeda, and Kresnow (2001) found that, overall, friends or family members were consulted most frequently. Some evidence suggests that suicidal adolescents and young adults tend to confide in peers, as opposed to parents, guardians, teachers, counselors, or other adults, prior to engaging in SRB (Brent, Perper, Goldstein, & Kolko, 1988; Clark, 1993; Dubow, Kausch, Blum, Reed, & Bush, 1989; Hennig, Crabtree, & Baum, 1998; Kalafat & Elias, 1992). For example, in an investigation of self-harm behaviors and

service provision for a young adult sample, Nada-Raja, Morrison, and Skegg (2003) reported that friends were identified as the preferred source of advice or support.

It is noteworthy that utilizing informal supports, especially peer supports, appears to be particularly prominent for older adolescents and young adults. As noted by Rickwood et al. (2005), data suggests that a developmentally appropriate trend exists in which adolescents become increasingly socialized to use their friends as a source of help as opposed to using their parents or family members. Therefore, in terms of informal help-seeking, there is some evidence indicating that a pattern of increased independence from family develops during the adolescent years. This pattern is consistent with overall adolescent development, which is characterized by increased personal independence and time spent with peers (Larson & Richards, 1991; Spear, 2000; Steinberg & Morris, 2001). This stage of enhanced personal independence is apparent throughout the college years, a time when many young adults physically distance themselves from parents and other family members. Taking environmental and developmental factors into account, Sharkin and colleagues (2003) suggested that college students may be among the first to notice when other college students are experiencing psychological distress; due to shared living, academic, and extracurricular activities, students have many opportunities to observe and respond to individuals displaying potentially self-destructive behavior. As a result, research focusing on the mechanisms by which at-risk college-age individuals seek out peer support and how their peers respond is warranted.

Models of Help-Seeking for Mental Health Issues

Research on the help-seeking process has attempted to identify factors that promote or prevent help-seeking behavior. Such work has significant clinical

implications in that it can be used to inform the development and implementation of policies, programs, and procedures designed to increase the frequency of connecting individuals in need to effective, formal mental health services (Burns et al., 1995). A number of conceptual models attempt to explain the utilization of informal and formal helping resources. Each model varies in terms of its scope and its focus, but all culminate in the connection between an individual in need and a source of help (e.g., friend, mental health counselor, primary care doctor).

The Socio-Behavioral Model. One of the very first models introduced in the literature was the Socio-Behavioral Model (SBM) of medical service utilization (Andersen, 1968; Andersen, 1995). SBM has been one of the most frequently used frameworks for examining health care utilization and has been applied to the mental health service field (e.g., Eisenberg, Golberstein, & Gollust, 2007; Goodwin & Andersen, 2002; Lemming & Calsyn, 2004; Nietert, French, Kirchner, & Booth, 2007; Vingilis, Wade, & Seeley, 2007). The SBM integrates a wide range of personal (e.g., age, gender, perception of need) and environmental (e.g., service availability, insurance coverage) constructs associated with an individual's decision to seek care. Although the SBM is widely researched (e.g., Phillips, Morrison, Andersen, & Aday, 1998), subsequent theories have highlighted components that have not been incorporated in the SBM. For example, SBM focuses specifically on formal help-seeking behavior and, by doing so, neglects to recognize the relatively robust finding that individuals often choose to respond to mental distress by turning to informal versus formal sources. Furthermore, although SBM incorporates a variety of promoting and preventing factors, it does not include constructs that are specifically associated with an individual's decision-making

process (e.g., the consideration of alternative methods for addressing the issue, the processes of mentally weighing the benefits and drawbacks of various help-seeking behaviors). By excluding individual components associated with decision-making, SBM does not provide a comprehensive review of the process associated with help-seeking.

The Information-Processing Model. The Information-Processing Model (IPM; Vogel, Wester, Larson, & Wade, 2006), unlike SBM, focuses specifically and unitarily on the decision-making process associated with help-seeking. IPM outlines a series of four cognitive and affective steps associated with individuals' interpretations of and responses to their environments; these steps are not necessarily progressive or inclusive. Generally, the four steps include: (1) encoding and interpreting, (2) generating options, (3) decision making, and (4) evaluating. More specifically, the first stage of the process, *encoding and interpreting*, refers to the manner in which individuals selectively encode internal and external cues. This step of the process includes one's ability to interpret stimuli and recognize that a problem exists. For example, during the first step, a depressed individual may notice, or encode, the existence of affective (e.g., feeling hopeless about the future) and/or behavioral (e.g., difficulties falling and staying asleep) symptoms. The interpretation portion of this step involves the individual assigning meaning to each cue or symptom. For example, an individual may decide that a particular symptom is meaningless (e.g., merely coincidental) or a significant indicator of personal functioning (e.g., cue identified as a symptom of depression). Vogel and colleagues suggest that the manner in which individuals encode and interpret internal and external stimuli may significantly influence help-seeking decisions.

The second step is labeled *generating options*, and refers to the behavioral options considered that correspond to the individual's interpretation of the internal and external cues and his/her current goals. This stage of the process would only be applicable if an individual first recognized that a problem exists. If that was the case, the individual may then generate responses (e.g., seek help from a friend, call a mental health counselor, ignore the symptom) to the problem that are consistent with his/her ultimate goal (e.g., relieve immediate distress, relieve immediate and long-term distress).

The third phase of the model is entitled *decision making*, during which the individual contemplates, decides on, and implements a behavioral response to the cues identified in step one. This step includes an evaluation of the costs and benefits of each generated option and a judgment regarding the preferred course of action relative to the ultimate goal. Vogel and colleagues (2006) suggest that a number of factors may influence an individual's help-seeking decision-making and, therefore, the likelihood of consulting a professional mental health service provider. For example, one's perceived stigma associated with seeking mental health services, level of knowledge regarding mental health service provision, perceived self-efficacy regarding coping with the issue as well as seeking mental health services may influence the response that is ultimately selected.

The fourth step of the IPM is one's *evaluation of the behavior* or one's self-appraisal of the decision that was made. During this step, the individual evaluates and considers the outcomes of his/her help-seeking behavior. Vogel and colleagues view this step as an integral component to understanding formal help-seeking behavior because the outcomes of past help-seeking behaviors have the potential to significantly influence

future help-seeking behaviors. More specifically, if an individual decides that seeking help from an informal helper was inadequate, they may be more likely to try an alternative help-seeking behavior (e.g., consulting a different friend, consulting a formal helper) in the future. Similarly, if an individual had a positive experience from a MHP in the past, they may be more likely to use that problem solving method again in the future.

IPM provides a more thorough and sophisticated framework for evaluating decisions associated with help-seeking behavior than does SBM. However, it fails to incorporate the promoting and preventing factors (e.g., personal, environmental, and provider-related constructs) that are recognized by SBM. Therefore, both IPM and SBM fail to provide a complete model of the factors that influence help-seeking behavior.

The Network Episode Model. The authors of the Network Episode Model (NEM) purport to offer a more systems and process oriented perspective on help-seeking than is provided by SBM or IPM (Pescosolido, 1992; Pescosolido, Gardner, & Lubell, 1998). Whereas the theories previously discussed have assumed that individuals may seek mental health treatment by their own volition following a rational decision-making process, NEM suggests that decisions to seek mental health services may also be the result of a series of social interactions (e.g., following coercion or conversations with family, friends, physicians, or the legal system). NEM claims that the manner in which individuals are connected to mental health treatment providers should not be viewed as a behavior that results from a single personal decision, but rather as the result of a number of social interactions and personal decisions. Therefore, like IPM, NEM emphasizes the importance of an iterative decision-making process and the manner in which individuals choose to respond to distress. In a more comprehensive fashion than IPM however, NEM

recognizes that individuals may enter mental health treatment from a variety of pathways. Thus, NEM was the first model to incorporate constructs that represent social influences on formal help-seeking behavior.

The Gateway Provider Model. The Gateway Provider Model (GPM; Stiffman, Pescosolido, & Cabassa, 2004) was offered as an “elaborated testable subset” of the NEM. As suggested by NEM, individuals are often connected to or encouraged to seek mental health services by other individuals in the community, or “gatekeepers,” such as family members, friends, or medical doctors. GPM expanded upon the subset of NEM that introduced the influence of gatekeepers. GPM identified and incorporated gatekeeper specific constructs (e.g., gatekeeper perceptions of mental illness, gatekeeper knowledge of mental illness, the gatekeeper’s decision-making process regarding referring the at-risk individual to a formal mental health service provider), with constructs that were included in previous models (e.g., individual and environmental factors). GPM was the first model that did not have the individual self-referring as the primary focus of the model. On the contrary, GPM focuses on individuals in the person’s environment as critical aids to an at-risk individual entering mental health services. The unique focus on the gatekeeper seems particularly relevant given that individuals rarely choose MHPs as their first choice of assistance in times of distress (Hinson & Swanson, 1993; Zwaanswik, Van der Ende, Veraak, Bensing, & Verhulst, 2007). Thus far, GPM has only been used to examine the role of “service providers” (e.g., primary health care providers, child welfare employees, staff within the juvenile justice system) as gatekeepers to youth mental health services (e.g., Stiffman et al., 2000; Striley, Stiffman, & Spitznagel, 2003). It is noteworthy though, that the GPM is a framework that may also

be applied to other potential gatekeepers and other at-risk populations in need of mental health treatment. For example, the application of GPM to young adult peer gatekeepers would increase the current level of understanding regarding peer gatekeeper decision-making. Such work has the potential to inform the selection of effective peer gatekeepers. In addition, learning more about factors associated with peer referrals to MHPs may lead to the development of interventions designed to improve the decision-making processes of ineffective peer-helpers.

Peer Gatekeepers: Peer Responses to At-Risk Individuals

The notion of peers of at-risk individuals potentially acting as gatekeepers to formal mental health service providers is consistent with GPM, with data indicating that some individuals in distress report their thoughts and feelings to peers as opposed to keeping it to themselves (e.g., Barnes et al., 2001; Evans, Hawton, & Rodham, 2005), as well as with data indicating that an at-risk individual's decision to seek help from formal sources may be significantly influenced by his or her social network (Cusack et al., 2004; Strohmer, Biggs, & McIntyre, 1984; Vogel et al., 2007; Wilson & Deane, 2001). In fact, in a sample of college students who reported a history of seeking help from a MHP, 75% reported that they were prompted to seek help from a formal source by someone in their social network (Vogel et al., 2007). It seems that interactions with informal helpers have the potential to increase an individual's likelihood of consulting a formal helper. Therefore, peers are in a critical position to help close the "service gap" for this high-risk population of individuals.

In regards to suicide prevention, it has been suggested that the ideal peer-helping response would ultimately involve efforts to link the at-risk individual to a MHP (The

Jason Foundation, 2001; Quinnette, 2007). For example, the Question, Persuade, Refer (QPR) curriculum is a mental health intervention program that teaches individuals how to recognize and respond positively to someone exhibiting suicide warning signs and behaviors (Quinnette, 2007). The QPR educational program aims to teach potential gatekeepers (e.g., teachers, school personnel, primary care physicians) the skills necessary to recognize suicide warning signs, to engage in direct communication about the at-risk individual's personal experience, and to connect the at-risk individual to a professional helper. QPR emphasizes the fact that linking at-risk individuals to trained healthcare providers is essential given that laypersons do not possess the expertise required to assess and treat suicidality. Similarly, the Jason Foundation's "A Promise for Tomorrow" curriculum, a suicide prevention program designed for middle and high school aged students, highlights the importance of connecting at-risk individuals to formal helpers (The Jason Foundation, 2001).

Programs like the JFC and QPR are needed because research indicates that adolescents and young adults generally do not possess the knowledge or skills required to link peers at-risk for suicidality with the formal mental health services system. Analyses of self-report data from college students indicated that, overall, students were unsure of how they could assist a peer at-risk for suicide (Lawrence & Ureda, 1990). It is therefore not surprising that multiple investigators have found that following interactions with at-risk peers, individuals rarely engage in recommended peer-helping behaviors.

Unfortunately, high school (Ciffone, 1993; Eskin, 2003; Kalafat & Elias, 1992; Kalafat & Gagliano, 1996; Overholser et al., 1989; Rickwood et al., 2005) and college students (Mishara, 1982) have consistently demonstrated a preference for intervening with at-risk

peers on their own, as opposed to informing a responsible person (e.g., parent or teacher) or suggesting a consultation with a MHP. Although some aspects of interacting with an at-risk peer individually are recommended (e.g., engaging in open conversations, actively listening), suicide prevention programs also encourage the use of more proactive helping behaviors that specifically involve linking at-risk individuals to mental health service providers, such as providing a mental health referral or calling a suicide hotline (e.g., The Jason Foundation, 2001; Quinnette, 2007).

Studies examining the help-seeking behavior of suicide attempters have provided additional data indicating that the support provided by untrained informal helpers is often insufficient (Barnes et al., 2001; Evans et al., 2005). For example, Barnes et al. (2001) presented information on help-seeking strategies prior to nearly lethal suicide attempts in a sample of 13 to 34 year olds. Analyses indicated that in the month before a suicide attempt, friends or family members were consulted more frequently than every other potential helping source (i.e., health care professionals, psychiatrists, medical doctors, and suicide hotlines) combined; 48% of participants reported consulting a family member or friend regarding health or emotional problems prior to attempting suicide. Similarly, Evans et al. (2005) found that adolescents who had engaged in a deliberate self-harm behavior were most likely to have sought help beforehand from friends than from any other source. Although it is encouraging that at-risk individuals attempted to seek support from others prior to engaging in a harmful behavior, the finding that these individuals engaged in the harmful behavior regardless of seeking help from friends indicates that informal helpers likely do not have the skills necessary to recognize, intervene, and prevent such behaviors from occurring. Given the potentially lethal consequences, actions

above and beyond talking and listening to an at-risk peer are recommended. However, to date, little is known about factors that increase or decrease the likelihood that a potential peer-helper will engage in recommended peer-helping strategies.

Factors associated with peer-helping responses. Several variables have been consistently shown to be significantly related to peer responses to suicidal individuals. For example, females are more likely than males (e.g., Gould et al., 2004; Kalafat & Elias, 1992; Kalafat & Gagliano, 1996; Mueller & Waas, 2002; Norton, Durlak, & Richards, 1989; Wellman & Wellman, 1986), just as older adolescents are more likely than younger adolescents (Kalafat & Elias, 1992), to engage in recommended behavioral peer-helping responses. These responses include speaking to at-risk peers about their feelings, informing responsible adults about potential youth health risks, and referring peers to MHPs.

In addition to demographic factors, several situational factors have been shown to be significantly related to responses to at-risk peers. For example, the level of ambiguity of at-risk individuals' suicidal disclosures is associated with certain behavioral responses endorsed by potential helpers (Dunham, 2004; Stuart, Waalen, & Haelstromm, 2003). Helpers are more likely to speak to an at-risk peer on their own, as opposed to informing others or connecting at-risk peers to formal helpers, in situations in which the at-risk peer's disclosure is ambiguous. Specifically, if an at-risk peer does not explicitly mention suicide, helpers tend to not endorse recommended peer-helping strategies. However, in situations in which the at-risk individual's disclosure is unambiguous, when the at-risk peer specifically mentions thoughts of suicide, helpers are more likely to engage in recommended peer helping behaviors (Dunham, 2004).

A number of personal factors have also been examined as variables associated with peer helping responses. Prior research has suggested that college students' self-reported levels of emotional comfort, knowledge of helpful responses, knowledge of suicidal behavior, and self-reported empathy are significantly related to peer's helping responses. More specifically, empathy has been shown to be positively related to acceptance of suicidal individuals (Knott & Range, 2001) and the endorsement of recommended helping strategies (e.g., take individual to a psychologist's office, talk to person about his/her options) (Mueller & Waas, 2002). Furthermore, emotional comfort, knowledge of helpful responses, and knowledge of suicidal behavior were all significant predictors of the recommended peer-helping behavior of asking a peer directly if he/she was considering suicide (Lawrence & Ureda, 1990). Such findings are consistent with the GPM, which suggests that gatekeepers' knowledge of mental illness and of available resources are significant predictors of gatekeeper behavioral responses to individuals in need of mental health services (Stiffman et al., 2000).

Findings regarding individuals' perceptions of symptom severity yield another parallel between the peer- and service provider-gatekeeper literatures, such that greater severity has been associated with increased frequency of engaging in recommended helping behaviors (e.g., the provision of psychological referrals). Research has demonstrated that college students were more willing to engage in recommended peer-helping behaviors (e.g., talk to the at-risk peer, take peer to a psychologists' office) when they perceived a hypothetical peer's symptoms to be "serious" (Mueller & Waas, 2002). Similar findings have been reported regarding the relationship between perceived symptom severity and the provision of mental health referrals by gateway providers (e.g.,

Stiffman et al., 2000; Stiffman et al., 2004). For example, Stiffman et al. (2000) found that the strongest predictor of youth referrals or recommendations for youth mental health services by gateway providers (e.g., general practitioners, pediatricians) was the providers' assessment of the severity of mental health problems. Moreover, and not surprisingly, the research on psychological help-seeking for oneself has also consistently identified symptom severity as a significant predictor of mental health service utilization, such that greater severity is associated with increased mental health service utilization (e.g., Bebbington et al., 2000; Jayasinghe et al., 2005; McCracken et al. 2006; Nease, Volk, & Cass, 1999). Thus, data from self, peer, and gateway provider studies have provided support for the frameworks provided by IPM, NEM, and GPM, which all suggest that an individual's perception of symptom severity and need for services significantly influence the likelihood that a referral to a mental health professional is provided.

Less consistent evidence has been presented in terms of the relationship between previous personal experiences with suicidality and responses to at-risk peers. Whereas some studies have found that personal experiences with suicidality are associated with more social acceptance and less anger towards suicidal peers (Eskin, 1999), multiple studies have shown that individuals with a personal history of suicidality tend to endorse maladaptive peer-helping responses (Dunham, 2004; Gould et al., 2004; Knott & Range, 2001). Knott & Range (2001), for example, found that acceptance of suicidal individuals was greater among those without a suicide history than among those who endorsed suicidality in their past. Similarly, some studies have found that suicidal youths were

more likely than non-suicidal youths to endorse isolative responses, including keeping the suicidal disclosure of a peer a secret (Dunham, 2004; Gould et al. 2004).

The data available on social experience with SRB is similarly contradictory. Some evidence suggests that high school (Norton et al., 1989) and college students (Dunham, 2004) who have encountered SRB in their social history (i.e., knew someone who had either experienced suicidal ideation, made a suicide attempt, or died by suicide) were more likely to respond to at-risk peers with sensitivity and to engage in recommended, proactive behavioral responses (e.g., inform a responsible other) than were students who have not encountered SRB in their social history. However, some studies have shown that individuals with a social history were more likely to endorse maladaptive strategies such as keeping an at-risk peer's intentions a secret (Gould et al., 2004) or doing nothing (Kalafat & Elias, 1992).

Although numerous relevant variables have been identified in the literature, the mechanisms by which each factor influences peer responses to suicidal individuals remains unclear. The current study aimed to elucidate such relationships by examining peer responses to individuals at risk for SRB within a theoretically-driven framework using the Theory of Planned Behavior (TPB; Ajzen, 1988; 1991). The TPB, which was designed as a comprehensive model, suggests that the variables not included in the model exert their influence on behavior through the constructs within the model. Following this rationale, the TPB constructs may mediate the relationships between previously examined variables (e.g., personal experience with SRB, social experience with SRB, empathy) and the endorsement of specific peer helping behaviors. Therefore, examining peer responses to suicidal individuals within the TPB framework has the potential to

yield information regarding the mechanisms by which specific variables influence peer helping responses, and to identify factors that are most directly related to the endorsement of desired peer helping responses.

The Theory of Planned Behavior

Research investigating predictive social and cognitive factors associated with the performance of specific behaviors is often conceptualized using the TPB (Ajzen, 1988; 1991), as it is a model designed to explain motivational influences on behavior. The TPB, which is an extension of the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1980), was specifically designed to address behaviors that may not operate exclusively under one's perceived volitional control. More specifically, the TPB is designed to predict behaviors that are perceived to require specific skills, resources, or opportunities that are not consistently or readily available (Ajzen, 1991).

The TPB suggests that one's behavioral intentions (i.e., the extent to which an individual is willing to engage in a behavior) are predicted by attitudes toward engaging in the behavior, subjective norms about the behavior, and perceived behavioral control (PBC) over performing the behavior (see Figure 1). Attitudes are defined as positive or negative evaluations of whether or not engaging in the behavior will result in desired outcomes. Thus, if one believes that engaging in a behavior will bring about negative consequences, one would develop a negative attitude and would be less likely to engage in that behavior. Subjective norms refer to the extent to which an individual perceives social pressure to perform a behavior. In other words, a subjective norm is one's perception of social pressure either in general or from valued persons (e.g. similar peers, respected authority figures) regarding whether one should or should not perform a

behavior. PBC represents one's perception of the ease or difficulty of performing a behavior. This perception is influenced by both internal factors (e.g. self-efficacy) and external factors (e.g. the opportunity to engage in the behavior). The TPB asserts that attitudes and subjective norms exert their influence on behavior indirectly through intentions. However, PBC is a construct that operates as both a direct and indirect predictor of intentions to perform a behavior. Therefore, within the TPB model, intentions to perform a behavior, and ultimately, the performance of that behavior, are determined by one's attitudes, subjective norms, and PBC regarding that behavior.

