

Differential Help Seeking Among College Students

by

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## ABSTRACT

Research on psychological help seeking has continued to grow as the field of psychology has expanded. Much of the research is often variable driven and assumes this construct is a global construct. The current study used the Theory of Planned Behavior to provide a theory based approach to understanding psychological help seeking intention. Also, the theory was tested for three common presenting concerns: Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use. Two samples of over 400 university students completed surveys for all three concerns. Results produced invariance across path loadings for the concerns being compared. When thinking about seeking psychological help, university students do not appear to consider the type of concern but do rely on attitude, stigma, and how much control and efficacy they have to address their problems on their own. Mean differences emerged for some variables in the model, but no meaningful mean differences were noted for gender. Overall, the variables used in the decision making process do not appear to consider concern when seeking help, but the beliefs about seeking help differ some. These results extend the Theory of Planned Behavior to consider the importance of an individual's ability to address their problem on their own. When considering psychological help seeking, college students have similar attitudes and beliefs about their ability to access mental health resources, their beliefs about stigma, ability to address their problems on their own, and their intention to seek help vary more by concern. The specific concerns being addressed does not appear to impact the weight each variable is given in the decision making process;

attitude, stigma, and ability to solve the problem on their own appear to be the variables given greatest consideration.

## DEDICATION

This project is dedicated to the family and friends who supported me through my graduate work at Arizona State University. Especially to my wife Jennifer for her immense patience and loving support throughout the entire process. With God's help we did it!

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## Chapter 1

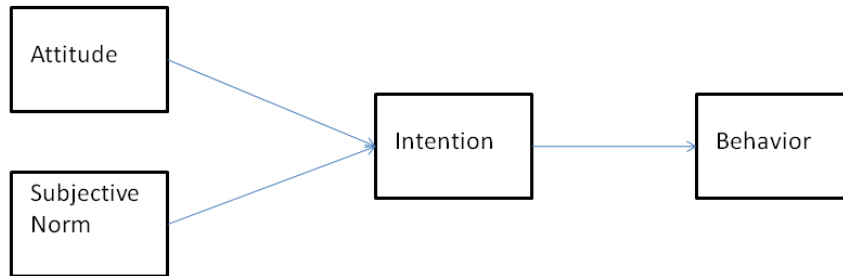
### Introduction

The field of psychology has a long history of trying to understand psychological help seeking behavior in individuals. Psychological help seeking refers to an individual's choice to engage in some type of therapeutic process with a trained mental health professional in order to alleviate some type of distress. This type of research has always been popular and recent studies are no exception (Duncan & Johnson, 2007; Eisenberg, Golberstein, & Gollust, 2007; Leech, 2007; Sheu & Sedlacek, 2004; Vogel, Wester, & Larson, 2007; Wilson, Rickwood, & Deane, 2007). Research in this area seems to take either a global understanding of psychological help seeking and looks at different models to understand and explain why certain people seek help, or a more focused approach on understanding why individuals would seek a help for a specific type of problem. The former studies are typically testing a variety of variables and their relationships to enrich our understanding of the variables that impact an individual's desire to seek help. For example, Cepeda-Benito and Short (1998) surveyed general help seeking attitudes, personality variables, and social variables to get an overall understanding of global help seeking intention. The latter type of research typically focuses on one specific type of counseling or problem (i.e., drug or alcohol abuse, career counseling) and tries to determine what variables best impact that decision to seek help. Di Fabio and Bernaud (2008) conducted a study to determine variables that lead to intention to seek career counseling

services, including attitudes specific to career counseling. There seems to be little literature comparing models for different types of problems. Both groups of research provide an excellent beginning to understand models and variables related to psychological help seeking. However, the models do not compare how established variables may vary in their relationship to differing types of problems. An integration of these two approaches will provide a richer picture of psychological help seeking. Being able to understand the unique impact of variables across various types of problems will fill a void in the research and provide greater understanding into what impacts individual's choices. It seems naïve to assume that help seeking models are the same for all problems. Understanding the potential unique impact of important variables like attitude, norm, and control will allow researchers to gain greater depth. By comparing models for unique problems along similar variables, the varying strength of these variables will enrich our understanding of help seeking intention. It is unknown if some variables are more predictive than others for different counseling problems. This will then provide clinicians with greater understanding of the barriers and supports that influence their clients as they seek help. This information can impact outreach and intervention programs for specific problem types and allow clinicians to challenge those important variables that have strong prediction on help seeking intent. The current study will test one model across different types of psychological concerns to gain insight into how these variables may differentially influence intention to seek psychological help.

A review of the literature reveals a large interest in psychological help seeking and a large number of researchers involved in studying the construct. The Theory of Reasoned Action (TRA: Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) has been a popular model for the study of psychological help seeking (Figure 1). The theory views Behavior as a function of Intention. Behavior is best predicted by an individual's Intention to complete that behavior. This link has allowed the study of Intention and its underlying components to increase the understanding of behavior. Research on Behavior is not always practical, so Intention functions as a strong proxy. Additionally, Intentions are affected by the Attitudes and Subjective Norms an individual has toward the Behavior. Attitudes measure how an individual feels about a specific Behavior. These Attitudes are developed from the beliefs that individuals hold about the outcome of engaging in the Behavior. If individuals believe the outcome will be positive, individuals generally develop a positive attitude. Conversely, if there is a belief that the outcome will be negative, a negative attitude will emerge. In TRA, these beliefs that lead to Attitudes are called Behavioral Beliefs. Behavioral Beliefs affect the attitude an individual develops and these attitudes directly impacts an individual's Intention to engage in behavior (Ajzen & Fishbein, 2005). Subjective Norms also have been found to predict Intention. An individual's belief about what significant others would expect of them creates a Subjective Norms that directly impacts Intention. Subjective Norms have been studied by looking at the individual's belief that people "like them" engage in the behavior or are allowed to engage in

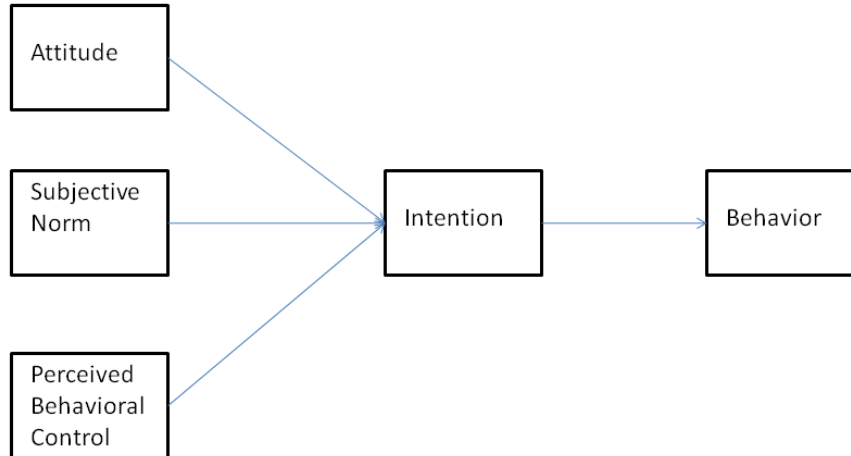
the behavior. These norms are impacted by Normative Beliefs which are based on the larger expectations of others regarding the merits of the behavior (Ajzen & Fishbein). In review, individuals have Behavioral Beliefs about the outcome associated with engaging in a specific behavior. These beliefs lead to development of an Attitude toward that Behavior. Also, individuals perceive the expectation of close relationships regarding a behavior and these Normative Beliefs create a Subjective Norm that the individual holds for themselves regarding the Behavior. Attitude and Subjective Norm directly impact an individual's Intention to engage in a behavior, and it is this Intention that leads to actual Behavior. This model of studying behavior has been popular in psychological help seeking research.



*Figure 1.* Theory of Reasoned Action model.

Later research on TRA indicated that the addition of Perceived Behavioral Controls increased the prediction of intention and behavior, especially for non-volitional behavior, but also in general (Madden, Ellen, & Ajzen, 1992). In their research, nine behaviors were selected with varying degrees of controllability ranging from a good night's sleep to taking vitamins. The greatest increases in intention were noted on the variables assessing "talking to a close friend" and "going shopping with a friend." The greatest increase in behavior prediction was reported on "getting a good night's sleep." The average increase for all variables was significant using the new model.