Several studies have provided support for the predictive validity of the TPB (e.g., Godin & Kok, 1996; Hausenblas, Carron, & Mack, 1997; Sheeran & Taylor, 1999). For example, meta-analyses indicate that for a wide variety of behaviors, the TPB explains up to 52% of the variance in intentions and 34% of the variance in actual behavior (e.g., Armitage & Conner, 2001; Godin & Kok, 1996; McGilligan, McClenahan, & Adamson, 2009). This model has been applied as a framework for understanding a number of behaviors, including alcohol use (e.g., Huchting, Lac, & LaBrie, 2008), drug use (e.g., Peters, Kok, & Abraham, 2007), academic achievement (e.g., Armitage, 2008), sexual decision making (e.g., Beadnell et al., 2007), dietary decision making (e.g., Gratton, Povey, & Clark-Carter, 2007), and even psychological help-seeking for oneself (Skogstad, Deane, & Spicer, 2006; Smith, Tran, & Thompson, 2008). Of note, TPB constructs have been shown to significantly predict help-seeking intentions for personal problems, as well as for suicidality (Skogstad et al., 2006).

To date, researchers have examined only one specific peer helping behavior using the TPB; Pearce and colleagues (2003) studied factors associated with college students

speaking to peers about their feelings both before and after participating in a Suicide Intervention Project (SIP). The SIP was designed to improve college students' ability to respond to peers in distress. As part of an evaluation of the SIP, college students' attitudes towards speaking to at-risk peers about their feelings, subjective norms regarding speaking to at-risk peers about their feelings, perceived behavioral control over speaking to at-risk peers about feelings, and intentions to speak to at-risk peers about their feelings were measured before and immediately after program participation. In addition, actual peer-helping behavior (i.e., the frequency of speaking to at-risk peers about their feelings) within a two-week follow-up period was assessed. Contrary to their hypotheses, no significant relationships were reported between the TPB constructs and actual helping behavior. However, it is noteworthy that the null findings may have been due to the fact that the two week follow-up period may not have been long enough for the participants to encounter opportunities to interact with at-risk individuals. Furthermore, the power of the correlational analyses may have been limited due to the relatively small number of participants that completed the follow-up procedure. Given the methodological limitations associated with the follow-up analyses, a more thorough examination of the relationships amongst the TPB constructs immediately following participation would have been valuable. Specifically, an evaluation of the extent to which students' attitudes, subjective norms, and perceived behavioral control predicted intentions to speak to others about feelings would have been informative. Therefore, to date, the manner in which each TPB construct relates to intention to help an at-risk peer remains unclear. Such information would be useful in order to identify the relative ability of each construct to predict the specific dependent variable of interest, which, in this case,

was intention to speak to at-risk peers. Furthermore, as suggested by Ajzen (1991), the relative predictive ability of each TPB construct may vary across situations and target behaviors. For example, whereas attitudes may be the strongest predictor of intentions to speak to an at-risk peer, PBC may be the strongest predictor of intentions to refer a peer to a MHP. Consequently, it would be beneficial to apply the model to various recommended helping behaviors and to examine the relationships amongst the constructs. Clearly, more research is warranted in order to examine the relationships amongst the TPB constructs within the context of peer helping.

As noted above, speaking to at-risk peers about their thoughts and feelings is highly encouraged by suicide prevention programs, but such conversations are likely not enough. Actions above and beyond speaking to peers about thoughts and feelings are highly recommended (The Jason Foundation, 2001; Quinnette, 2007). Referring a peer to a MHP may be the most direct method of closing the service gap in a population of at-risk college students. Therefore, the current study expanded upon previous work in this area by examining theory driven factors associated with providing a peer referral to a MHP. More specifically, college students' attitudes towards referring a peer to a MHP, subjective norms regarding referring a peer to a MHP, perceived behavioral control over referring a peer to a MHP, and intentions to refer a peer to a MHP were examined in order to inform the development and implementation of university-based suicide prevention efforts.

Attitudes towards peer referral to a MHP. Very little research has focused specifically on identifying factors associated with the provision of peer referrals to MHPs. However, as discussed previously, an extensive literature has examined factors

associated with self-referrals to MHPs, and much of that has focused on attitudes (e.g., Cramer, 1999; Cepeda-Brown & Short, 1998; Vogel & Wester, 2003). Research has consistently shown that positive attitudes regarding seeking professional help are one of the best predictors of individuals' intentions to seek professional services for their own mental health needs (e.g., Cepeda-Brown & Short, 1998; Cramer, 1999; Deane, Skogstad, & Williams, 1999; Kelly & Archer, 1995; Shaffer, Vogel, & Wei, 2006; Skogstad et al., 2006; Smith et al., 2008; Vogel & Wester, 2003). More specifically, Vogel et al. (2005) found that attitudes towards seeking professional help significantly predicted intent to seek help for both interpersonal and drug issues. Similarly, researchers have demonstrated that attitudes toward seeking professional help are one of the strongest predictors of help-seeking intentions for suicidal thoughts and personal-emotional problems (Carton & Deane, 2000; Skogstad et al., 2006). Favorable attitudes towards professional mental health services have also been shown to be significantly related to actual formal mental health service use (Deane & Todd, 1996; Fischer & Farina, 1995). Thus, in regards to formal help-seeking for oneself, the well-established relationships between attitudes, intentions, and behavior are consistent with the TPB. Far less, however, is known about the manner in which attitudes towards seeking professional help are related to intentions to provide peer referrals to MHPs or the actual provision of peer referrals for suicidality.

Within the suicide prevention and intervention literatures, some attention has been focused on examining individuals' attitudes. A large majority of the studies in this area have conceptualized attitudes as one's value judgments about suicidality (e.g., Anderson & Standen, 2007; Anderson, Standen, Nazir, & Noon, 2000; Norton et al., 1989).

Although such attitudes may be indirectly related to intentions to respond to an at-risk peer, the TPB suggests that behavioral intentions are more directly influenced by attitudes about the particular behavior of interest (e.g., possible advantages and disadvantages of referring a peer at-risk for suicide to an MHP). In other words, theoretically, one's evaluation of providing a peer referral (e.g., the extent to which one believes it would be valuable or beneficial) is expected to be significantly related to one's intention to provide a peer referral, according to the TPB (Ajzen, 1991). Very few studies within the suicide prevention field have conceptualized attitudes in that manner (e.g., Gould et al., 2004; 2006; Pearce et al., 2003; Wellman & Wellman, 1986). As described above, Pearce et al. (2003) evaluated individuals' attitudes towards speaking to a peer about mental health feelings; however, the relationship between attitudes and intentions was not explored. Gould et al. (2006) investigated attitudes towards various forms of treatment services (e.g., hotlines, MHPs, school counselors, alcohol/drug abuse centers, crisis centers), though only asked in regards to help-seeking for oneself. Therefore, to date, little is known about the relationship between attitudes towards specific, recommended helping behaviors and intentions to perform such behaviors following interactions with at-risk peers. The current study extended the literature in this area by examining the relationship between attitudes and intentions to refer a peer at risk for suicide to a MHP. In addition, attitudes towards seeking professional help will be explored as a predictor of attitudes towards peer referral. In doing so, the current study will integrate a variable previously found to be predictive of self-referral behaviors and intentions into a theoretically driven model of peer-referral.

Subjective norms regarding peer referral to a MHP. To date, no study has specifically examined the relationship between subjective norms and intentions to refer a peer to a MHP for suicide risk or for any other mental health concern. That is, studies have not examined the perception of how typical it is for others to make mental health service referrals, or whether perceiving that others make, condone, or encourage mental health service referrals is related to one's own intention to refer a peer to an MHP. However, a considerable amount of work has focused on the manner in which the perceptions of others' opinions may influence the use of mental health services. This line of research is often referred to as the literature on mental health stigma. Research in this area has predominantly focused on the influence of the perception of others' unfavorable opinions regarding mental illness (e.g., the mentally ill are to be feared, disliked, or avoided) and mental health service utilization (e.g., formal help-seekers are emotionally unstable, undesirable, socially unacceptable, and less competent than those who do not seek help for their problems) (e.g., Ben-Porath, 2002; Brown & Bradley, 2002; Sadow, Ryder, & Webster, 2002). The research evidence suggests an unfortunate relationship between the perception of stigmatizing attitudes and mental health service use; the belief that others may possess stigmatizing attitudes has been significantly related to negative attitudes and intentions towards seeking mental health services in the future (Cooper, Corrigan, & Watson, 2003; Komiya, Good, & Sherrod, 2000; Vogel et al., 2005; 2006; 2007). Researchers have also found that people are less likely to seek help for problems that are perceived by others as atypical (Nadler, 1990) and are more likely to seek help if they believe that their problems would be validated and normalized by formal helpers (Wilson & Deane, 2001). It seems the fear of social rejection for "non-normative"

behavior acts a significant barrier to professional help-seeking for oneself (Brown & Bradley, 2002; Corrigan, 2004).

Despite the fact that no research has been conducted examining specific peer helping behaviors in this context, based on the aforementioned literature and the theoretical underpinnings provided by the TPB, it can be hypothesized that the perceived opinions of others may also significantly influence the provision of peer referrals for suicidality. Those who perceive the provision of mental health referrals as socially unacceptable or atypical may be unlikely to provide a mental health referral to a peer in need. On the other hand, individuals who believe that providing a mental health referral is a normal response to a peer in distress may be more likely to recommend a consultation with a formal helper. The current study was the first to explore this relationship empirically. This investigation aimed to provide valuable information regarding why people tend to have a difficult time providing referrals to mental health services for suicidality, as perceived norms may act as a significant barrier to the endorsement of recommended peer-helping strategies. In addition, the current study explored perceived stigma as a predictor of subjective norms regarding peer referrals and, in turn, subjective norms as a predictor of peer referral intentions.

Perceived behavioral control associated with peer referral to a MHP. Given that effectively responding to a peer at-risk of suicidality may require specific skills, such as those identified by the IPM of self-referral (e.g., accurately encoding and interpreting behavioral and emotional cues, generating response options, effectively engaging in a decision making process), helping behaviors (e.g., referring a peer to a MHP) may be conceptualized as acts that are not entirely under one's volitional control. Moreover, as

discussed previously, individuals may not inherently possess the knowledge or skill set required to assist at-risk peers (e.g. Barnes et al., 2001; Evans et al., 2005; Mishara, 1982). Therefore, specific helping behaviors may not be predicted solely by one's attitudes towards the individual behaviors or by one's subjective norms associated with the behaviors, but also by one's PBC over performing the behaviors (Ajzen, 1991). The TPB asserts that an assessment of PBC includes the measurement of one's capability of performing the behavior (i.e., the perceived level of difficulty associated with performing the behavior) and one's controllability of performing a behavior (i.e., the extent to which the performance of the behavior is or is not up to the individual); higher levels of capability and controllability yield higher levels of PBC (Ajzen, 1991). Theoretically, individuals with fewer perceived obstacles associated with the behavior, and thus more PBC, should be more willing to provide a peer-referral than individuals who anticipate a number of impediments or challenges. Likewise, individuals with more knowledge about available mental health resources, and consequently more PBC, should be more likely to provide a mental health referral than individuals without the necessary knowledge base to do so.

In regards to help seeking for one's own mental health concerns, a number of studies have examined individuals' perceptions of barriers associated with seeking professional mental health services (e.g., Cigularov, Chen, Thurber, & Stallones, 2008; Gilchrist & Sullivan, 2006; Helms, 2003; Mansfield, Addis, & Courtenay, 2005; Sheffield, Fiorenza, & Sofronoff, 2004). Researchers have demonstrated that individuals with fewer perceived barriers to help seeking were more willing to seek help for themselves from formal sources (e.g., Sheffield et al., 2004). Correspondingly, significant

relationships have been established between PBC and intentions to seek help from MHPs within the self-referral literature for both personal emotional problems and suicidality (Skogstad et al., 2006). Similar research is warranted within the context of peer helping in order to examine the impact of PBC on peer referral behaviors following interactions with at-risk peers. One would expect a similar relationship among constructs in regard to peer referrals to MHPs, such that lower perceived barriers and higher levels of PBC would be associated with stronger intentions to provide a peer referral.

A factor that has been identified in the self-referral literature that may be significantly related to one's PBC regarding referring an at-risk peer to a formal helper is one's level of emotional competence. Emotional competence (EC), or emotional intelligence, has been defined as the ability to identify, describe, and understand emotions within oneself and in others, as well as the ability to manage emotions in an effective and non-defensive manner (Ciarrochi, Blackledge, Bilich, & Bayliss, 2007; Rickwood et al., 2005). Various EC skills overlap with the skills thought to be necessary to engage in the peer referral process. The peer-referral process requires that an individual interprets information in the environment accurately and recognizes that a problem exists for the at-risk peer. It could be argued that EC skills, such as the perception of emotion, the understanding of emotion, and the use of emotion to facilitate thinking, may all be significantly related to an individual's ability to recognize that a problem exists for the at-risk peer. In other words, an individual who is equipped to identify and understand the emotional warning signs of at-risk peers, such as anger, sadness, and hopelessness, may be more likely to recognize that a potential problem exists than an individual who does not possess such skills. Furthermore, EC skills may also be significantly related to an

individual's ability to effectively engage in the behavior of referring a peer to a formal helper. Suggesting or encouraging an at-risk peer to consult a formal helper would, at minimum, require a conversation between the individual and the at-risk peer. It is hypothesized that an interaction of this nature would require a wide range of emotional competencies, such as perceiving and understanding the emotional experiences of oneself, as well as experiences of the at-risk peer while using emotions to facilitate effective reasoning and communication.

Researchers have not yet explored the relationship between EC, PBC, and peer-helping intentions or behaviors. However, studies examining help-seeking for oneself have shown significant relationships between EC and help-seeking intentions.

Adolescents characterized as having low EC had the lowest intentions to seek help from informal sources and formal sources, and the highest intentions to seek help from no one (Ciarrochi et al., 2003). Older adolescents and adults have demonstrated a similar pattern of behaviors; those characterized as having low levels of EC were less likely than those high in EC to seek help for themselves (Ciarrochi et al., 2003; Ciarrochi & Deane, 2001). Researchers have hypothesized that individuals low in EC may simply lack the skills required to effectively seek help from others (Rickwood et al., 2005). By extension, individuals with low levels of EC may lack the skills required to effectively refer at-risk peers.

In summary, few studies have examined the construct of PBC over performing specific, recommended peer helping behaviors (Lawrence & Ureda, 1990; Pearce et al., 2003) and no studies have examined potential predictors of PBC. As described previously, although Pearce and colleagues (2003) measured participants' PBC over

speaking to at-risk peers about their feelings, methodological limitations restricted their examination of the relationships between PBC and intentions to speak to peers and the actual behavior of speaking to peers about their feelings. However, in a study of college students' responses to at-risk peers, Lawrence and Ureda (1990) found that perceived self-efficacy, which Ajzen (1991) has argued is conceptually consistent with the construct of PBC, was a significant predictor of intentions to ask a suicidal peer whether he/she was thinking of suicide. In fact, of all of the predictors examined (i.e., knowledge of a helpful response, level of emotional comfort, knowledge of suicidal behavior), perceived self-efficacy was the strongest predictor of the recommended helping behavior. The current project extended this line of research by examining the relationship between college students' PBC and their intentions to refer at-risk peers to MHPs. In addition, EC was incorporated and examined within the larger TPB model predicting peer-referral intentions. It was hypothesized that EC would be significantly and positively related to PBC, or one's perception of his/her ability to refer an at-risk peer to a formal helper. In doing so, the current study extended previous research in this domain by examining the role of EC within the peer-referral process.

The Current Study

In summary, existing literature suggests that the role of "gatekeepers" (e.g., gateway medical service providers, family members, teachers, peers) is crucial in closing the service gap for individuals at-risk for suicide and in need of mental health services (e.g., Hinson & Swanson, 1993; Stiffman et al., 2004; Zwaanswik et al., 2007). Peer gatekeepers, in particular, seem to be a population of utmost importance for college-age individuals, due to the fact that young adults most commonly turn to friends, as opposed

to others in their environment (e.g., parents, siblings, MHPs), in times of distress (e.g., Nada-Raja et al., 2003). Although peers have the potential to provide valuable assistance to individuals at-risk for suicide, data suggests that they often do not respond in ways that are consistent with the recommendations provided by suicide prevention experts (e.g., Mishara, 1982; Mueller et al., 1996). The identification of factors associated with the endorsement of recommended peer-helping strategies is essential in order to inform college suicide prevention efforts and, ultimately, to connect college students at-risk for suicide with much needed mental health services, which is consistent with the U.S. Department of Health and Human Services' National Strategy for Suicide Prevention (U.S. Department of Health and Human Services, 2001).

The current project extended the literature in this area by utilizing the theoretical framework provided by the TPB to examine potential predictors of peer referral intentions for individuals at risk for suicide. A model illustrating the TPB constructs as they apply to peer referral intentions is presented in Figure 2. Attitudes towards referring at-risk peers, subjective norms regarding referring at-risk peers, and PBC over referring at-risk peers, are all theoretically predictive of individuals' intentions to refer at-risk peers to a MHP.

In addition, the current study sought to integrate and build upon prior research on self-referral behaviors by examining factors that may also contribute to intentions to refer peers at risk for suicidality. The TPB was utilized as a general framework within which to link the findings from prior studies of formal help-seeking. The TPB constructs were examined as potential mediators between constructs that have been identified as significant predictors of help-seeking intentions for oneself, namely attitudes towards

seeking professional help, perceived stigma associated with formal help-seeking, and emotional competence (see Figure 3).

A fourth variable that was added to the peer-referral model was symptom severity. Symptom severity has been identified as a key component within the GPM and multiple models of formal help-seeking for oneself (e.g., SBM, IPM, NEM). As discussed previously, empirical research has supported the inclusion of symptom severity as a predictor variable in help-seeking models; data suggests that individuals' perceptions of symptom severity are significantly and positively related to one's own help-seeking behavior (e.g., Bebbington et al., 2000; Jayasinghe et al., 2005; McCracken et al. 2006), as well as to the provision of referrals to formal helpers for others (Mueller & Waas, 2002; Stiffman et al., 2000; Stiffman et al., 2004). Given the theoretical support and empirical evidence for symptom severity as a predictor of help-seeking intentions and behavior, the role of symptom severity was examined in the proposed study.

Although the TPB was originally designed as a comprehensive model, Ajzen (1991) has acknowledged that extending it to include additional variables is warranted if doing so contributes significantly to the theory's predictive capability. Therefore, the current project examined an extended model of the TPB, which includes symptom severity, attitudes towards seeking professional help, perceived stigma, and emotional competence as additional constructs, as has been done previously by researchers in other fields of psychology (e.g., Blue, 2007; Cha, Kim, & Patrick, 2008; Kakoko, Astrom, Lugoe, & Lie, 2006; Levin, 1999). As such, the purpose of this study was to provide preliminary evidence that the TPB has utility in this line of research. A model illustrating the extended TPB model as it applies to peer referral intentions is presented in Figure 4.

Using a mixed experimental and correlational design, the current study examined college students' referral intentions following hypothetical interactions with peers at-risk for SRB.

Aims and Hypotheses

The primary aim of the current study was to examine the extent to which college students' attitudes, subjective norms, and perceived behavioral control (PBC), predict their intentions to refer peers at-risk for suicide related behavior (SRB) to a mental health professional (MHP). Specifically, regardless of the level of symptom severity, it was hypothesized that:

1. Attitudes towards referring an at-risk peer to a MHP would be a significant predictor of intentions to refer an at-risk peer to a MHP.
2. Subjective norms associated with referring an at-risk peer to a MHP would be a significant predictor of intentions to refer an at-risk peer to a MHP.
3. PBC over referring an at-risk peer to a MHP would be a significant predictor of intentions to refer an at-risk peer to a MHP.

A secondary aim of the current study was to examine the role of symptom severity within an extended TPB model. Specifically, it was hypothesized that:

4. Symptom severity would be a significant predictor of intentions to refer an at-risk peer to a MHP.
5. Symptom severity would moderate the predictive relations between PBC, SN, and attitudes towards referring and intentions to refer. Specifically, the predictive ability of each TPB construct was expected to be the strongest in the low severity group, slightly weaker in the moderate severity group, and the weakest in the high

severity group. More specifically, referral intentions were expected to be high in the high severity condition; regardless of attitudes, perceived norms, or PBC, individuals in this condition were expected to report high intentions to refer. However, referral intentions were expected to vary depending on attitudes, perceived norms, and PBC in the lower severity conditions, such that individuals with positive attitudes towards referral, high levels of perceived norms, and high levels of PBC would be more likely to refer than individuals with poor attitudes towards referral, low levels of perceived norms, and low levels of PBC.

Analyses were also conducted to examine potential predictors of the TPB constructs. Specifically, it was hypothesized that:

6. Attitudes towards seeking help from a mental health professional would significantly predict the attitudes towards referring an at-risk peer to a MHP.
7. Perceived stigma associated with seeking help from a mental health professional would significantly predict participants' perceived norms regarding intentions to refer.
8. Emotional competence would significantly predict participants' perceived behavioral control regarding intentions to refer.

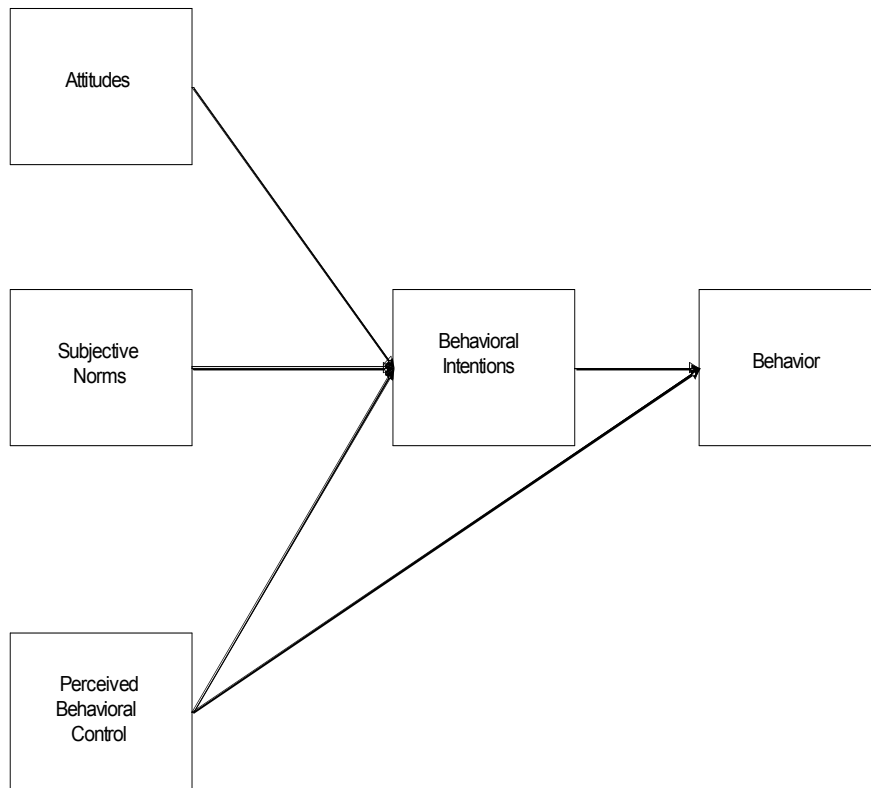


Figure 1. Theory of Planned Behavior

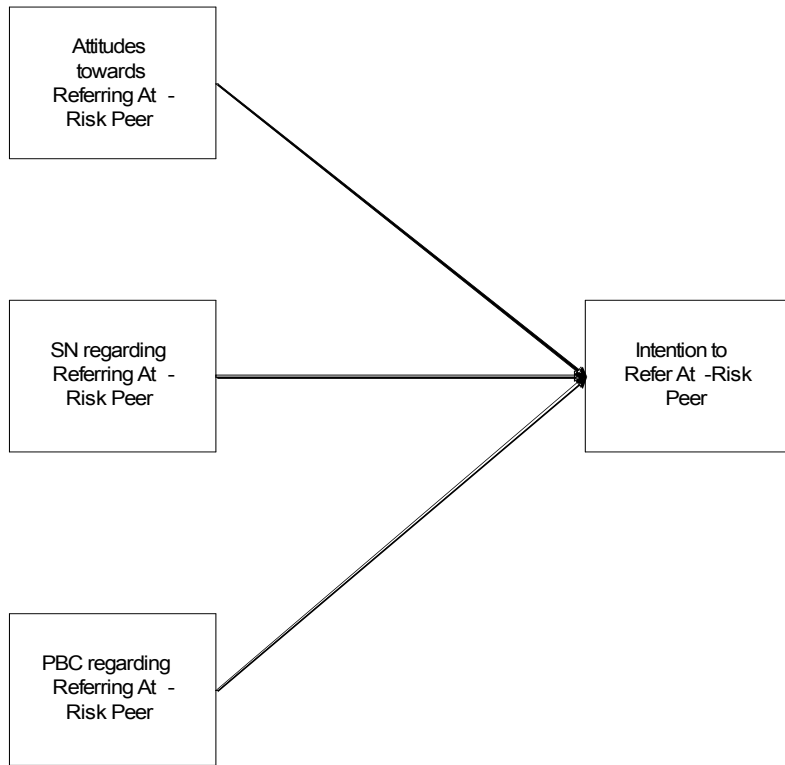


Figure 2. An Application of the Theory of Planned Behavior for Peer Referral Intentions

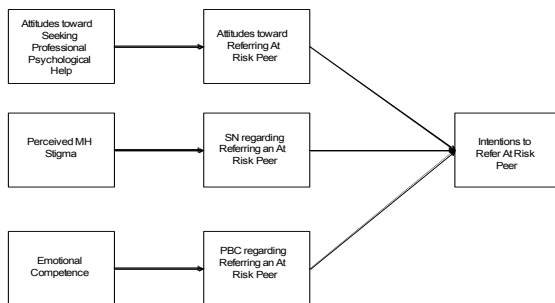


Figure 3. An Extended Model of the Theory of Planned Behavior for Peer Referral Intentions

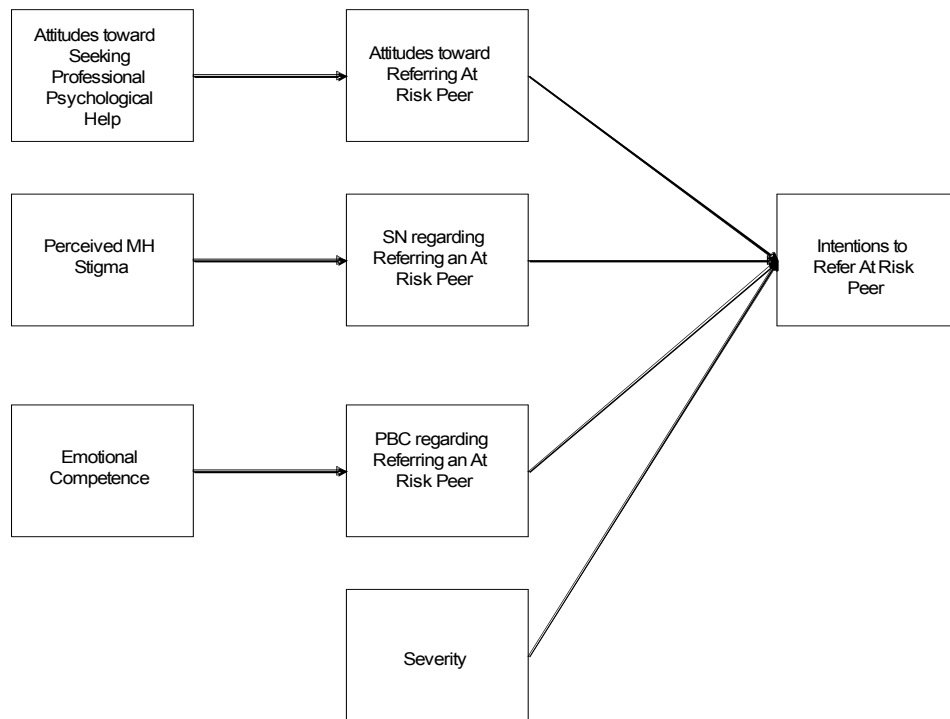


Figure 4. Theoretical Model

Method

Participants

Participants were students recruited from undergraduate psychology courses at the University of South Florida (USF). Kline (2005) recommends including 20 participants for every parameter included in the comprehensive model in order to achieve enough power for a medium effect size. Given that the comprehensive model in the proposed study included 13 parameters, the minimum sample size for the current study was 260 students. All students were recruited through Sona, an online recruiting and data collection program, and received course credit in exchange for their participation. In order to participate, individuals must have been 18 or older, registered as either a part-time or full-time USF undergraduate student, and capable of reading and speaking English.

The sample included 284 female college students. The mean age of participants was 22.46 (SD = 4.22). In regards to race, the sample was 62.3% White, 14% Black, 5% Asian and 1% Native American. In terms of ethnicity, the sample was 20% Hispanic. Participants consisted of 6% freshman, 12.7% sophomores, 33.5% juniors, and 46.1% seniors. The remaining 1.8% of participants described their educational status as “other,” as it was not properly characterized by one of the aforementioned categories. In terms of experience with mental health services, 42.3% of participants indicated past or current mental health service utilization, 21.2% reported referring an individual to a mental

health professional for suicidality, and 48.4% reported referring an individual to a mental health professional for other reasons.

Participants were randomly assigned to low (n=93), moderate (n=99), and high (n=92) suicide risk conditions. Analyses confirmed successful randomization, which was indicated by non-significant differences on demographic characteristics between the low, moderate, and high risk groups (See Results section).

Significant gender differences have been consistently reported in the self- and peer-helping literatures. Regardless of age, females are more likely than males to report positive help-seeking attitudes (e.g., Leong & Zachar, 1999) and to seek help from both formal and informal sources (e.g., Garland & Zigler, 1994; Rickwood & Braithwaite, 1994; Husaini et al. 1994). Similarly, adolescent and young adult females are more likely than males to engage in recommended peer-helping strategies (Gould et al., 2004; Kalafat & Elias, 1992; Wellman & Wellman, 1986). For example, analyses of self-report data from both high school (Norton et al., 1989) and college-age (Mueller & Waas, 2002; Wellman & Wellman, 1986) student samples have indicated that it is more common for females than males to discuss thoughts and feelings with a suicidal individual, whereas it was more common for males than females to avoid discussing suicide with anyone who was suicidal. Similarly, females are more likely than males to provide direct assistance to suicidal peers (e.g., take peer to psychologist's office; Mueller & Waas, 2002), and to report greater levels of concern regarding suicidal individuals than males (Kalafat & Gagliano, 1996). Furthermore, similar patterns of helping behaviors have been reported in response to a wide variety of other problems (e.g., illness, loss of a job, divorce, smoking cessation); overall, females are generally more helpful than males in that they

report a greater willingness to help, spend more time helping, give higher quality help, and feel more empathy and sympathy in response to their friends' problems (e.g., George et al., 1998; Patten et al., 2004). In order to control for such gender effects, participation in the current study was limited to female participants and the hypothetical scenarios presented in the vignettes only involved female targets.

Materials

Vignette stimuli. Three vignettes were created for use in the current study (see Appendix A). Each vignette describes an individual who is displaying risk factors associated with SRB. The literature supports the use of analogue vignette methodology, such as the vignettes created for use in this study (e.g., Alexander & Becker, 1978; Cook & Rumrill, 2005; Finch, 1987), as has been done in other studies of peer-helping and help-seeking behavior (e.g., Ben-Porath, 2002; Dunham, 2004; Jorm et al., 2005; Kalafat & Gagliano, 1996; Mueller & Waas, 2002; Raviv et al. 2000). This type of methodology is more indirect than assessing in-vivo responses to peers in distress, but it is much more systematic and controlled. Analogue studies are generally considered appropriate when in-vivo examinations would be “impossible, impractical, and/or unethical” (Cook & Rumrill, 2005, p. 94). It could be argued that observing and analyzing naturally occurring interactions between individuals at-risk for SRB and their peers would be impossible, impractical, as well as unethical. Therefore, despite the limitations associated with external validity, the use of analogue methodology is appropriate for the current research questions.

In an effort to minimize threats to external validity, the construction of the vignettes relied upon the recent theoretical work of Joiner (2005) as well as the clinical

recommendations for suicide assessments in crisis centers put forth by the National Suicide Prevention Lifeline (NSPL; Joiner et al., 2007), as they are based upon an integration of prior theories (Durkheim, 1897; Beck, Brown & Berchick, 1990; Baumeister, 1990; Linehan, 1993) and the evaluation of the current research literature on predictors of SRB both within and beyond crisis center populations. The panel of experts in suicide research that established the NSPL recommendations (Joiner et al., 2007) proposed a comprehensive theoretical model to organize the immense literature on risk and protective factors associated with SRB. They suggested that four core domains are associated with an individual's likelihood of engaging in SRB: suicidal desire (i.e., feeling hopeless, helpless, or isolated), capability (i.e., an individual's fearlessness about and previous exposure to risky, potentially harmful situations), suicidal intent (i.e., the extent to which an individual actually wants to die), and buffers against suicidality (i.e., the presence of factors that enhance an individual's desire and capability to live).

Joiner et al. (2007) outlined how the four domains of the NSPL model interact and characterize low, moderate, and high risk for SRB. The existence of any one suicidal risk domain (e.g., desire or intent or capability) indicates a low to moderate risk of SRB. In such circumstances, the presence or absence of buffers against suicidality is thought to either raise or lower risk of SRB, accordingly. For example, the presence of suicidal desire and buffers against suicidality indicates low risk of SRB, whereas the presence of suicidal desire without buffers against suicidality indicates moderate risk of SRB. Similarly, when suicidal desire is paired with either capability or intent, risk is higher and is considered to be at a moderate level. Again, in such cases, the determination of whether risk is particularly high rests with the safety afforded by buffers; if safety is high,

risk is more moderate, though still elevated. Generally, the presence of buffers has been hypothesized to decrease the risk of suicide when suicidal desire, capability, and intent are not all present simultaneously. Those at highest risk for SRB exhibit a combination of suicidal desire, capability, and intent. It has been postulated that, in high risk situations the presence or absence of buffers does not significantly impact the level of suicidal risk. Vignettes constructed for the proposed study, reflect the characteristics outlined by Joiner et al. (2007) for low,¹ moderate,² and high risk³ situations.

In addition, the vignettes designed for use in the current study are also consistent with recent research suggesting that risk of future SRB is significantly predicted by the number of certain “high risk” risk factors present at intake. More specifically, a study examining potentially useful algorithms for clinician use found that for a sample of individuals engaged in mental health treatment, risk of future SRB was significantly related to the presence of certain “high risk” risk factors (Karver, Tarquini, & Totura, 2008). First, of 48 potential risk factors for SRB, six were identified as the most predictive, in that they each uniquely predicted SRB within a six month follow-up period.⁴ Second, future SRB was significantly related to the number of the most

¹ The low risk vignette includes risk factors from the desire domain (e.g., sadness, loss of energy) and protective factors from the buffers domain (e.g., friends, future plans).

² The moderate risk vignette includes risk factors from the desire domain (e.g., sadness, loss of energy) and capability domain (e.g., substance use, careless behavior), as well as protective factors from the buffers domain (e.g., friends, future plans).

³ The high risk vignette includes risk factors from the desire (e.g., sadness, loss of energy), capability (e.g., substance use, careless behavior), and intent (e.g., suicide plans) domains, and does not include any protective factors from the buffers domain.

⁴ The six variables that uniquely predicted later SRB included: (1) SRB with intent to die in the six months prior to intake, (2) SRB without intent to die in the two weeks prior to intake, (3) carelessness, (4) substance use, (5) loss of temper, and (6) a lack of friends.

predictive risk factors present at intake; clients with three of the six most predictive risk factors at intake had at least a 42% chance of engaging in SRB during a six month follow-up period, and clients with four or more risk factors present at intake had at least a 70% chance of engaging in SRB within the six-month follow-up period. The number and type of risk factors represented in the low, moderate, and high risk vignettes used in the current study are consistent with these findings; none of the most predictive risk factors are included in the low risk vignette, three of the most predictive risk factors are included in the moderate risk vignette, and four of the most predictive risk factors are included in the high risk vignette.⁵

Prior to implementing the current study, the vignettes were piloted on a small group (N=17) of clinical psychology graduate students. In order to confirm that the vignettes adequately represent low, moderate, and high risk individuals, pilot participants rated the severity of each case. One-way within-subject ANOVA revealed that participants in the pilot study rated the three vignettes significantly differently, $F(2, 32) = 261.44, p < .001$. Specifically, participants rated the high severity vignette (M = 4.00, SD = 0.00) as more severe than the moderate severity vignette (M = 3.06, SD = .24), which they rated as more severe than the low severity vignette (M = 2.06, SD = .43). Approximately 94% of the variance in participants' severity ratings across vignettes was attributable to the vignette to which they were assigned.

Theory of Planned Behavior Questionnaire. The TPB Questionnaire for the current study was created based upon the specific guidelines provided by Ajzen (2006) regarding the construction of a TPB questionnaire (see Appendix B). The TPB

⁵ The moderate risk vignette includes: (1) carelessness, (2) substance use, and (3) loss of temper. The high risk vignette includes: (1) carelessness, (2) substance use, (3) loss of temper, and (4) a lack of friends.

Questionnaire consists of four subscales assessing each TPB construct: (1) Attitudes regarding referring the at-risk peer to a MHP (2) Subjective Norms associated with referring the at-risk peer to a MHP (3) PBC over referring the at-risk peer to a MHP, and (4) Intentions to refer the at-risk peer to a MHP. The subscales consist of six, eight, eight, and three items, respectively. Items from each subscale are measured using 7-point response scales (e.g., 1 = “Extremely Unlikely”, 7 = “Extremely Likely”). In order to prevent a response bias, approximately half of the items are negatively worded and reverse scored. Each subscale yields a composite score, which consists of the mean of the corresponding items. Other measures designed in this manner have been shown to be reliable and valid (e.g., Armitage, 2008; Gratton et al., 2007). In the current study, alpha’s ranged from .74 to .93 on the TPB subscales (see Results section Table 1).

In an effort to present a balanced assessment of possible peer responses and to minimize the extent to which participants would suspect that the study’s primary aim was to examine referral behavior, items assessing additional peer-responses, both recommended and non-recommended behaviors, were included. More specifically, the TPB Questionnaire includes items assessing attitudes, subjective norms, PBC, and/or intentions associated with the following behaviors: talking to a friend about the situation, talking to her about her feelings, waiting to gather more information before doing or saying anything, cheering her up by talking her out of her negative feelings, telling her that her new pattern of behavior is unacceptable, not saying or doing anything, telling her parents about the situation, encouraging her to look on “the bright side” of things, and trying to distract her from her problems.

Open-ended peer responses. In order to further minimize the likelihood that participants would respond to the items in the TPB Questionnaire in a socially desirable fashion, two open-ended questions were presented immediately following the vignette, but before the TPB Questionnaire was administered (see Appendix C). The questions were adapted from a version of an open-ended peer-response question previously used in several studies to assess peer responses to hypothetical scenarios (Kalafat et al., 1993; Kalafat & Gagliano, 1996; Dunham, 2004). Specifically, participants were provided with the following instructions: “Please take a moment and think about how you would respond in this situation. What would you say and/or do in this situation?” After responding to the first open-ended question, participants were presented with the instructions for the second open-ended item: “Now, please take your time and provide as clear an explanation as possible for the response provided above. Include as many details as you can about your thought process and the reasoning behind your decision.” It was presumed that administering these open-ended items would decrease the likelihood that participants would provide socially desirable responses on the subsequent TPB Questionnaire, as doing so would be inconsistent with the open-ended responses provided initially.

Previous studies (Dunham, 2004; Kalafat et al., 1993; Kalafat & Gagliano, 1996) have coded responses to the open-ended item into either one of three or one of four mutually exclusive and exhaustive categories. The coding system for the current study utilized this framework, but adapted the categories to fulfill the primary aim of examining the process of connecting at-risk individuals to mental health services. Two independent raters coded the responses into one of four mutually exclusive categories including: (1)

the expression of intentions to connect the peer to a formal helper (e.g., bring the peer to a counselor, provide the peer with mental health referral information, suggest the peer contact a MHP), (2) the mention or acknowledgement of a MHP, but no expression of intentions to make a referral, (3) the expression of intentions to contact a friend or family member for assistance or advice, or (4) other responses (e.g., wait to see if situation gets worse before doing anything, talk to the peer, spend time with the peer). Cohen's Kappa was used to ensure substantial interrater reliability (Landis & Koch, 1977). Level of agreement was found to be very good ($K=.88$). Items coded differently were discussed and assigned an agreed upon rating.

Demographic information. Demographic information was obtained through the use of a self-report Demographic Information Questionnaire (see Appendix D). Participants provided information regarding their age, ethnicity, year in school, and major area of study. In addition, participants provided information regarding their personal and social history of mental health service utilization, as well as their personal and social experience with the provision of mental health referrals.

Perceived severity. Participants' perceived severity of the scenario presented in the vignette was assessed by a single item adapted from an item developed and utilized in a previous study (Raviv et al., 2000). Participants were asked to respond on a five-point scale (1="Very minor"; 5="Very severe") to the question: "How would you describe the level of severity of the situation described in the vignette?" (see Appendix E).

Attitudes towards seeking professional psychological help. The Attitudes towards Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF; Fischer & Farina, 1995) was used to assess participants' mental health treatment attitudes (see

Appendix F). The measure includes 10 items that are each rated on a four-point Likert scale (0="Disagree" to 3="Agree"). Low scores indicate a negative attitude toward seeking professional psychological help and high scores indicate receptivity and acceptance for seeking care from mental health professionals. A total score is created by reverse scoring five items and then summing all items. When administered to college student samples, the ATSPPH-SF has demonstrated internal consistency ranging from .77 to .84 (Constantine, 2002; Elhai, Schweinle, & Anderson, 2008; Fischer & Farina, 1995; Komiya et al., 2000), a one-month test-retest reliability of .80, and a correlation of .87 with the longer, 29-item version of the scale (Fischer & Farina, 1995). The current study yielded an alpha of .79, which indicates adequate internal consistency. In addition, research has demonstrated that individuals who obtain higher scores on the ATSPPH-SF are more likely to seek mental health services than those who obtain lower scores (Fischer & Farina, 1995) and that ATSPPH-SF ratings are significantly related to the total number of recent mental health treatment visits to providers (Elhai et al., 2008), which provides evidence that the ATSPPH-SF is a valid indicator of mental health treatment attitudes.

Stigma associated with receiving psychological help. The Stigma Scale for Receiving Psychological Help (SSRPH; Komiya, Good, & Sherrod, 2000) is a five-item self-report measure that was used to assess participants' perceived stigma associated with mental health treatment (see Appendix G). Each item is rated on a four-point Likert scale (0="Strongly Disagree" to 3="Strongly Agree"). Total scores on the SSRPH, which range from 0 (lowest perceived stigma) to 15 (highest perceived stigma), are calculated by summing each item. The SSRPH has demonstrated internal consistency ranging from

.71 to .74 (Golberstein, Eisenberg, & Gollust, 2008; Komiya et al., 2000; Pyne et al., 2004). Research supports the validity of the SSRPH as a measure of perceived stigma as it has been found to be significantly and negatively correlated with attitudes towards psychological help-seeking and emotional openness (Komiya et al., 2000). The SSRPH demonstrated adequate internal consistency in the current study ($\alpha=.79$).

Emotional competence. Emotional competence was measured using the Assessing Emotions Scale (AES; Schutte, et al., 1998), a 33-item self-report questionnaire that assesses the extent to which respondents characteristically identify, understand, harness, and regulate emotions in themselves and others (see Appendix H). Participants responded to each AES item on a five-point Likert scale (1=“Strongly disagree” to 5 =“Strongly agree”), with higher score totals indicating greater emotional competence. Three items on the AES are reverse scored. The AES has demonstrated adequate internal ($\alpha=.87$ to $\alpha=.93$) and test-retest ($r=.78$) reliability (Brackett & Mayer, 2003; Brown & Schutte, 2006; Schutte et al., 1998). The AES has been shown to significantly relate to observer ratings of emotional competence (Schutte & Malouff, 2001) as well as other theoretically related constructs including attention to feelings, clarity of feelings, mood repair, optimism, and impulse control (Schutte et al., 1998). The AES demonstrated good internal consistency in the current study ($\alpha=.93$).

Behavioral proxies of helping behavior. In order to examine the relationship between intentions to perform a helping behavior (i.e., intentions to refer a peer at risk to a MHP) to a proxy of actual helping behavior, three sets of items were administered to assess participant’s interest and willingness to engage in various helping behaviors associated with the prevention of suicidality. Participants were informed that our suicide

prevention research group was considering developing a brochure, organizing a workshop, and conducting focus groups. Participants interest in each of the three activities was then assessed using a 4-point Likert scale (1= “Not Interested”, 4 = “Extremely Interested”). Then, under the guise that the research group would potentially contact participants in the future when such activities were organized, interested participants were asked to provide an email address. As part of the debriefing procedure, participants were informed that the research team had no intention of constructing a brochure, organizing a workshop, or conducting focus groups. A rationale for the deception was provided.

Prior to implementing the current study, all questionnaires were piloted on a small group of undergraduate psychology students. In addition to completing all items as instructed, the participants were asked to answer questions regarding the clarity and difficulty of the items. Minor modifications were made in order to simplify some of the response options; no substantive changes were made to the questionnaire.

Procedure

Participants were recruited through Sona, the online recruiting and data collection program. The study was posted online and was made available to participants who met the inclusion criteria outlined above. After accessing the online survey, informed consent was obtained. Following the informed consent process, the participants were randomized to the low, moderate, or high severity condition, and were instructed to read the corresponding vignette. After the presentation of the vignette, participants responded to the open-ended questions. They then completed the TPB Questionnaire, followed by the Perceived Severity item, Demographics Questionnaire, ATSPPH-SF, SSPPH, and AES.

All data collected was de-identified. To debrief, an explanatory paragraph was presented before participants completed the web-based procedure; participants were not permitted to return to the questionnaires to modify any of their initial responses. Specifically, respondents were informed that this was a study aimed to examine mental health help-seeking behavior. The deception technique regarding the behavior proxy items was revealed and the rationale for the procedure was provided. In the event that the participants were interested in seeking mental health services for themselves or for others, information about local mental health resources was provided. Following the presentation of the mental health referral information, participants were provided with a telephone number that could be used to contact the principal investigator if they had any further questions or concerns. Upon completion of the study, participants were given course credit for their participation.

Preliminary analyses. Descriptive statistics were generated for all study variables. Means and frequencies for demographic and baseline variables were compared between severity groups. Analysis of variance (ANOVA) was used to compare continuous variables, and Pearson chi-square tests were used to compare categorical variables across groups.

Descriptive statistics were also generated for TPB subscales by severity group. Specifically, the normality of the distributions were analyzed by calculating each subscale's skewness and kurtosis, range, as well as mean and standard deviations. In addition, Cronbach's alpha was computed for each subscale. ANOVA was also conducted for each TPB subscale to assess for possible differences between severity groups on each subscale. Significant ANOVA results were followed by post-hoc analyses

using Tukey's Honestly Significant Difference (HSD) test to determine which particular severity groups had significant differences.

Descriptive statistics and group differences were also examined for the Predictor Scales. As discussed above, skewness, kurtosis, means, ranges, and standard deviations were all computed to analyze the distributions of these variables. Cronbach's alpha was once again computed as a measure of internal consistency. ANOVA was also conducted for each Predictor Scale to assess for differences between severity groups.

The mean and standard deviation of participants' severity ratings for each group were calculated, and an ANOVA was conducted to determine whether these severity ratings differed across groups. Post-hoc analyses with Tukey's HSD were conducted contingent upon significant results of the omnibus ANOVA.

Bivariate associations between TPB predictor variables and intentions to refer, between predictor constructs and intentions to refer, and among predictor constructs themselves were assessed using Pearson correlations. These bivariate associations were conducted within severity groups.

Pearson chi-square tests were used to examine group differences in open-ended responses of behavioral intentions. Analyses were also conducted to examine bivariate associations among the different intentions variables.

Primary analyses. To test the primary study aims (Hypotheses 1-8), we tested a multi-group structural equation model using AMOS 17.0 (Arbuckle, 2008). The full information maximum likelihood estimation method was used to generate the standardized parameter estimates because it is robust to violations of multivariate normality and performs well for model estimation with missing data by estimating

variable means and intercepts (Okleshen-Peters & Enders, 2002). All data were screened prior to analysis to ensure normality; all distributions were sufficiently normal to assume multivariate normality (Kline, 2005). Collinearity statistics and diagnostics, including the variable inflation factor (VIF), the conditioning index and variance proportions associated with each variable, were conducted to examine possible multicollinearity. According to Belsley, Kuh, and Welsch (1980), a conditioning index greater than 30 coupled with variance proportions greater than .50 for two different variables is suggestive of problematic multicollinearity. Values of VIF greater than 10 are often regarded as evidence of multicollinearity as well (Cohen, Cohen, West, & Aiken, 2003).

The extended TPB model (see Introduction section, Figure 4) was tested using Kenny's (1999) three-step approach to testing model fit. First, the fit of a measurement model was tested with all possible correlations among the latent variable (i.e., Intentions to Refer) and observed variables (i.e., Predictor variables and TPB constructs) specified. Second, a structural model was tested in which "deleted" paths (i.e., paths that were not hypothesized in the theoretical model and thus implicitly set to 0) were tested to guard against specification error. Third, structural paths specified in the theoretical model were tested, and non-significant ($p > .05$) paths were trimmed. Nonsignificant direct paths were retained between any two variables for which an indirect path needed to be tested or when the effects of a variable needed to be controlled. Finally, multiple groups were specified using the risk group variable to determine if the predictors of intentions to refer differed for participants in different risk groups.

Multiple fit indices were used to assess model fit, and their standard cutoff recommendations (Hu & Bentler, 1999) were employed. The model chi-square statistic

was used to determine the fit of each model to the observed data. A non-significant model chi-square ($p > .05$) suggests good model fit, as it indicates that the model does not differ significantly from the observed data. However, this statistic is very sensitive to sample size. The comparative fit index (CFI) and root mean square error of approximation (RMSEA), which are not dependent on sample size, were also used to assess the fit of the model. A CFI greater than .95 and an RMSEA of .05 or less suggest good fit (Hu & Bentler, 1999).

A total of three models were tested. First, the hypothesized model was tested (see Introduction section, Figure 4). Then, deleted paths (specified to be zero in the hypothesized model) were tested using a saturated path model approach. Finally, the saturated model was modified into a trimmed model by trimming paths with non-significant t values and including paths that were statistically significant in the corresponding saturated model. All modifications to the initial model were theoretically and empirically justified.

Results

Descriptive Statistics

Demographic data are reported in Table 2. There were no significant differences between severity groups on any of the demographic variables assessed.

Means, standard deviations, skewness, kurtosis, and Cronbach's alphas for the Referral TPB subscales for each of the three conditions can be found in Table 1.

Examinations of the box plots indicate that the distributions of each TPB variable are shifted slightly towards the high end of the range. However, as evidenced by the small values of skewness and kurtosis, these subscales appear to be normally distributed within each severity group. Cronbach's alphas for the Attitudes, Perceived Behavioral Control, Subjective Norms, and Intentions to Refer variables were indicative of acceptable internal consistency.

Means and standard deviations of mental health service usefulness ratings are presented in Table 3. Groups did not differ significantly in their perceptions of the usefulness of services provided by various mental health treatment providers.

Means, standard deviations, skewness, kurtosis, and Cronbach's alphas for the Attitudes towards Seeking Professional Psychological Help, Stigma, and Emotional Competence for each of the three conditions are presented in Table 4. No measure had a skewness greater than 2 or a kurtosis greater than 3, indicating that all were normally distributed in each of the three conditions. Means for all study variables were in the expected range. No floor or ceiling effects were noted.

Intergroup Comparisons

The means and standard deviations of participants' vignette perceived severity ratings are reported in Table 5. As expected, severity ratings differed by group, $F(2, 279) = 61.40, p < .001$. Specifically, participants in the high severity group rated their vignette as significantly more severe ($M = 4.47, SD = 0.72$) than participants in the moderate severity group ($M = 3.71, SD = 0.75$), who reported their vignettes to be more severe than participants in the low severity group ($M = 3.35, SD = 0.62$). Computation of the coefficient of determination (COD; $SS_B/SS_{Total} = \eta^2$) demonstrated that 28.5% is the proportion of variance in severity ratings that can be accounted for by group.

Results of the ANOVA tests to determine differences among groups on the TPB Referral subscales are reported in Table 6. These tests revealed significant intergroup differences on all four TPB Referral subscales. Posthoc analyses using Tukey's HSD demonstrated differences between the low and high severity groups and the moderate and high severity groups for the Attitudes, Subjective Norms, Perceived Behavioral Control, and Intentions subscales. Compared to participants in the low and moderate severity groups, those in the high severity group reported attitudes that were less favorable towards referral. Moreover, participants in the high severity group reported that other peers like them would be more likely to make a referral, whereas participants in the low and moderate severity groups did not believe that it was as likely that other peers like them would make a referral. Finally, participants in the high severity group perceived that their ability to make a referral was higher than the perceived ability of participants in the low severity groups.

ANOVA tests were conducted to examine group differences on attitudes towards seeking professional psychological help, perceived stigma, and emotional competence. There were no significant differences between severity groups on any of the predictor variables assessed (see Table 7).

In regards to intentions to refer, participants in the high severity group reported greater intentions to refer on the TPB scale than participants in either the low or moderate severity groups. Analyses of the open-ended responses were consistent with self-reported TPB Intentions. In response to the open-ended question, significantly more participants in the high risk condition (39.6%) than in the low (8.6%) or moderate risk (12.1%) risk conditions reported intentions to refer the peer to a MHP ($\chi^2 = 33.41, p < .001$).

Bivariate Associations

Correlational analyses were run to determine the magnitude of the relationships between the constructs (See Tables 8 through 10). In each risk group, all TPB predictor variables were significantly correlated with each other, as well as with intentions to refer. Associations among predictor constructs and intentions to refer differed by risk group. Whereas Attitudes toward Seeking Professional Help was significantly associated with Perceived Stigma ($r = -.28, p < .01$), Emotional Competence ($r = .48, p < .01$), and Intentions to Refer ($r = .55, p < .01$) among participants in the high risk group, this variable was only related to Perceived Stigma ($r = -.39, p < .01$) and Intentions to Refer ($r = .33, p < .01$) among participants in the low risk group and only related to Intentions ($r = .32, p < .01$) in the moderate risk group. In each risk group, higher ratings of Perceived Stigma were significantly associated with lower Emotional Competence (Low: $r = -.28, p < .01$; Moderate: $r = -.27, p < .01$, High: $r = -.31, p < .01$).

Collinearity diagnostics were examined according to the criteria proposed by Belsely et al. (1980). Although VIF did not exceed 10 for any predictor (all VIFs < 4.8) and no conditioning index was greater than 30, the variance proportions for Attitudes and Subjective Norms were greater than .50. However, a supplemental confirmatory factor analysis demonstrated that the hypothesized 4-factor TPB model, $\chi^2(272, N = 284) = 1137.34, p < .001$; CFI = .85; RMSEA = .11 (90% confidence interval [CI] = .10-.11), AIC = 1299.34 fit the data better than a 3-factor model in which items about Attitudes and Subjective Norms loaded on a single latent variable $\chi^2(272, N = 284) = 1199.484, p < .001$; CFI = .83; RMSEA = .11 (90% CI = .10-.12), AIC = 1355.48. The Akaike Information Criteria (AIC) for the hypothesized model, which approaches significance, is lower than the AIC for the revised model, and is indicative of superior model fit (Akaike, 1974).

Analyses were conducted to determine the bivariate associations among the intentions to refer variables. Participants whose response to the open-ended question following the vignette indicated that they intended to make a referral to a mental health professional had higher ratings of intention on the TPB variable than those who did not indicate an intention to refer to a mental health professional ($r_{pb} = .36, p < .001$).

Analyses were conducted to determine the bivariate associations between participants' intentions to refer and the behavioral proxies. Participants' interest in each of the three behavior proxy activities were significantly correlated ($r = .39$ to $r = .67, p < .01$). Similarly, participants' provision of email addresses for each of the three behavior proxy activities were significantly correlated ($r = .48$ to $r = .62, p < .01$). Whereas participants' interest in receiving a brochure ($r = .22, p < .001$) and interest in attending a

workshop ($r = .12, p = .04$) were significantly associated with their intentions rating on the TPB questionnaire, their interest in attending a focus group was not associated with their questionnaire rating of intentions ($r = .08, p = .21$). Likewise, whereas participants' provision of an email address for receiving a brochure ($r = .18, p = .003$) and attending a workshop ($r = .12, p = .04$) were significantly associated with their intentions rating on the TPB questionnaire, their provision of an email address regarding attending a focus group was not associated with their questionnaire rating of intentions ($r = .05, p = .37$).

Hypotheses 1-4 and 6-8: Structural Equation Model of Predictors of Referral Intentions

The hypothesized, theoretical model (see Figure 4, Introduction section) evinced poor fit, $\chi^2(6, N = 282) = 72.15, p < .001$; CFI = .95; RMSEA = .20 (90% confidence interval [CI] = .16 - .24). As discussed above, paths were then tested in a saturated model. Multiple deleted paths (i.e., omitted from the hypothesized model a priori) were significant. These included paths from Attitudes towards Seeking Psychological Help to all three TPB predictors, as well as from two TPB predictor variables (i.e., Stigma and Emotional Competence) directly to Intentions to Refer. In addition, the paths from Stigma to Subjective Norms regarding peer-referral and from Severity to Intentions to Refer, which we specified a priori, were found to be nonsignificant and were thus trimmed. The final (trimmed) model (Figure 5) showed acceptable model fit, $\chi^2(4, N = 282) = 6.44, p = .17$ CFI = .998; RMSEA = .047 (90% confidence interval [CI] = .00 - .11). The final model explained 78.9% of the variance in intentions to refer.

As expected, each of the TPB constructs, Attitudes ($\beta = .52, p < .001$), Subjective Norms ($\beta = .32, p < .001$), and Perceived Behavioral Control ($\beta = .12, p = .004$), were significantly and positively related to Intentions to Refer. Attitudes, Subjective Norms,

and Perceived Behavioral Control accounted for 27%, 10%, and 1% of the variance in Intentions to Refer, respectively.

Also consistent with expectations (Hypothesis 6), Attitudes towards Seeking Professional Psychological Help was positively and significantly associated with Attitudes towards Peer Referral ($\beta = .38, p < .001$). Similarly, Emotional Competence was positively and significantly associated with Perceived Behavioral Control regarding Peer Referral ($\beta = .24, p < .001$).

Contrary to the original hypothesis, perceived severity was not a significant predictor of Intentions. Furthermore, a number of paths that were originally excluded from the original theoretical model were found to be statistically significant. Attitudes towards Seeking Professional Psychological Help was significantly and positively associated with Subjective Norms ($\beta = .37, p < .001$) and Perceived Behavioral Control ($\beta = .40, p < .001$) regarding Peer Referral. Emotional Competence was significantly and positively associated with Subjective Norms ($\beta = .14, p = .01$) and Attitudes towards Referring ($\beta = .16, p = .004$). Similarly, direct paths from two of the TPB predictor variables to Intentions to Refer were unexpectedly statistically significant. Perceived Stigma associated with Seeking professional Help was positively and significantly associated with Intentions to Refer ($\beta = .10, p < .001$). Furthermore, Emotional Competence was negatively and significantly associated with Intentions to Refer ($\beta = -.06, p < .04$).

Hypothesis 5: Multi-group Structural Equation Model

Results of the multi-group analysis revealed that the structural equation model reported above fit the data equally well for participants in the three different risk groups

($\chi^2 = 11.39, p .08$). For all three risk groups, the CFI and RMSEA were above .95 and below .05, respectively. Contrary to expectations, symptom severity did not moderate the extent to which the TPB variables predicted participants' Intentions to Refer.

Supplemental Analyses: Mediation Effects

Examination of Baron and Kenny's (1986) conditions for mediation further demonstrated that each of three TPB constructs significantly mediated the relation between Attitudes towards Seeking Psychological Help and Intentions to Refer. These conditions specify that: (a) there must be a significant association between the predictor and criterion variables; (b) in an equation including both the mediator and the criterion variables, there must be a significant association between the predictor and the mediator and between the mediator and the criterion variables; and (c) the direct association between the predictor and criterion variables must decline when both the mediator and predictor variables are included in the equation. In a simple linear regression model without the TPB constructs, but with the TPB predictors, Attitudes towards Seeking Psychological Help significantly predicted Intentions to Refer (criterion a; $\beta = .43, p < .001$). In the trimmed path model discussed above, each of the TPB constructs significantly predicted Intentions to Refer, as reported above (criterion b). Lastly, the direct association between Attitudes towards Seeking Psychological Help and Intentions to Refer declined (criterion c; $\beta = .06, p = .08$). Bootstrap estimates further demonstrated that Attitudes towards Seeking Psychological Help ($\beta = .46, p = .001$) had a significant indirect effect on Intentions to Refer. Bootstrapping methodology was utilized because, as discussed by Hayes (2009), bootstrapping is more powerful than the Sobel test in testing intervening variable effects. Unlike the Sobel test, bootstrapping makes no

assumptions regarding the normality of the sampling distribution, which is preferable since the sampling distribution tends to be asymmetric.

Supplemental Analysis: Additional Predictors

A supplemental analysis was conducted in which four exploratory covariates were added to the structural equation model. Research on the TPB has shown that, after taking into account the TPB determinants, past behavior explained, on average, a further 7.2% of the variance in intention (Connor & Armitage, 1998). Therefore, two constructs assessing past behavior were added to an exploratory supplemental analysis: history of making a mental health referral and history of utilizing mental health services.

In addition to participants' past behavior, two constructs assessing one's observations of relevant behaviors in their social network were also added to the exploratory model: knowledge of someone who made a referral and knowledge of someone who has participated in mental health treatment. Based upon the theoretical underpinnings of the TPB, one's social norms regarding the provision of mental health referrals are influenced by the mental health referral behavior observed in one's social network. Therefore, it follows that one's observations of others' referral behaviors and use of mental health resources would influence their subjective norms, and subsequent referral behavior. Furthermore, the help-seeking literature has demonstrated that having knowledge of someone who sought professional mental health services is positively and significantly associated with attitudes, expectations, and intentions to seek professional help (Vogel et al., 2007). To date, those relationships have not been explored in the peer-referral literature.

As noted previously and displayed in Table 2, the severity groups did not differ significantly on any of the personal or social history variables assessed. Furthermore, bivariate correlations were conducted among the personal and social history variables (See Table 11). All personal and social history variables were significantly and positive correlated ($r=.24$ to $r=.47$, $p<.01$). Individuals with a positive history of mental health service use were likely to know others who also utilized mental health services, they were likely to report a personal history of mental health referral provision, and they were likely to report knowing someone in their social network who had at some point in the past provided a mental health referral. Likewise, individuals who knew of others who had utilized mental health services were more likely to endorse a positive personal and social history of referral behavior. Finally, those who reported a positive personal history of referral behavior were likely to report a positive social history of referral behavior.

Bivariate correlations were also conducted between the personal and social history variables and the TPB predictor constructs (See Table 11). Results indicate a consistent finding in that all personal and social history variables were positively and significantly associated with attitudes towards seeking professional psychological help ($r=.17$ to $r=.29$, $p<.01$). Individuals with a positive personal or social history of mental health service use reported more favorable attitudes regarding seeking formal mental health services. Also, individuals with either personal or social experience with the provision of mental health referrals reported more favorable attitudes regarding seeking professional mental health services. Perceived stigma was negatively and significantly correlated with the endorsement of a positive social history of mental health service use ($r=-.13$, $p<.05$) and a positive social history of referral ($r=-.17$, $p<.01$). Those who had

knowledge of others who had either utilized or referred others to mental health services reported lower levels of perceived stigma associated with participating in formal mental health services. Also, individuals who reported low levels of EC reported a greater likelihood of personal participation in mental health services ($r = -.12, p < .05$).

Additional bivariate correlations were conducted within each severity group to examine the relationship among personal and social history constructs and participants' attitudes, subjective norms, PBC, and intentions to refer (See Table 12). Generally, one's personal history of mental health service use was unrelated to the TPB constructs. However, in the moderate ($r = .25, p < .05$) and high ($r = .22, p < .05$) severity groups, those who reported a positive history of mental health service use endorsed higher levels of PBC associated with the peer referral process.

Participants' personal history of referral behavior had variable relevance across each of the three severity groups. In the lowest risk condition one's personal referral history was positively and significantly associated with attitudes ($r = .22, p < .01$) and PBC ($r = .22, p < .05$) associated with peer referral. In the moderate risk condition, those who endorsed a positive personal history of referral behavior also reported more favorable subjective norms ($r = .24, p < .05$), greater PBC ($r = .26, p < .01$), and stronger intentions to refer ($r = .27, p < .01$). One's personal history of referral was positively and significantly related to all TPB constructs in the high severity condition ($r = .32$ to $r = .34, p < .01$).

One's social history of mental health service use was unrelated to all constructs in the low and moderate severity groups, but was particularly relevant in the high severity condition. When presented with the highest risk vignette, those with a positive social history of mental health service use reported more favorable attitudes towards referral

($r=.28, p<.01$), higher subjective norms associated with referral ($r=.27, p<.01$), greater PBC ($r=.23, p<.05$), and stronger intentions to refer ($r=.21, p<.05$).

Whereas one's social history of mental health services use was particularly relevant in the most severe condition, one's social history of referral was especially relevant in the less severe conditions. The associations between one's social referral history and all of the TPB constructs were positively and significantly related in the low severity condition ($r=.21$ to $r=.40, p<.05$). One's social history was also positively and significantly associated with PBC in the moderate severity group ($r=.22, p<.05$); those who reported knowledge of a referral provided by someone in their social network also indicated greater PBC associated with the referral process.

A model with the exploratory predictors showed acceptable model fit, $\chi^2(6, N = 282) = 13.48, p = .04$; CFI = .99; RMSEA = .07 (90% confidence interval [CI] = .02 - .12). However, the model without the exploratory predictors fit the data slightly better than the model with the exploratory predictors, as evidenced by the lower AIC for the former (154.74) versus the latter (155.49) model. Although having knowledge of someone who made a referral did significantly predict participants' Perceived Behavioral Control ($\beta = .26, p = .001$), none of the other exploratory variables predicted either the TPB constructs or Intentions to Refer.

Supplemental Analysis: Behavioral Proxies of Helping Behavior

A supplemental analysis was conducted in which a latent helping behavior variable was added to the original hypothesized model. The hypothesized supplemental model (Figure 6) evinced poor fit, $\chi^2(28, N = 282) = 132.39, p < .001$; CFI = .93; RMSEA = .12 (90% confidence interval [CI] = .10 - .14). As discussed previously, paths

were then tested in a saturated model. Multiple deleted paths (i.e., omitted from the hypothesized model a priori) were significant. These included paths from Attitudes towards Seeking Psychological Help to all three TPB predictors, from Emotional Competence to all TPB constructs, from Stigma and Emotional Competence to self-reported referral intentions, and from Attitudes towards Seeking Psychological Help to latent helping behaviors. In addition, the paths from Stigma to Subjective Norms regarding peer-referral and from Perceived Behavioral Control to latent helping behaviors, which we specified a priori, were found to be nonsignificant and were thus trimmed. The final (trimmed) model (Figure 7) showed acceptable model fit, $\chi^2(24, N = 282) = 24.81, p = .42, CFI = .999; RMSEA = .01$ (90% confidence interval [CI] = .00 - .05). The final model explained 78.9% of the variance in self-reported intentions to refer and 10.6% of variance in latent helping behaviors. Parameter estimates for the supplemental model were largely equivalent to those from the final original model. The addition of the latent variable to the model had little influence on any of the other modeled associations.

Table 1

Means and standard deviations for referral TPB subscales

Group 1: Low Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes Perceived	.93	93	4.77	1.47	-.28 (.25)	-.39 (.50)
Behavioral Control	.80	93	4.71	1.04	-.17 (.25)	.20 (.50)
Subjective Norms	.92	93	4.50	1.27	.15 (.25)	-.22 (.50)
Intentions	.78	93	4.60	1.48	-.25 (.25)	-.24 (.50)
Group 2: Moderate Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes Perceived	.90	98	4.96	1.35	-.50 (.24)	-.89 (.50)
Behavioral Control	.80	98	4.82	1.05	.18 (.24)	-.61 (.48)
Subjective Norms	.92	98	4.81	1.37	-.59 (.24)	.50 (.48)
Intentions	.77	98	4.77	1.47	-.51 (.24)	.05 (.48)
Group 3: High Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes Perceived	.93	91	4.60	1.48	-.25 (.25)	-.24 (.50)
Behavioral Control	.84	91	5.16	1.07	.07 (.25)	-1.21 (.50)
Subjective Norms	.93	91	5.58	1.18	-.50 (.25)	-1.03 (.50)
Intentions	.74	91	5.53	1.28	-.43 (.25)	-.62 (.50)

Table 2

Demographics

	Group 1: Low Risk	Group 2: Moderate Risk	Group 3: High Risk	Total	Differences Between Groups
N	93	99	92	284	
Age: M (SD)	22.34 (3.67)	22.60 (4.01)	22.42 (4.95)	22.46 (4.22)	ns
Ethnicity					ns
Non-Hispanic	80.6%	80.8%	79.3%	80.3%	
Hispanic	19.4%	19.2%	20.7%	19.7%	
Race					ns
White	64.5%	59.6%	63.0%	62.3%	
Non-White	35.5%	40.4%	37.0%	37.7%	
Year in School					ns
Freshman	6.5%	5.1%	6.5%	6.0%	
Sophomore	14.0%	15.2%	8.7%	12.7%	
Junior	33.3%	28.3%	39.1%	33.5%	
Senior	44.1%	50.5%	43.5%	46.1%	
Other	2.2%	1.0%	2.2%	1.8%	
History of Mental Health Service Use					ns
Yes	49.5%	38.4%	39.1%	42.3%	
No	50.5%	61.6%	60.9%	57.7%	
History of Providing a Referral for Suicidality					ns
Yes	24.7%	21.2%	17.6%	21.2%	
No	75.3%	78.8%	82.4%	78.8%	
History of Providing a Referral for Other MH Issue					ns
Yes	55.9%	45.5%	44.0%	48.4%	
No	44.1%	54.5%	56.0%	51.6%	
Social History of MH Service Use					ns
Yes	81%	72%	75%	76%	
No	19%	28%	25%	24%	
Social History of Referral					ns
Yes	50%	38%	46%	45%	
No	50%	62%	54%	55%	

Table 3

Descriptives of mental health service usefulness ratings

	N	Mean	Standard Deviation
Psychologist			
Low Risk	46	3.59	1.07
Moderate Risk	44	3.61	1.04
High Risk	41	3.59	.87
Psychiatrist			
Low Risk	32	3.31	1.09
Moderate Risk	37	3.41	.69
High Risk	29	3.14	.92
Mental Health Counselor			
Low Risk	32	3.00	.88
Moderate Risk	36	3.33	.10
High Risk	32	3.44	.76
Clinical Social Worker			
Low Risk	22	2.95	.90
Moderate Risk	24	3.25	.61
High Risk	20	3.05	.69
Other			
Low Risk	20	3.65	.88
Moderate Risk	33	3.52	.71
High Risk	21	3.43	.81

Table 4

Descriptives of predictor scales of TPB constructs

Overall Sample						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes	.79	283	18.27	5.28	-.02 (.15)	-.32 (.29)
Stigma	.79	283	5.76	2.73	-.02 (.15)	.02 (.29)
Emotional Competence	.93	283	125.08	15.52	-.28 (.15)	.14 (.29)
Group 1: Low Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes	.83	93	18.62	5.80	-.38 (.25)	.000 (.50)
Stigma	.82	93	5.57	2.91	.07 (.25)	-.19 (.50)
Emotional Competence	.93	93	125.03	15.75	-.22 (.25)	.31 (.50)
Group 2: Moderate Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes	.68	99	17.40	4.46	.28 (.24)	-.35 (.48)
Stigma	.72	99	6.11	2.62	.06 (.24)	-.14 (.48)
Emotional Competence	.92	98	126.45	1.47	-.25 (.24)	-.18 (.48)
Group 3: High Risk						
	α	N	Mean	SD	Skewness (SE)	Kurtosis (SE)
Attitudes	.81	92	18.85	5.49	.05 (.25)	-.76 (.50)
Stigma	.81	92	5.57	2.67	-.15 (.25)	.47 (.50)
Emotional Competence	.94	92	123.43	16.24	-.31 (.25)	.26 (.50)

Table 5

Severity ratings

Individual Group Data	N	Mean Severity Rating	SD
Group 1: Low Risk	93	3.35	.62
Group 2: Moderate Risk	99	3.71	.75
Group 3: High Risk	92	4.48	.72
ANOVA	df	F	Significance
	(2,281)	62.793	p=.000
Tukey HSD Post Hoc Analyses	Mean Difference	Std. Error	Significance
Low vs. Moderate	-.35	.10	p=.00
Low vs. High	-.1.12	.10	p=.00
Moderate vs. High	-.77	.10	p=.00

Table 6

Group differences on referral TPB subscales

Attitudes			
ANOVA	df (2,280)	F=12.42	p=.000
Tukey HSD Post Hoc Analyses	Mean Difference	Std. Error	Significance
Low vs. Moderate	-.19	.19	ns
Low vs. High	-.93	.20	p<.01
Moderate vs. High	-.74	.19	p<.01
Perceived Behavioral Control			
ANOVA	df (2, 281)	F=4.71	p=.01
Tukey HSD Post Hoc Analyses	Mean Difference	Std. Error	Significance
Low vs. Moderate	-.12	.15	ns
Low vs. High	-.46	.15	p=.01
Moderate vs. High	-.34	.15	p=.07
Subjective Norms			
ANOVA	df (2, 280)	F=17.49	p=.00
Tukey HSD Post Hoc Analyses	Mean Difference	Std. Error	Significance
Low vs. Moderate	-.31	.18	ns
Low vs. High	-1.08	.189	p<.01
Moderate vs. High	-.77	.19	p<.01
Intentions			
ANOVA	df (2, 280)	F=11.63	p=.000
Tukey HSD Post Hoc Analyses	Mean Difference	Std. Error	Significance
Low vs. Moderate	-.17	.20	ns
Low vs. High	-.94	.21	p<.01
Moderate vs. High	-.77	.21	p<.01

Table 7

Group differences on predictor variables of TPB constructs

Attitudes	df (2, 281)	F=2.19	ns
Stigma	df (2, 281)	F=1.44	ns
Emotional Competence	df (2, 280)	F=.75	ns

Table 8

Pearson correlations between TPB predictor variables and intentions to refer in the low severity group

Group 1: Low Risk							
	Attitudes towards Peer Referral	Perceived Behavioral Control	Subjective Norms	Attitudes Towards Seeking Professional Help	Perceived Stigma	Emotional Competence	Intentions to Refer Peer
Attitudes towards Peer Referral	1	-	-	-	-	-	-
Perceived Behavioral Control	.74**	1	-	-	-	-	-
Subjective Norms	.84**	.66**	1	-	-	-	-
Attitudes Towards Seeking Professional Help	.38**	.37**	.34**	1	-	-	-
Perceived Stigma	.01	-.09	-.09	-.39**	1	-	-
Emotional Competence	.07	.24*	.03	.07	-.28**	1	-
Intentions to Refer Peer	.88**	.63**	.78**	.33**	.14	-.05	1

Note: *p < .05 **p < .01

Table 9

Pearson correlations between TPB predictor variables and intentions to refer in the moderate severity group

Group 2: Moderate Risk							
	Attitudes towards Peer Referral	Perceived Behavioral Control	Subjective Norms	Attitudes Towards Seeking Professional Help	Perceived Stigma	Emotional Competence	Intentions to Refer Peer
Attitudes towards Peer Referral	1	-	-	-	-	-	-
Perceived Behavioral Control	.70**	1	-	-	-	-	-
Subjective Norms	.87**	.71**	1	-	-	-	-
Attitudes Towards Seeking Professional Help	.31**	.37**	.28**	1	-	-	-
Perceived Stigma	.03	.04	.08	-.19 (p=.06)	1	-	-
Emotional Competence	.26**	.29**	.17	.03	-.27**	1	-
Intentions to Refer Peer	.82**	.73**	.84**	.32**	.10	.14	1

Note: *p < .05 **p < .01

Table 10

Pearson correlations between TPB predictor variables and intentions to refer in the high severity group

Group 3: High Risk							
	Attitudes towards Peer Referral	Perceived Behavioral Control	Subjective Norms	Attitudes Towards Seeking Professional Help	Perceived Stigma	Emotional Competence	Intentions to Refer Peer
Attitudes towards Peer Referral	1	-	-	-	-	-	-
Perceived Behavioral Control	.78**	1	-	-	-	-	-
Subjective Norms	.90**	.78**	1	-	-	-	-
Attitudes Towards Seeking Professional Help	.57**	.58**	.62**	1	-	-	-
Perceived Stigma	-.30**	-.28**	-.26*	-.28**	1	-	-
Emotional Competence	.49**	.46**	.56**	.48**	-.31**	1	-
Intentions to Refer Peer	.85**	.72**	.85**	.55**	-.11	.41**	1

Note: *p < .05 **p < .01

Table 11

Pearson correlations between personal and social history variables and TPB predictor constructs

	Personal History of MH Service Use	Social History of MH Service Use	Personal History of Referral Behavior	Social History of Referral Behavior
Personal History of MH Service Use	1	-	-	-
Social History of MH Service Use	.30**	1	-	-
Personal History of Referral Behavior	.34**	.42**	1	-
Social History of Referral Behavior	.24**	.42**	.47**	1
Attitudes Towards Seeking Professional Help	.17**	.20**	.29**	.24**
Perceived Stigma	.02	-.13*	-.05	-.17**
Emotional Competence	-.12*	.09	.03	.08

Note: *p < .05 **p < .01

Table 12

Pearson correlations between personal and social history variables and TPB constructs

Group 1: Low Risk				
	Personal History of MH Service Use	Social History of MH Service Use	Personal History of Referral Behavior	Social History of Referral Behavior
Attitudes towards Peer Referral	.13	.05	.22**	.23*
Subjective Norms Perceived	.11	.01	.13	.21*
Behavioral Control	.07	.06	.22*	.40**
Intentions to Refer	.18	.13	.20	.22*
Group 2: Moderate Risk				
	Personal History of MH Service Use	Social History of MH Service Use	Personal History of Referral Behavior	Social History of Referral Behavior
Attitudes towards Peer Referral	.03	.13	.18	.09
Subjective Norms Perceived	.10	.16	.24*	.13
Behavioral Control	.25*	.13	.26**	.22*
Intentions to Refer	.12	.17	.27**	.12
Group 3: High Risk				
	Personal History of MH Service Use	Social History of MH Service Use	Personal History of Referral Behavior	Social History of Referral Behavior
Attitudes towards Peer Referral	.10	.28**	.34**	.16
Subjective Norms Perceived	.11	.27**	.32**	.18
Behavioral Control	.22*	.23*	.33**	.19
Intentions to Refer	.08	.21*	.33**	.09

Note: *p < .05 **p < .01

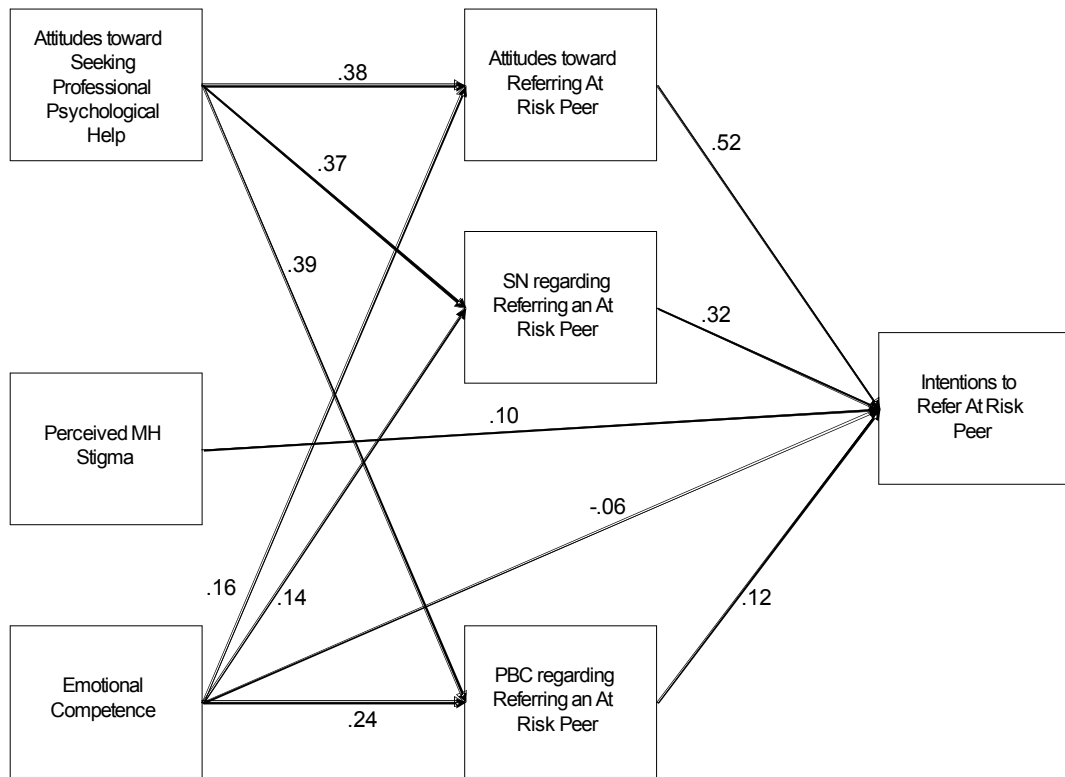


Figure 5. Trimmed Model

Note. Predictors of TPB constructs were allowed to correlate with each other. The error terms of the TPB constructs (not shown) were allowed to correlate with each other.

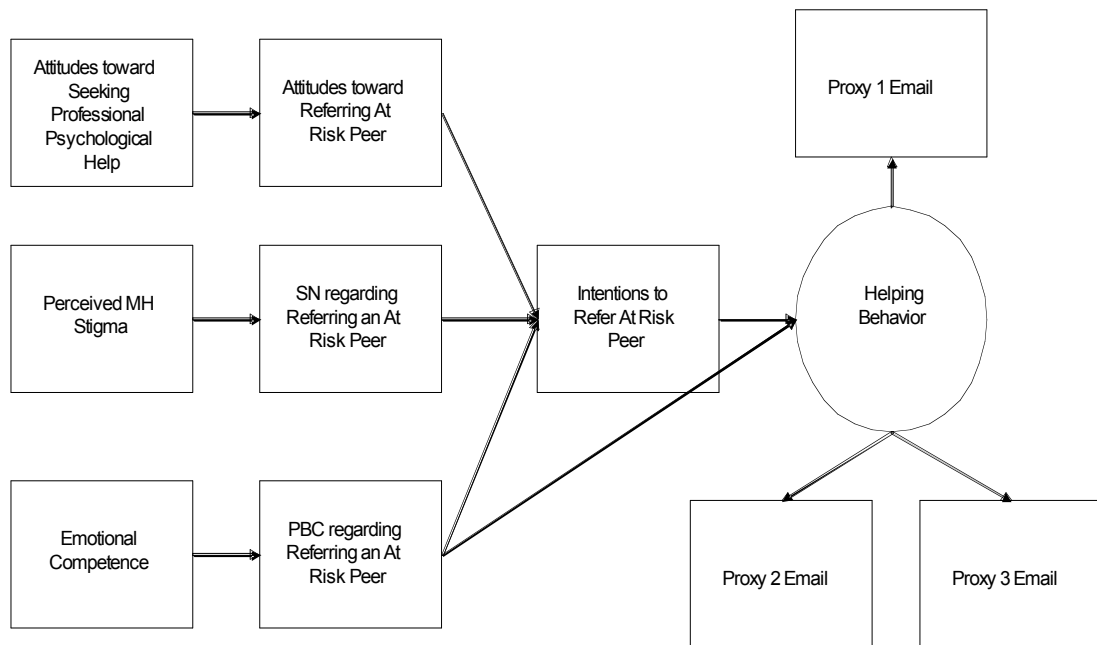


Figure 6. Hypothetical Proxy Model

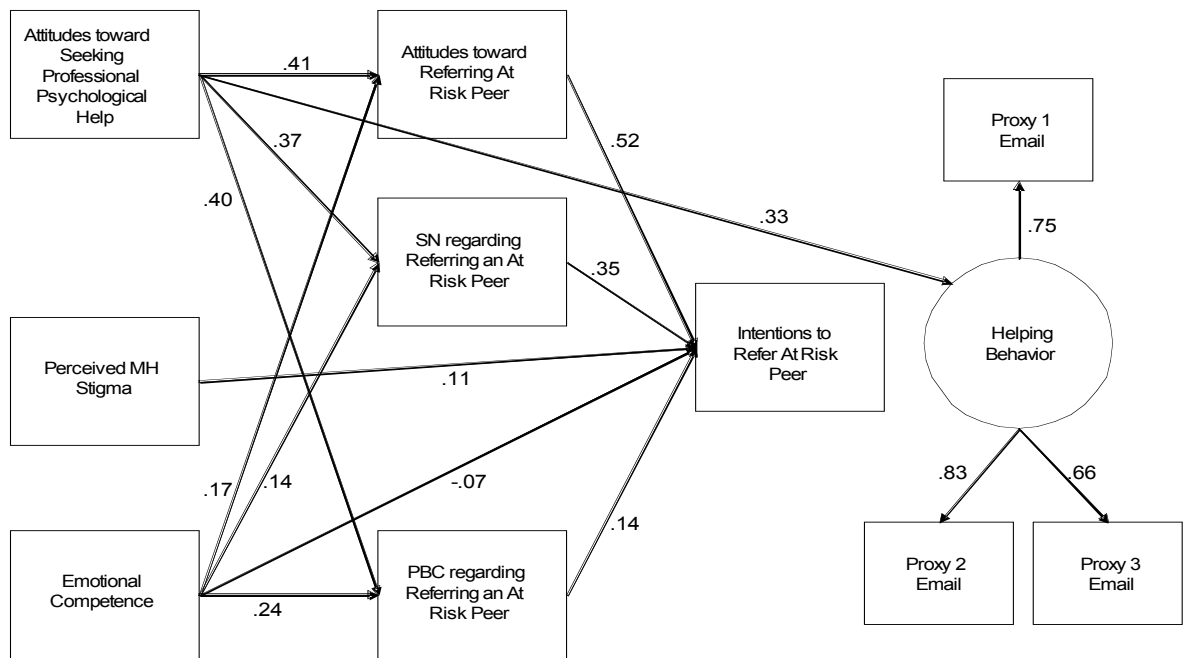


Figure 7. Trimmed Proxy Model

Note. Predictors of TPB constructs were allowed to correlate with each other. The error terms of the TPB constructs (not shown) were allowed to correlate with each other.

Discussion

The current study sought to examine predictors of peer referral intentions for individuals at risk for suicide related behavior. This investigation expanded upon previous work by examining potential predictors of a specific, recommended helping behavior in a theory-driven model. The following section will include a summary of findings, a review of limitations, a discussion of clinical implications, as well as suggestions for future research.

Summary of Results: Theory of Planned Behavior Predictors

Attitudes towards peer referral to a MHP. As hypothesized and theoretically predicted, each TPB construct independently predicted self-reported intentions to refer the at-risk peer to a mental health professional. Participants with more favorable attitudes towards referring an at-risk peer were more likely to report intentions to refer (Hypothesis 1). This finding suggests that, in general, individuals who are aware of and believe in the benefits associated with providing a referral to a peer at-risk are more willing to suggest mental health services. Alternatively, people who do not believe that referring a peer to mental health services will be beneficial are less likely to refer a peer who is judged to be at-risk. This finding is consistent with previous research that shows that people who maintain more positive attitudes towards mental health services are more likely to seek out services for themselves (Deane & Todd, 1996; Fischer & Farina, 1995). Likewise, just as attitudes toward seeking professional help are one of the strongest predictors of help-seeking intentions for oneself (e.g., Carton & Deane, 2000; Skogstad et

al., 2006), attitudes towards peer-referral were identified as the strongest predictor of peer-referral intentions. Attitudes towards peer referral accounted for 27% of the variance in peer-referral intentions in the current study.

These results suggest that it would certainly be worthwhile to expand upon the examination of factors that contribute to one's attitudes regarding mental health referrals. Research on help-seeking for oneself has examined, for example, expectations regarding the benefits (e.g., symptom reduction) and drawbacks (e.g., risks of self-disclosure) of pursuing mental health treatment (e.g., Vogel et al., 2005; Vogel & Wester, 2003). In terms of peer-referral for suicidality, although there may be some overlap in relevant expectations (e.g., anticipated symptom reduction once connected to services), the process of evaluating potential pros and cons may involve qualitatively different factors. When referring a peer, the individual would likely also consider issues such as the potential impact on the relationship (e.g., will my friend get angry at me for suggesting mental health services, will she stop confiding in me, could this bring us closer together as friends or pull us apart). Similarly, when compared to the self-referral process, some factors may be much less important in terms of influencing one's attitudes about referral (e.g., cost of services, inconvenience, risks of emotional self-disclosure). This line of potential research would be consistent with findings in the decision-making literature, which suggest that individuals' thought processes often differ when they are asked to make decisions for themselves versus someone else. The role or perspective that one takes in the process may influence a willingness to take risks or accept negative consequences (e.g., Zikmund-Fischer, Sarr, Fagerlin, & Ubel, 2005) or it may affect the

manner in which various factors of the decision are weighed (Kray, 2000; Kray & Gonzalez, 1999).

Subjective norms regarding peer referral to a MHP. As hypothesized, subjective norms significantly predicted intentions to refer the at-risk peer to a mental health professional (Hypothesis 2). Those who believed that the provision of a mental health referral would be endorsed by respected others were more willing to report intentions to refer. On the contrary, people were less likely to endorse referral intentions if they believed that close members of their social network would not support the behavior. The current study was the first to explore this relationship empirically within the context of peer-referral intentions. As expected, the findings are consistent with previous research examining the influence of perceived social norms. In college student populations, perceived social norms have been identified as a powerful predictor within a variety of different contexts, including alcohol use (e.g., Lewis et al., 2010; Perkins 2002; Rimal & Real, 2005), safe sex behavior (e.g., Jemmott, Jemmott, & Villarruel, 2002), and dieting (Hutchinson & Rapee, 2007). However, it is noteworthy that the power of the peer group is not limited solely to adolescent populations; peer influences are relevant across many stages of development. For example, the influences of one's social network have been found to be particularly relevant in terms of predicting bullying behavior in elementary school children (Burns et al., 2008), as well as predicting adult health related behaviors during pregnancy (e.g., Dunn et al., 2003; Bonari et al., 2005). Given the strength of the relationship between perceived norms and intentions to refer across the life span, it will be important for future research to consider the manner in which perceived social norms influence behavior within the context of peer-helping and the types of norms that are

most powerful. Doing so will add considerably to the development of interventions aimed at increasing the frequency of recommended peer-helping behaviors, as has been done in other fields aimed at curbing potentially dangerous behaviors (e.g., Prince & Carey, 2010; Perkins, Linkenbach, Lewis, & Neighbors, 2010) or increasing adaptive behaviors (e.g., Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). For example, to date, little is known regarding the accuracy of perceived norms associated with recommended helping behaviors. It is possible that individuals underestimate the approval of members of their social network, which may inhibit the provision of referrals. An exploration of different types of norms is also warranted, as descriptive norms (i.e., the prevalence of referral behaviors among one's social referents) and injunctive norms (i.e., the acceptability of referral behavior among one's social referents) may vary in their salience during the helping decision-making process. Identifying the relative importance of each would yield valuable information to be applied in the process of developing and improving specific intervention strategies.

An intervention called the Sources of Strength suicide prevention program was recently developed and implemented in 18 high schools (Wyman et al., in press). The Sources of Strength approach aims to enhance protective factors among high school students by modifying both descriptive and injunctive norms associated with adaptive responses to stress in adolescent peer groups. This program utilizes trained peer leaders to conduct school wide messaging interventions that encourage students to contact trusted adults to assist students in distress. Results of the evaluation suggest that the intervention was successful at improving the adaptive norms of peer-leaders and improving students' ratings of the acceptability of seeking help when in need. Although this is the first

program to utilize a peer-led model that emphasizes the importance of subjective norms for help-seeking, the findings suggest, in combination with the results of the current study, that further examination is warranted and the implementation of similar programs in college and university settings should be seriously considered.

Perceived behavioral control associated with peer referral to a MHP. Perceived behavioral control regarding referring an at-risk peer was also hypothesized to be a significant predictor of peer referral intentions (Hypothesis 3). As expected, one's perceptions of capability and control over making a referral were positively and significantly associated with referral intentions, as was also shown in one prior study (Lawrence & Ureda, 1990). Although the relationship between PBC and intentions was statistically significant, the effect size was small. Thus, perceptions of obstacles, impediments, or challenges associated with the provision of a mental health referral were not strongly predictive of referral intentions. As previously discussed, the relative predictive ability of each TPB construct may vary across situations and target behaviors (Ajzen, 1991). The results of this study yielded variability in the effect sizes of the relationships between the TPB predictor constructs and intentions to refer. Specifically, the moderate effects between attitudes and intentions and between subjective norms and intentions suggest that those two constructs are stronger predictors of intentions to refer than is PBC. Similar patterns of findings have been presented in other examinations of the TPB, which suggest the potential impact of differences in the relative predictability between populations and across different target behaviors. It is possible that, in this stage of development, the strength of one's social norms and attitudes about the behavior are particularly salient during the decision-making process. For example, behaviors occurring

within the context of an interpersonal interaction between friends during adolescence and early adulthood may be particularly sensitive to the impact of social norms.

It has also been proposed that methodological factors may influence the relative predictability of the PBC construct. More specifically, there has been some debate in the literature regarding the most appropriate definition of the construct and method of measurement. It has been suggested that the PBC should be conceptualized and consistently measured as two separate yet interrelated factors: confidence (i.e., self-efficacy) and perceived control (Kraft, Rise, Sutton, & Roysamb, 2005). Future research should seek to elucidate these factors as they relate to peer referral behavior. This study utilized a combined assessment tool, which has been used successfully in previous studies examining other target behaviors. It is possible that the ideal methodology for assessing PBC varies by outcome behavior of interest; perhaps studying PBC as two separate constructs would be more appropriate for intentions to refer. Recent research has suggested that one's confidence (i.e., self-efficacy) regarding performing a specific behavior may be more predictive of adaptive, self-protective behaviors, whereas controllability may play a greater role in predicting socially undesirable, risk-taking behaviors (e.g., Pertl et al. 2010). Considering that the "desirability" of referral to a mental health professional may depend on a number of personal and social factors (e.g., social norms, knowledge of recommended suicide prevention strategies), as previously discussed, further research in this area is warranted.

Summary of Results: Extension of the Theory of Planned Behavior

In addition to examining the utility of the TPB to peer referral intentions, this study also sought to extend the model to include additional predictors. Specifically,

perceived symptom severity, attitudes towards seeking professional mental health services, stigma associated with seeking mental health services, and emotional competence were added to the model.

Symptom severity. It was hypothesized that perceived symptom severity would be a significant, independent predictor of peer referral intentions, such that higher perceived severity would be associated with greater intentions to refer an at-risk peer (Hypothesis 4). Some preliminary support was provided for this hypothesis; comparisons across severity groups indicated significant differences in referral intentions, as measured by both the TPB questionnaire and an open-ended response item. Participants assigned to the more severe conditions were more likely to endorse referring a peer to a mental health professional than were those participants in the less severe conditions. These findings are consistent with the peer- (Raviv et al., 2009) and self-referral literature (e.g., Bebbington et al., 2000; Jayasinghe et al., 2005; McCracken et al. 2006), which suggest that individuals' perceptions of symptom severity are significantly and positively related to referral behavior. However, contrary to what was predicted, in a comprehensive model of referral intentions, perceived symptom severity was not a significant predictor of referral intentions. These results suggest that college females' referral decisions are influenced more by their attitudes, subjective norms, and, to a lesser extent their PBC, than the perceived severity of the peer's symptomatology. It seems that when making decisions of this nature, the potential helper's beliefs in the moment are more influential than the characteristics of the target individual. This is generally consistent with literature that suggests adolescent and young adult decision-making is often characterized by egocentric

beliefs and a lack of adequate perspective taking (e.g., Arnett, 1991; Elkind, 1967; Ravert et al., 2009).

Similarly, contrary to expectations, the predictive ability of each TPB construct was consistent across severity groups. Originally, it was expected that the predictive ability of each TPB construct would be strongest in the low severity group, slightly weaker in the moderate severity group, and the weakest in the high severity group (Hypothesis 5). In other words, it was hypothesized that there would be a threshold, after which individuals would simply refer based upon the severity of the symptomatology. However, no such threshold was indicated. It is possible that, although the most severe vignette was considered to be significantly more severe than the other two vignettes, it was not severe enough to reach the hypothesized referral threshold.

Furthermore, the lack of a moderation effect and the failure to identify perceived severity as an independent predictor is also generally consistent with literature on suicide assessment, or lack thereof, in emergency departments worldwide. Research has shown that doctors and nurses in emergency departments, arguably seeing patients in the most severe of circumstances, often fail to exhibit recommended helping behaviors. Research conducted in England has demonstrated that 40% to 60% of patients presenting to the ED with deliberate self-harm behaviors were discharged without a psychosocial assessment (Bennewith et al., 2005; Hickey et al., 2001). Provider attitudes and lack of adequate training are thought to be factors contributing to this fairly common medical error. In terms of working with suicidal patients, ED clinicians have indicated attitudes characterized by avoidance, rejection, hostility, anxiety, fear, and inadequacy (e.g, Bailey 1994; Herron et al., 2001; Pompili et al., 2005; Sethi & Shipra, 2006). It was also noted

that physicians and nurses were likely to perceive self-harm behavior as a form of attention-seeking. It seems that, even in consistently high-risk circumstances, one's attitudes and perceptions still seem to influence one's decision-making and, ultimately, the provision of "helping" behavior. Additional work that includes symptom severity as a construct in comprehensive models is needed to clarify the relative predictive ability of symptom severity in the provision of peer referrals.

Predictors of TPB constructs. The findings of the current study were mixed regarding the role of the TPB variables as mediators in the relationships between other potential predictors (i.e., attitudes towards seeking professional help, perceived stigma associated with formal help-seeking and emotional competence) and intentions to refer. As expected, participants with more favorable attitudes towards seeking professional psychological help were more likely to endorse favorable attitudes towards peer referral (Hypothesis 6). It stands to reason that one who thinks favorably about mental health services may also believe that a friend at risk may benefit from professional help. A review of the literature indicates that this is the first study to examine this relationship. However, research across a wide-range of behaviors has demonstrated a similar pattern of results, such that if individuals have a positive experience with, or perception of, a product (e.g., Priya et al., 2010) or public service (e.g., Cheng, Yang, Chiang, 2003), they are more likely to recommend it to others.

Although it was not hypothesized, the findings of this study indicate that more favorable attitudes towards seeking professional psychological help were also predictive of more favorable subjective norms and greater perceived behavioral control regarding referring an at-risk peer. Although unexpected, the fact that all three TPB constructs

mediated that relationship is not entirely surprising. It is possible and plausible that people who have more favorable attitudes towards help-seeking behaviors may have social networks that are comprised of individuals who also maintain more favorable attitudes towards help-seeking, thus explaining the relationship between attitudes and subjective norms. The consistent pattern of positive, significant correlations between one's personal and social history of mental health service use, personal and social history of referral behavior, and general attitudes towards seeking professional psychological services supports this line of thinking. In addition, this concept is consistent with research suggesting that similarities are important in interpersonal attraction (e.g., Kandel, 1978; Kitts, 2006; Hutchinson & Rapee, 2007). Individuals tend to select, befriend, and maintain relationships with people who think and act similarly to themselves.

Furthermore, people who maintain more favorable attitudes towards help-seeking may possess a greater sense of self-efficacy in making a referral. For example, individuals with favorable attitudes towards mental health services may be more adept at articulately and accurately describing the purpose and/or logistics associated with mental health services than are individuals with unfavorable attitudes about mental health services. For example, when communicating with an at-risk peer, those with more positive attitudes may have information more readily available (e.g., benefits associated with pursuing treatment, how such benefits may apply to the friend in need) to share with others. It may also be the case that those with more favorable attitudes have more confidence in one's ability to present a genuine, well-developed argument for seeking mental health services, because the recommendation would be consistent with their general, pre-existing beliefs. Furthermore, some research suggests that thoughts in which

people have confidence have a large impact on attitude change (e.g., Petty et al. 2002). Future research should examine the effectiveness of referrals provided by individuals with varying attitudes associated with seeking professional mental health services.

Contrary to expectations, stigma associated with receiving professional psychological help was not significantly associated with subjective norms regarding referral (Hypothesis 7). As this was the first study to explore the potential association between perceived stigma and subjective norms associated with peer referral, more research is necessary to determine the nature of the relationship and the value of including stigma as a construct within a model of helping behavior. One factor worthy of consideration is that perceived stigma associated with mental health services may be a reflection of general societal views, while the norms assessed in the current study were a reflection of opinions of one's close social referents. Little information is currently known regarding the manner in which one's perceived stigma and norms associated with mental health services and referral behavior may vary based upon the groups referenced (e.g., close friends, family, school, neighborhood, society). It is possible that the discrepancy between societal and in-group norms may explain the lack of an association in the current study.

It is noteworthy that although stigma was a significant independent predictor of intentions to refer in the current examination, the effect of the relationship was small. Few studies have examined the relationship between stigma and referral intentions; however, previous research does suggest that adolescents are more likely to refer others to a formal helper than they are to refer themselves (Raviv et al., 2009). One possible explanation for the discrepancy in referral behavior is that the relative impact of

perceived stigma associated with mental health service use may be less important when considering referral for others than when considering referral for oneself. This is not entirely surprising given that the potential negative consequences associated with stigmatization (or perceived stigmatization) are more relevant for the individual ultimately receiving the mental health services than for the person making the referral. Likewise, it may also be the case that other potential barriers to treatment (e.g., fear of emotional disclosure, financial costs, logistical inconveniences), which are inherently less relevant for the helper, are less likely to factor into one's decision-making process when considering the provision of a peer-referral. These hypotheses are consistent with the literature discussed above which highlight differences in self-other decision-making processes (e.g., Polman, 2010).

As hypothesized, participants' self-rated emotional competence was a significant predictor of their perceived behavioral control (Hypothesis 8). The findings of the current study are similar to those presented in the self-referral literature. In terms of self-referral, individuals characterized as having low levels of EC are less likely than those high in EC to seek help for themselves (e.g., Ciarrochi et al., 2003; Ciarrochi & Deane, 2001). It has been hypothesized that individuals low in EC may lack the skills required to effectively seek help from others (Rickwood et al., 2005) and, by extension, the skills required to effectively refer at-risk peers. The current study provides some preliminary support to that hypothesis as lower levels of EC were associated with lower levels of perceived behavioral control regarding peer-referral. People low on self-reported EC presumably lack skills including accurate emotion recognition and the ability to effectively communicate about feelings. Such skills are likely to be perceived as essential to the

peer-referral process, as it requires successfully navigating a presumably complex, affectively loaded interpersonal interaction. Thus, individuals low in EC likely view themselves as less capable of referring a peer. Future research should examine, more specifically, if there are certain aspects of the peer referral process that are anticipated to be more challenging than others. It is possible that certain aspects of the interaction may be perceived as requiring more sophisticated social skills than others. And, it is also possible that such assessments may vary depending on one's level of EC. In the future, behavioral strategies targeting the most challenging aspects of the referral process should be incorporated into interventions aimed at increasing peer-referral behavior.

Furthermore, although not hypothesized, emotional competence was also a significant predictor of attitudes towards peer-referral, subjective norms regarding peer-referral, and behavioral intentions to refer an at-risk peer. However, it is important to note that the effect sizes of these relationships were small, and therefore likely limited in their clinical significance. Given that this was the first examination of the role of EC within the peer referral process, no a priori hypotheses were provided regarding these relationships. The positive, significant relationship between EC and attitudes towards peer referral suggests that individuals who report higher levels of perceived EC also endorsed favorable attitudes towards referral. It is possible that individuals who are more adept at recognizing, understanding, and describing their emotions and the emotions of others may be more aware and open to the benefits associated with therapy for themselves, as suggested by the self-referral literature (e.g., Ciarrochi et al., 2003; Ciarrochi & Deane, 2001), but also for an individual in distress. The positive, significant relationship between EC and subjective norms indicates that individuals who report higher levels of perceived

EC also endorsed more favorable subjective norms regarding referral. As discussed previously, this finding may reflect a tendency for social sameness, in that people who are high in EC are generally affiliated with like others who hold similar attitudes about peer referral. Additional research is warranted, and needed, in order to further clarify the role of EC within the context of the peer-referral process.

Although limited in clinical significance, the negative, statistically significant relationship between EC and intentions to refer deserves consideration and future exploration. This relationship may reflect a pattern by which individuals who are high in EC may be reluctant to refer. Although this may initially seem counterintuitive, it is possible that those high in EC may believe that they possess the necessary skills to provide at-risk peers with adequate support, and therefore, are less likely to believe that a referral to a professional is necessary. Granted, that suggestion is purely speculative. However, the literature has suggested, in fact, that adolescents and young adults tend to demonstrate a preference for intervening on their own as opposed to requesting help from formal helpers (e.g., Eskin, 2003; Mishara, 1982; Rickwood et al., 2005). EC should be explored as a predictor of such a preference. Overall, the results of the current study suggest that EC may play an important role in the referral process, and may directly influence one's referral intentions. Given the statistically significant relationships with each of the TPB variables, additional research is warranted in regards to how one's EC may increase or decrease the endorsement, and subsequent engagement, in recommended peer-helping behaviors.

Summary of Results: Personal and Social History Variables

Exploratory analyses were conducted to examine the role of one's personal and social history of mental health service utilization, as well as one's personal and social history of referral behavior, within the peer-referral model. Such variables were added to the model because past behavior has been shown to be a powerful predictor of future behavior (e.g., Connor & Armitage, 1998). Furthermore, as previously discussed, one's perception of social norms and subsequent referral behavior, may be significantly affected by one's observations of others' referral behaviors and use of mental health resources. Interestingly, the original trimmed peer-referral model fit the data better than an expanded model that included the personal and social history variables. In other words, when comparing the models, the original trimmed model was more parsimonious. This is not to say that one's history is irrelevant in terms of peer-referral intentions. On the contrary, when examined independently, all personal and social history variables were significantly associated with one another, as well as with many of the other predictor variables. However, when examining the correlations across the three severity conditions, no clear pattern emerged which would explain the relationships among constructs. Such inconsistent findings are, in fact, consistent with previous literature on personal and social experience with suicidality and subsequent emotional and behavioral responses to at-risk peers. As previously discussed, the research literature in this area has presented mixed findings; whereas some studies have suggested that personal and social experience with suicidality is related to the endorsement of recommended helping strategies (e.g., Dunham, 2004; Eskin, 1999), other studies have presented contradictory data (e.g., Gould et al., 2004; Kalifat & Elias, 1992; Knott & Range, 2001). The

mechanisms by which one's personal and social histories impact future helping behaviors remain unclear. Future studies are needed to explore these relationships in a more targeted manner. For example, more specific examinations of the beliefs and expectations associated with the provision of referrals endorsed by individuals with varying experiences are warranted. It may be that solely having an experience is less powerful and therefore less predictive than the impression left by the experience.

Summary of Results: Behavioral Proxies of Helping Behavior

The primary outcome variable of interest in the current study was intentions to refer a peer at risk for suicide related behavior to a mental health professional, as the measurement of intentions is a widely accepted and valued construct in research. Theoretically, one's intentions to perform a behavior are predictive of one's engagement in the behavior. For example, previous research in this field has shown a significant, positive association between intentions to refer an at-risk youth to a mental health professional and actual referral behavior in a sample of adults trained within a gatekeeper prevention program (Brown et al., 2010). In addition to examining intentions to refer, exploratory analyses were also conducted as part of the current study to examine the relations between model constructs and a behavioral proxy of peer-helping behavior. The results did not yield a significant relationship between intentions and the proxy behaviors. Although both are favorable helping behaviors, they do vary in several ways. Whereas the intentions construct was specifically associated with one's intentions to refer a targeted at-risk peer in a hypothetical one-on-one interaction, the behavior proxy construct was a more general assessment of one's willingness to participate in various suicide prevention efforts. Thus, it is not entirely surprising that intentions to refer did not

significantly predict willingness to participate. Future research that utilizes a longitudinal design would more adequately assess the relationship between intentions and actual behavior in this context. Of note, a substantial follow-up period (i.e., several months) may be required to adequately assess and evaluate the relationship. One study that attempted to assess the relationship between intentions to perform a similar, specific helping behavior (e.g., talking to a peer about feelings) and actual helping behavior, did not yield significant results; however, they speculated that the two-week time frame that they used was inadequate given that opportunities to perform certain helping behaviors are relatively rare (Pearce et al, 2003).

Interestingly, in the current study, the more broadly defined predictor variable of one's attitudes towards seeking professional mental health services was significantly, positively, and directly related to the behavior proxy construct. Those with more positive attitudes towards mental health services in general were more likely and willing to engage in mental health related programs. As discussed previously, one's attitudes regarding mental health services were predictive of PBC regarding peer-referral. Thus, those with more positive attitudes about formal help-seeking expressed greater self-efficacy, control, and confidence in their ability to provide a peer-referral. It is not surprising, therefore, that those with more favorable attitudes towards seeking professionally psychological help, who perceive a specific helping behavior to be within the realm of their control, were also more willing seeking out opportunities to gain additional helping skills and abilities.

Implications

Research indicates that the role of peer gatekeepers is crucial in closing the service gap for individuals at-risk for suicide and in need of mental health services. However, peers often do not respond in ways that are consistent with the recommendations provided by suicide prevention experts. Thus, identifying interventions that facilitate the connection between peers and mental health professionals is necessary and may ultimately lead to lower suicide rates. In order to do so, greater understanding of empirically supported predictors of peer referral behavior is essential.

Overall, the results of this study suggest the utility of applying an extended TPB model to intentions to refer at-risk peers for mental health services, as the comprehensive model of TPB constructs, attitudes towards seeking professional help, perceived stigma associated with seeking professional psychological help, and emotional competence accounted for 78.9% of the variance in referral intentions. On the contrary, perceived symptom severity and specific factors associated with one's personal (i.e., personal history of referral, personal history of mental health service use) and social history (i.e., social knowledge of referral, social knowledge of mental health service use) did not improve the overall model fit, and do not appear to be as important or as directly associated with college students peer referral intentions. These results imply that when college students interact with at-risk peers, their referral behaviors are most influenced by their attitudes regarding the usefulness of the referral and their ideas regarding how others like them would respond in a similar situation. Thus, the findings indicate that, in particular, preventative interventions would likely benefit from emphasizing the role of attitudes and subjective norms regarding peer referral, in order to maximize the role of

peers as gatekeepers for college students in distress. If interventions improve students' perceptions of the usefulness of peer-referrals while also normalizing the behavior, individuals at risk for suicide will be more likely to receive the formal mental health services that they need. Given that this is the first study of its kind to explore predictors of this specific helping behavior, additional research is clearly warranted to clarify the relative role of the predictor constructs. Incorporating the findings from this study with findings from future research will hopefully lead to more informed, empirically-based interventions for enhancing peer referrals.

Limitations

Several limitations of the current study should be noted. First, the study was conducted solely with female college students, who were predominantly Caucasian psychology majors thereby limiting generalizability. A second limitation of this study is that the constructs of interest were measured in regard to responses to vignettes, rather than to real life interpersonal interactions. Although the vignettes were developed based on theoretical and empirical data and this methodology has been used in previous studies (e.g., Ben-Porath, 2002; Dunham, 2004; Jorm et al., 2005; Kalafat & Gagliano, 1996; Mueller & Waas, 2002; Raviv et al. 2000), it is possible that the responses provided by participants were not accurate reflections of true responses; it is plausible that people would respond differently if interacting with an at-risk peer. A third limitation is that the variables of interest were highly correlated. Many previous studies assessing TPB constructs have utilized shorter questionnaires, and in some cases single items, to assess the constructs. It is possible that the length of the questionnaire in the current study resulted in participant fatigue, which resulted in a lack of attention to specific items. This

lack of attention may have led to similar responses to different items, limiting the variability in responses across measures of the different constructs. Furthermore, although the assessments used in the study were created based on empirical evidence for proper construction of TPB assessments (Ajzen, 2006), it is possible that psychometric studies would reveal more accurate assessment measures to utilize in future research. A fourth limitation is that the study was cross-sectional in nature, thereby limiting the ability to accurately assess temporal causality. A final limitation in this study is that participants completed the questionnaire online, not in the presence of study personnel. Therefore, it was not possible to ensure that participants were completing the assessments in the preferred environment (i.e., alone without distractions).

Despite the limitations noted, there are several strengths to the current study. This was the first study of its kind to examine predictors of the desirable, recommended helping behavior of peer referral to a mental health professional. In addition, the potential predictors were examined in the context of a theory-driven, comprehensive model. This study expanded upon previous research by extending what is known about self-referral intentions and behavior and applying it to the peer referral process.

Future Directions

This section will provide a summary of the future directions for research described above, as well as additional avenues for research indicated by the results of the current study. First, it is necessary to examine the utility of the TPB in predicting intentions to refer in additional populations in order to enhance generalizability. More specifically, results may vary based upon gender, culture, and developmental differences. It is also possible that results may differ based upon the nature of the relationship

between the target and the at-risk individual. It is therefore necessary to examine the utility of this model in predicting intentions to refer among individuals from various populations and based upon interpersonal interactions that represent different types of relationships.

Second, as noted earlier, the utilization of “real life” interpersonal interactions may yield more accurate findings regarding participants’ intentions to refer. One possible way to address this methodological challenge may be to present participants with videos of individuals discussing the same information provided in the vignettes. Alternatively, interaction with a confederate discussing and displaying symptoms of depression and suicidal intention may provide the stimuli necessary to more fully understand people’s true intentions to refer. Given the favorable preliminary findings of the current study, an enhancement of the current vignette methodology is warranted. Such studies would yield valuable information regarding the relative predictive ability of TPB constructs under more ecologically valid conditions. Furthermore, this methodology would allow for behavior coding of actual referral behavior and predictors of such behavior. In-vivo methodology would also provide an opportunity to gain further understanding into the role that severity plays in an individual’s intention to refer an at-risk peer. More specifically, people may judge “real life” stimuli as more or less severe than they do vignettes and this may help elucidate the relationships among predictor constructs.

Using vignettes did not allow for examination of how interpersonal interactions, such as conversations or non-verbal cues, affect an individual’s intention to refer. By utilizing in-vivo methodology, it would be possible to gain understanding into how provision of referral information is best delivered and received. Identification of the

behavioral skill sets necessary to appropriately and convincingly inform a peer that mental health treatment is warranted will allow for more informed interventions. This methodology may also provide a context to better examine how EC, both on the part of the at-risk peer and the person providing the referral, is related to peer-referrals.

Another area for future research is to utilize longitudinal studies. More specifically, the current study used a cross-sectional design to study intentions to refer. Studying participants over time will provide greater insight into who is more likely to make a referral and how the predictor variables impact one's intentions over time. Although the current study does provide support for the use of the TPB model for intentions to refer at-risk peers, it is not possible to draw conclusions about the temporal relationships. A longitudinal design would allow for assessment of the directionality of the relationships.

Finally, another area to consider for future research is the use of multi-informant studies. As noted earlier, it is not known how accurate perceived subjective norms are. Assessing the intentions and behaviors of participants' social networks will provide information regarding descriptive and injunctive norms. This information would ultimately be useful for creating and improving interventions aimed at increasing peer referrals. More specifically, if it is determined that people tend to underestimate the frequency with which their peers would make referrals, they may have a tendency to avoid making a referral themselves. Interventions could subsequently provide more accurate information regarding norms which, in turn, may lead to increased intentions to refer. Similarly, people who anticipate being stigmatized for maintaining positive attitudes and/or utilizing mental health services are less likely to do so. Providing

education regarding the beliefs of peer group members may de-stigmatize such behaviors and consequently lead to increased referral and utilization of mental health services.

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Appendices

Appendix A.

Vignettes

Instructions	Please read the following paragraph carefully. After you finish reading, you will be asked to answer some questions based upon your impressions of the hypothetical situation described.
Low Risk	A friend of yours has not been acting like herself lately. A few weeks ago you would have described her as outgoing, warm, and friendly, but lately she has seemed sad and withdrawn. Although she has a large network of friends at USF, she hasn't been spending much time with any of them lately. Instead, she has been spending a lot more time alone than she used to. When she does occasionally go out with you and her other friends, she rarely acts like her old friendly self. And, although school is something that has always been important to her, she does not seem to be maintaining her grades as well as she has in the past. She mentioned that she hasn't been handing assignments in on time, paying attention in class, or studying for exams, which is unlike her. She also used to be a very high-energy, active person, but lately she been tired a lot and uninterested in exercising. Even though she has been less interested in socializing, she is looking forward to the weekend when she is planning on going to the beach with you and some other close friends.
Moderate Risk	A friend of yours has not been acting like herself lately. A few weeks ago you would have described her as outgoing, warm, and friendly, but lately she has seemed sad, withdrawn, and irritable. She has a large network of friends at USF, but has spent much less time with them than she used to. When she has spent time with others, she has been quick to lose her temper and has been very difficult to talk to. Although you have only known her to drink alcohol socially on the weekends, lately she has been drinking almost every night. And, at the end of a few of those nights, she drove herself home. Recently, she mentioned that she sometimes thinks about wanting to escape from everything -- from school, from her family, and from her responsibilities. At times, she seems to think that things may be easier for her and for everyone else if she just went away and did not come back. Although she has been much more solitary lately, she is looking forward to the weekend when she is planning on going to the beach with you and some other close friends.
High Risk	A friend of yours has not been acting like herself lately. A few weeks ago you would have described her as outgoing, warm, and friendly, but lately she has seemed sad, withdrawn, and irritable. Although she used to have a large network of friends in high school, here at USF she hasn't made many friends other than you. At the beginning of the semester she was motivated to meet new people, but now she feels as if she will never make friends. When she has spent time with others, she has been quick to lose her temper and has been very difficult to talk to. Although you have only known her to drink alcohol socially on the weekends, she started drinking alone almost every night. And, at the end of a few of those nights, she drove herself home. Recently, she mentioned that she often thinks about killing herself. She seems to think that things may be easier for her and for everyone else if she just went away and did not come back. She has even mentioned that if she wanted to, she would know exactly how and where she would end her life.

Appendix B.

Theory of Planned Behavior Questionnaire

Please answer the following questions based on the scenario described above.

Many questions in this survey use rating scales with 7 response options. In each case, you are to select the option that best describes your opinion.

For example, if you were asked to rate the item “Living in Florida” on such a scale, the 7 options should be interpreted as follows:

Bad	1	2	3	4	5	6	7	Good
	Extremely bad	Quite bad	Slightly bad	Neither	Slightly good	Quite good	Extremely good	

Please note that you must choose only *one* response per item.

Also, please note that:

The abbreviation **MHP** stands for **mental health professional**, which includes any professional trained to address mental health concerns, such as psychiatrists, psychologists, clinical social workers, and mental health counselors.

Referring includes any behavior that involves **connecting the individual to a MHP**, such as speaking to her about the option of seeking mental health services, encouraging her to schedule an appointment with a MHP, providing her with the contact information of a MHP, or going with her directly to a mental health service provider’s office.

Attitude Items

- | | | | | | | | | | |
|---|--|---|---|---|---|---|---|---|--------------------------|
| 1 | Referring this individual to a MHP would be: | | | | | | | | |
| | Good | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Bad |
| 2 | Referring this individual to a MHP would be: | | | | | | | | |
| | Extremely
uncomfortable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely
Comfortable |
| 3 | Referring this individual to a MHP would be: | | | | | | | | |
| | Harmful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Beneficial |
| 4 | Referring this individual to a MHP would be: | | | | | | | | |
| | Worthless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Valuable |
| 5 | Referring this individual to a MHP would be: | | | | | | | | |
| | Useless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Useful |
| 6 | Referring this individual to a MHP would be: | | | | | | | | |
| | Favorable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unfavorable |

- 7 Talking to a friend about this situation would be:
 Good 1 2 3 4 5 6 7 Bad
- 8 Talking to a friend about this situation would be:
 Extremely comfortable 1 2 3 4 5 6 7 Extremely Uncomfortable
- 9 Talking to a friend about this situation would be:
 Harmful 1 2 3 4 5 6 7 Beneficial
- 10 Talking to a friend about this situation would be:
 Worthless 1 2 3 4 5 6 7 Valuable
- 11 Talking to a friend about this situation would be:
 Useless 1 2 3 4 5 6 7 Useful
- 12 Talking to a friend about this situation would be:
 Favorable 1 2 3 4 5 6 7 Unfavorable

- 13 Talking to her about her feelings would be:
- | | | | | | | | | |
|------|---|---|---|---|---|---|---|-----|
| Good | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Bad |
|------|---|---|---|---|---|---|---|-----|
- 14 Talking to her about her feelings would be:
- | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|--------------------------|
| Extremely
uncomfortable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely
comfortable |
|----------------------------|---|---|---|---|---|---|---|--------------------------|
- 15 Talking to her about her feelings would be:
- | | | | | | | | | |
|---------|---|---|---|---|---|---|---|------------|
| Harmful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Beneficial |
|---------|---|---|---|---|---|---|---|------------|
- 16 Talking to her about her feelings would be:
- | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|----------|
| Worthless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Valuable |
|-----------|---|---|---|---|---|---|---|----------|
- 17 Talking to her about her feelings would be:
- | | | | | | | | | |
|---------|---|---|---|---|---|---|---|--------|
| Useless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Useful |
|---------|---|---|---|---|---|---|---|--------|
- 18 Talking to her about her feelings would be:
- | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|-------------|
| Favorable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unfavorable |
|-----------|---|---|---|---|---|---|---|-------------|

- 19 Waiting to gather more information before doing or saying anything would be:
 Good 1 2 3 4 5 6 7 Bad
- 20 Waiting to gather more information before doing or saying anything would be:
 Extremely uncomfortable 1 2 3 4 5 6 7 Extremely comfortable
- 21 Waiting to gather more information before doing or saying anything would be:
 Harmful 1 2 3 4 5 6 7 Beneficial
- 22 Waiting to gather more information before doing or saying anything would be:
 Worthless 1 2 3 4 5 6 7 Valuable
- 23 Waiting to gather more information before doing or saying anything would be:
 Useless 1 2 3 4 5 6 7 Useful
- 24 Waiting to gather more information before doing or saying anything would be:
 Favorable 1 2 3 4 5 6 7 Unfavorable

- 25 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|------|---|---|---|---|---|---|---|-----|
| Good | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Bad |
|------|---|---|---|---|---|---|---|-----|
- 26 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|--------------------------|
| Extremely
uncomfortable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely
comfortable |
|----------------------------|---|---|---|---|---|---|---|--------------------------|
- 27 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|---------|---|---|---|---|---|---|---|------------|
| Harmful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Beneficial |
|---------|---|---|---|---|---|---|---|------------|
- 28 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|----------|
| Worthless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Valuable |
|-----------|---|---|---|---|---|---|---|----------|
- 29 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|---------|---|---|---|---|---|---|---|--------|
| Useless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Useful |
|---------|---|---|---|---|---|---|---|--------|
- 30 Telling her that her new pattern of behavior is unacceptable would be:
- | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|-------------|
| Favorable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unfavorable |
|-----------|---|---|---|---|---|---|---|-------------|

- 31 Cheering her up by talking her out of her negative feelings would be:
 Good 1 2 3 4 5 6 7 Bad
- 32 Cheering her up by talking her out of her negative feelings would be:
 Extremely uncomfortable 1 2 3 4 5 6 7 Extremely comfortable
- 33 Cheering her up by talking her out of her negative feelings would be:
 Harmful 1 2 3 4 5 6 7 Beneficial
- 34 Cheering her up by talking her out of her negative feelings would be:
 Worthless 1 2 3 4 5 6 7 Valuable
- 35 Cheering her up by talking her out of her negative feelings would be:
 Useless 1 2 3 4 5 6 7 Useful
- 36 Cheering her up by talking her out of her negative feelings would be:
 Favorable 1 2 3 4 5 6 7 Unfavorable

Subjective Norm Items

- 1 Most people who are important to me would think that I...
 Should 1 2 3 4 5 6 7 Should not
 ...refer this individual to a MHP.
- 2 It is expected of me that I refer this individual to a MHP.
 Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 3 The people in my life whose opinions I value would...
 Approve 1 2 3 4 5 6 7 Disapprove
 ...of me referring this individual to a MHP.
- 4 My closest friends would...
 Approve 1 2 3 4 5 6 7 Disapprove
 ...of me referring this individual to a MHP
- 5 Most people who are important to me would refer this individual to a MHP.
 Completely true 1 2 3 4 5 6 7 Completely false
- 6 The people in my life whose opinions I value...
 Would 1 2 3 4 5 6 7 Would not
 ...refer this individual to a MHP.
- 7 Many people like me would refer this individual to a MHP.
 Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 8 My closest friends would refer this individual to a MHP.
 Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

- 9 Most people who are important to me would think that I...
Should 1 2 3 4 5 6 7 Should not
...talk to a friend about the situation.
- 10 It is expected of me that I talk to a friend about the situation...
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 11 The people in my life whose opinions I value would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me talking to a friend about the situation.
- 12 My closest friends would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me talking to a friend about the situation.
- 13 Most people who are important to me would talk to a friend about the situation.
Completely true 1 2 3 4 5 6 7 Completely false
- 14 The people in my life whose opinions I value...
Would 1 2 3 4 5 6 7 Would not
... talk to a friend about the situation.
- 15 Many people like me would talk to a friend about the situation.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 16 My closest friends would talk to a friend about the situation.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

- 17 Most people who are important to me would think that I...
Should 1 2 3 4 5 6 7 Should not
... talk to her about her feelings.
- 18 It is expected of me that I talk to her about her feelings.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 19 The people in my life whose opinions I value would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me talking to her about her feelings.
- 20 My closest friends would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me talking to her about her feelings.
- 21 Most people who are important to me would talk to her about her feelings.
Completely true 1 2 3 4 5 6 7 Completely false
- 22 The people in my life whose opinions I value...
Would 1 2 3 4 5 6 7 Would not
... talk to her about her feelings.
- 23 Many people like me would talk to her about her feelings.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 24 My closest friends would talk to her about her feelings.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

- 25 Most people who are important to me would think that I...
Should 1 2 3 4 5 6 7 Should not
...wait to gather more information before doing or saying anything.
- 26 It is expected of me that I wait to gather more information before doing or saying anything.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 27 The people in my life whose opinions I value would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me waiting to gather more information before doing or saying anything.
- 28 My closest friends would....
Approve 1 2 3 4 5 6 7 Disapprove
...of me waiting to gather more information before doing or saying anything.
- 29 Most people who are important to me would wait to gather more information before doing or saying anything.
Completely true 1 2 3 4 5 6 7 Completely false
- 30 The people in my life whose opinions I value...
Would 1 2 3 4 5 6 7 Would not
... wait to gather more information before doing or saying anything.
- 31 Many people like me would wait to gather more information before doing or saying anything.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 32 My closest friends would wait to gather more information before doing or saying anything.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

- 33 Most people who are important to me would think that I...
Should 1 2 3 4 5 6 7 Should not
... tell her that her new pattern of behavior is unacceptable.
- 34 It is expected of me that say or do something.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 35 The people in my life whose opinions I value would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me telling her that her new pattern of behavior is unacceptable.
- 36 My closest friends would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me telling her that her new pattern of behavior is unacceptable.
- 37 Most people who are important to me would tell her that her new pattern of behavior is unacceptable.
Completely true 1 2 3 4 5 6 7 Completely false
- 38 The people in my life whose opinions I value...
Would 1 2 3 4 5 6 7 Would not
... tell her that her new pattern of behavior is unacceptable.
- 39 Many people like me would tell her that her new pattern of behavior is unacceptable.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 40 My closest friends would tell her that her new pattern of behavior is unacceptable.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

- 41 Most people who are important to me would think that I...
Should 1 2 3 4 5 6 7 Should not
...cheer her up by talking her out of her negative feelings.
- 42 It is expected of me that I tell one of her parents about the situation.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 43 The people in my life whose opinions I value would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me cheering her up by talking her out of her negative feelings.
- 44 My closest friends would...
Approve 1 2 3 4 5 6 7 Disapprove
...of me cheering her up by talking her out of her negative feelings.
- 45 Most people who are important to me would cheer her up by talking her out of her negative feelings.
Completely true 1 2 3 4 5 6 7 Completely false
- 46 The people in my life whose opinions I value...
Would 1 2 3 4 5 6 7 Would not
...cheer her up by talking her out of her negative feelings.
- 47 Many people like me would cheer her up by talking her out of her negative feelings.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely
- 48 My closest friends would cheer her up by talking her out of her negative feelings.
Extremely likely 1 2 3 4 5 6 7 Extremely unlikely

PBC Items

1	Referring this individual to a MHP would be...								
	Impossible	1	2	3	4	5	6	7	Possible
2	Referring this individual to a MHP would be...								
	Easy	1	2	3	4	5	6	7	Difficult
3	I am confident that I could refer this individual to a MHP.								
	Definitely true	1	2	3	4	5	6	7	Definitely false
4	If I wanted to, I could refer her to a MHP in the Tampa area or on the USF campus.								
	Definitely true	1	2	3	4	5	6	7	Definitely false
5	How much control do you believe you have over referring this individual to a MHP?								
	No control	1	2	3	4	5	6	7	Complete control
6	How much control do you believe you have over putting this individual in contact with a MHP?								
	No control	1	2	3	4	5	6	7	Complete control
7	It is mostly up to me whether or not I attempt to connect this person to mental health services.								
	Strongly agree	1	2	3	4	5	6	7	Strongly disagree
8	It is mostly up to me whether or not I put her in contact with a MHP.								
	Strongly agree	1	2	3	4	5	6	7	Strongly disagree

- 9 Talking to a friend about the situation would be...
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|----------|
| Impossible | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Possible |
|------------|---|---|---|---|---|---|---|----------|
- 10 Talking to a friend about the situation would be...
- | | | | | | | | | |
|------|---|---|---|---|---|---|---|-----------|
| Easy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Difficult |
|------|---|---|---|---|---|---|---|-----------|
- 11 I am confident that I could talk to a friend about the situation.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 12 If I wanted to, I could talk to a friend about the situation.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 13 How much control do you believe you have over talking to a friend about the situation?
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|------------------|
| No control | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Complete control |
|------------|---|---|---|---|---|---|---|------------------|
- 14 It is mostly up to me whether or not I talk to a friend about the situation.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|

15	Talking to her about her feelings would be...								
	Impossible	1	2	3	4	5	6	7	Possible
16	Talking to her about her feelings would be...								
	Easy	1	2	3	4	5	6	7	Difficult
17	I am confident that I could talk to her about her feelings.								
	Definitely true	1	2	3	4	5	6	7	Definitely false
18	If I wanted to, I could talk to her about her feelings.								
	Definitely true	1	2	3	4	5	6	7	Definitely false
19	How much control do you believe you have over talking to her about her feelings.								
	No control	1	2	3	4	5	6	7	Complete control
20	It is mostly up to me whether or not I talk to her about her feelings.								
	Strongly agree	1	2	3	4	5	6	7	Strongly disagree

- 21 Waiting to gather more information before doing or saying anything would be...
 Impossible 1 2 3 4 5 6 7 Possible
- 22 Waiting to gather more information before doing or saying anything would be...
 Easy 1 2 3 4 5 6 7 Difficult
- 23 I am confident that I could wait to gather more information before doing or saying anything.
 Definitely true 1 2 3 4 5 6 7 Definitely false
- 24 If I wanted to, I could wait to gather more information before doing or saying anything.
 Definitely true 1 2 3 4 5 6 7 Definitely false
- 25 How much control do you believe you have over waiting to gather more information before doing or saying anything?
 No control 1 2 3 4 5 6 7 Complete control
- 26 It is mostly up to me whether or not I wait to gather more information before doing or saying anything.
 Strongly agree 1 2 3 4 5 6 7 Strongly disagree

- 27 Telling her that her new pattern of behavior is unacceptable would be...
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|----------|
| Impossible | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Possible |
|------------|---|---|---|---|---|---|---|----------|
- 28 Telling her that her new pattern of behavior is unacceptable would be...
- | | | | | | | | | |
|------|---|---|---|---|---|---|---|-----------|
| Easy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Difficult |
|------|---|---|---|---|---|---|---|-----------|
- 29 I am confident that I could tell her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 30 If I wanted to, I could tell her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 31 How much control do you believe you have over telling her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|------------------|
| No control | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Complete control |
|------------|---|---|---|---|---|---|---|------------------|
- 32 It is mostly up to me whether I tell her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|

- 33 Cheering her up by talking her out of her negative feelings would be...
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|----------|
| Impossible | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Possible |
|------------|---|---|---|---|---|---|---|----------|
- 34 Cheering her up by talking her out of her negative feelings would be...
- | | | | | | | | | |
|------|---|---|---|---|---|---|---|-----------|
| Easy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Difficult |
|------|---|---|---|---|---|---|---|-----------|
- 35 I am confident that I could cheer her up by talking her out of her negative feelings.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 36 If I wanted to, I could cheer her up by talking her out of her negative feelings.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|
- 37 How much control do you believe you have over cheering her up by talking her out of her negative feelings?
- | | | | | | | | | |
|------------|---|---|---|---|---|---|---|------------------|
| No control | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Complete control |
|------------|---|---|---|---|---|---|---|------------------|
- 38 It is mostly up to me whether I choose to cheer her up by talking her out of her negative feelings.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|

Intention Items

- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|-------------------|--|
| 1 | If I encountered this situation, I would refer her to a MHP. | | | | | | | | | |
| | Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false | |
| 2 | If I was in a situation like this one, I would refer her to a MHP in the Tampa area or on the USF campus. | | | | | | | | | |
| | Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely | |
| 3 | If this was a real friend of mine, I refer her to a MHP. | | | | | | | | | |
| | Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree | |
| 4 | If I was in a situation like this one, I would talk to a friend about the situation. | | | | | | | | | |
| | Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely | |
| 5 | If this was a real friend of mine, I would talk to a friend about the situation. | | | | | | | | | |
| | Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree | |
| 6 | If I was in a situation like this one, I would talk to her about her feelings. | | | | | | | | | |
| | Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely | |
| 7 | If this was a real friend of mine, I would talk to her about her feelings. | | | | | | | | | |
| | Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree | |

- 8 If I was in a situation like this one, I would wait to gather more information before saying or doing anything.
- | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|------------------|
| Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely |
|--------------------|---|---|---|---|---|---|---|------------------|
- 9 If this was a real friend of mine, I would wait to gather more information before saying or doing anything.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|
- 10 If I was in a situation like this one, I would tell her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|------------------|
| Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely |
|--------------------|---|---|---|---|---|---|---|------------------|
- 11 If this was a real friend of mine, I would tell her that her new pattern of behavior is unacceptable.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|
- 12 If I was in a situation like this one, I would cheer her up by talking her out of her negative feelings.
- | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|------------------|
| Extremely unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely likely |
|--------------------|---|---|---|---|---|---|---|------------------|
- 13 If this was a real friend of mine, I would cheer her up by talking her out of her negative feelings.
- | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|-------------------|
| Strongly agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly disagree |
|----------------|---|---|---|---|---|---|---|-------------------|
- 14 If I encountered this situation, I would try to distract her from her problems.
- | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|-----------------|
| Definitely false | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely true |
|------------------|---|---|---|---|---|---|---|-----------------|
- 15 If I encountered this situation, I would encourage her to look on the bright side of things.
- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|------------------|
| Definitely true | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely false |
|-----------------|---|---|---|---|---|---|---|------------------|

16 If I encountered a situation like this one, I would tell one of her parents about the situation.

Extremely likely	1	2	3	4	5	6	7	Extremely unlikely
---------------------	---	---	---	---	---	---	---	-----------------------

17 If I encountered a situation like this one, I would NOT say or do anything.

Definitely True	1	2	3	4	5	6	7	Definitely False
--------------------	---	---	---	---	---	---	---	---------------------

Appendix C.

Open-Ended Questions

Please take a moment and think about how you would respond in this situation.

- 1 What would you say and/or do in this situation?

- 2 Now, please take your time and provide as clear an explanation as possible of the response provided above. Include as many details as you can about your thought process and the reasoning behind your decision.

Appendix D.

Demographic Information Questionnaire

- 1 What is your age? _____
- 2 Are you Latino or Hispanic (a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture of origin, *regardless of race*)?
 - a) No
 - b) Yes
 - c) Don't Know
- 3 Which of the following racial categories most accurately describes you (please select *all* that apply)?
 - a) Black or African American (origins in any of the black racial groups of Africa)
 - b) Asian (origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam)
 - c) Native American or Alaska Native (origins in any of the original peoples of North and South America, including Central America, and who maintains tribal affiliation or community attachment)
 - d) Native Hawaiian or other Pacific Islander (origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands)
 - e) White or Caucasian (origins in any of the original peoples of Europe, the Middle East, or North Africa)
 - f) Other (please specify: _____)
 - g) Don't know
- 4 What is your current relationship status?
 - a) Never married
 - b) Separated/divorced/widowed
 - c) Currently married
- 5 What year are you in school?
 - a) Freshman
 - b) Sophomore
 - c) Junior
 - d) Senior
 - e) Other (please specify: _____)
- 6 What type of student are you?
 - a) Full-time
 - b) Part-time
 - c) Other (please specify: _____)
- 7a Have you specified a major area of study?
 - a) No
 - b) Yes
- 7b If so, what is your major? _____
- 8 Where do you currently live?
 - a) On campus
 - b) Off campus

- 9 Which best describes your current living situation?
 a) I live alone
 b) I live with one roommate
 c) I live with multiple roommates
 d) I live with a significant other
 e) I live with one or more members of my immediate family
 f) Other (please specify: _____)
- 10 Have you ever utilized the mental health services provided by any of the following professionals?
- | | | | |
|-----|-------------------------------|-----|----|
| 10a | Psychologist | Yes | No |
| 10b | Psychiatrist | Yes | No |
| 10c | Mental Health Counselor | Yes | No |
| 10d | Clinical Social Worker | Yes | No |
| 10e | Other (please specify: _____) | Yes | No |
- 11 If so, how would you rate the usefulness of the services that you received?
- | | | | | | | |
|-----|------------------------------|---------------------------|--------------|--------------|--------------|---------------------------|
| 11a | Psychologist | 1
Extremely
Useless | 2
Useless | 3
Neither | 4
Helpful | 5
Extremely
Helpful |
| 11b | Psychiatrist | 1
Extremely
Useless | 2
Useless | 3
Neither | 4
Helpful | 5
Extremely
Helpful |
| 11c | Mental Health Counselor | 1
Extremely
Useless | 2
Useless | 3
Neither | 4
Helpful | 5
Extremely
Helpful |
| 11d | Clinical Social Worker | 1
Extremely
Useless | 2
Useless | 3
Neither | 4
Helpful | 5
Extremely
Helpful |
| 11e | <i>Name Indicated in 11e</i> | 1
Extremely
Useless | 2
Useless | 3
Neither | 4
Helpful | 5
Extremely
Helpful |
- 12 Do you know anyone who has received mental health services from
- | | | | |
|-----|-------------------------------|-----|----|
| 12a | Psychologist | Yes | No |
| 12b | Psychiatrist | Yes | No |
| 12c | Mental Health Counselor | Yes | No |
| 12d | Clinical Social Worker | Yes | No |
| 12e | Other (please specify: _____) | Yes | No |
- 13 Have you ever recommended mental health services to a family member or friend for an issue related to suicide?
 a) No
 b) Yes
- 13a If so, did he/she take your recommendation and seek out mental health services?
 a) No
 b) Yes

- 14 Have you ever recommended mental health services to a family member or friend for an issue that was not specifically related to suicide (e.g., depression, anxiety, relationship issues, stress management, anger management, substance use)?
a) No
b) Yes
- 14a If so, did he/she listen follow your recommendation and seek out mental health services?
a) No
b) Yes
- 15 How many times have you referred a family member to a mental health professional?

- 16 How many times have you referred a friend to a mental health professional? _____
- 17 Do you know anyone who has ever referred a family member or friend to a MHP?
a) No
b) Yes

Appendix E.

Perceived Severity

- 1 How would you describe the level of severity of the situation presented in the paragraph above?
- | 1 | 2 | 3 | 4 | 5 |
|------------|-------|----------|--------|-------------|
| Very Minor | Minor | Moderate | Severe | Very Severe |

Appendix F.

Attitudes Towards Seeking Professional Psychological Help Scale-Short Form

1	If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
2	The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
3	If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
4	There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears <i>without</i> resorting to professional help.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
5	I would want to get psychological help if I were worried or upset for a long period of time.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
6	I might want to have psychological counseling in the future.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
7	A person with an emotional problem is not likely to solve it alone; he or she <i>is</i> likely to solve it with professional help.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
8	Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
9	A person should work out his or her own problems; getting psychological counseling would be a last resort.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree
10	Personal and emotional troubles, like many things, tend to work out by themselves.	0	1	2	3
		Disagree	Partly Disagree	Partly Agree	Agree

Appendix G.

Stigma Scale for Receiving Psychological Help

- 1 Seeing a psychologist for emotional or interpersonal problems carries a social stigma.
- | | | | |
|-------------------|----------|-------|----------------|
| 0 | 1 | 2 | 3 |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
- 2 It is a sign of personal weakness or inadequacy to see a psychologist for emotional or interpersonal problems.
- | | | | |
|-------------------|----------|-------|----------------|
| 0 | 1 | 2 | 3 |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
- 3 People will see a person in a less favorable way if they come to know that he/she has seen a psychologist.
- | | | | |
|-------------------|----------|-------|----------------|
| 0 | 1 | 2 | 3 |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
- 4 It is advisable for a person to hide from people that he/she has seen a psychologist.
- | | | | |
|-------------------|----------|-------|----------------|
| 0 | 1 | 2 | 3 |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
- 5 People tend to like less those who are receiving professional psychological help.
- | | | | |
|-------------------|----------|-------|----------------|
| 0 | 1 | 2 | 3 |
| Strongly Disagree | Disagree | Agree | Strongly Agree |

Appendix H.

Assessing Emotions Scale

1	I know when to speak about my personal problems to others.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
2	When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
3	I expect that I will do well on most things I try.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
4	Other people find it easy to confide in me.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
5	I find it hard to understand the nonverbal messages of other people.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
6	Some of the major events of my life have led me to re-evaluate what is important and not important.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
7	When my mood changes, I see new possibilities.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
8	Emotions are one of the things that make my life worth living.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
9	I am aware of my emotions as I experience them.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
10	I expect good things to happen.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
11	I like to share my emotions with others.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
12	When I experience a positive emotion, I know how to make it last.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree

13	I arrange events others enjoy.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
14	I seek out activities that make me happy.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
15	I am aware of the non-verbal messages that I send to others.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
16	I present myself in a way that makes a good impression on others.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
17	When I am in a positive mood, solving problems is easy for me.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
18	By looking at their facial expressions, I recognize the emotions people are experiencing.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
19	I know why my emotions change.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
20	When I am in a positive mood, I am able to come up with new ideas.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
21	I have control over my emotions.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
22	I easily recognize my emotions as I experience them.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
23	I motivate myself by imagining a good outcome to tasks I take on.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
24	I compliment others when they have done something well.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
25	I am aware of the non-verbal messages that people send.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree

26	When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
27	When I feel a change in emotions, I tend to come up with new ideas.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
28	When I am faced with a challenge, I give up because I believe I will fail.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
29	I know what other people are feeling just by looking at them.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
30	I help other people feel better when they are down.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
31	I use good moods to help myself keep trying in the face of obstacles.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
32	I can tell how people are feeling by listening to the tone of their voice.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
33	It is difficult for me to understand why people feel the way they do.	1	2	3	4	5
		Strongly disagree	Disagree	Neither	Agree	Strongly agree

About The Author

Sarah J. Tarquini grew up in New York State. She earned a B.A. in Psychology from The Pennsylvania State University in 2000 and a M.S. in Psychology from Villanova University in 2005. Sarah will earn her Ph.D. in Clinical Psychology in 2010 at the University of South Florida, where she studied under the mentorship of Marc S. Karver, Ph.D. Sarah completed her clinical psychology internship training at the Yale Child Study Center, in New Haven, Connecticut, with a focus on Pediatric Psychology. She is continuing her training as a postdoctoral fellow at the Yale Child Study Center. Sarah is an author on several peer-reviewed articles and conference presentations in the areas of pediatric and child clinical psychology.