This updated version of the TRA model was presented in 1985, the Theory of Planned Behavior (TPB: Ajzen, 1985; Ajzen, 1991). This model added the variable of Perceived Behavioral Controls to the model for understanding Intention (Figure 2). This addition was especially important to address behaviors that are not under the control of the individual. Critics noted that TRA was an excellent model for understanding volitional behavior, but that the model was weak in predicting non-volitional behavior. Perceived Behavioral Controls are the individual's belief that they have the ability to engage in the behavior. These beliefs stem from the Control Beliefs that an individual has about actually completing the behavior of interest and the ability to do so (Ajzen & Fishbein, 2005). Perceived control and self-efficacy are related constructs that often figure largely in an individual's Control Beliefs. These develop from factors that make behavior easier or harder for the individual to complete and impact the perceived control an individual has about engaging in a Behavior. These Perceived Behavioral Controls directly impact Intention as well. Without Perceived Behavioral Controls, the TPB model was not effective in predicting behaviors where individual's lacked the ability to control the outcome. Attitude and Subjective Norm were not sufficient to predict Intention and Behavior if the individual had no control over the situation and circumstances required to complete the intended Behavior. This addition expanded the utility of the model and allowed for greater use. However, the psychological help seeking literature has generally preferred the TRA model in its research.



*Figure 2.* Theory of Planned Behavior model.

It is important to note that all three underlying beliefs-behavioral, normative, and perceived control-are affected by the demographic and background variables of the individual. Differences in belief then are based on experience and social environment; individuals may develop certain beliefs about behavior, expectations of others, and their amount of control. These then develop into Attitudes, Subjective Norms, and Perceived Behavioral Controls about specific Behavior. These differences in experience and environment can provide for differences that emerge for individuals and groups (Ajzen & Fishbein, 2005). This expanded model will be used in the current study to determine if Attitude, Subjective Norm, and Perceived Behavioral Controls differ based on the type of

counseling problem for a sample of university students. Differences among the variables in the strength of prediction will provide better information to assist clinicians in addressing barriers to seeking psychological help. Research has not yet used TPB to determine how these variables may be differentially impacting psychological help seeking depending on the counseling problem. The use of TPB over TRA will provide new data about the role of PBC in help seeking intention. Most research addresses Attitude and Subjective Norm (TRA model), but fails to include Perceived Behavioral Controls (TPB). It is likely that an individual's belief about being able to get psychological help would be especially salient to their Intention. A positive attitude and social expectation supporting counseling may not be sufficient to predict an individual's intention without noting how much belief he or she has in being able to actually access the help needed or address the concern individually.

Recently, Vogel (Pederson & Vogel, 2007; Shaffer, Vogel, & Wei, 2006; Vogel, Gentile, & Kaplan, 2008; Vogel, Wade, & Haake, 2006; Vogel, Wade, & Hackler, 2007a; Vogel, Wade, & Hackler, 2007b; Vogel, Wade, Wester, Larson, & Hackler, 2007; Vogel & Wei, 2005; Vogel, Wester, Wei, & Boysen, 2005) has been a leading researcher in the area who has been testing different variables and models at a more global level to understand what impacts the attitudes and intentions to seek psychological help among university students. Vogel has used the TRA model in much of his research as a basis for understanding intention to seek psychological help seeking. He has looked at a large number of variables in



an attempt to understand what impacts psychological help seeking. Individual variables like attitude toward help seeking, perceived risk and benefit, attachment, emotional expression, and distress have all supported more positive beliefs about seeking help and being able to open up in therapy increase Intention. Social variables like self stigma, social stigma, social support, male gender role conflict, and media portrayals have all be studied and indicated the importance of external support for seeking help leading to increased Intention. A more comprehensive review of his research and findings can be found in Chapter 2.

Some research has not used the TRA or TPB models when researching help seeking. However, similar cognitive concepts are often incorporated. For example, Cramer's Model (Cramer, 1999) has four components: distress severity, attitude toward counseling, social support availability, and self-concealment. Deane and Todd (1996) conducted an analysis using treatment fearfulness, distress, and attitude. Systemic policy, predisposing characteristics, supportive resources, need, and personal health behaviors compose the model developed by Andersen and colleagues (Andersen, 1995). Others have proposed additional models as well. Several of these variables are present in full or part in the TRA and TPB models. Regarding help seeking intention, there seem to be commonalities regarding the importance of demographic variables, personal attitudes, and some type of social construct like stigma. The current project will use the TRB model as it has a long empirical history and the TRA model has been used in the area previously. Also, the inclusion of the behavioral controls will

provide an opportunity to test the full model. The addition of Perceived Behavior Controls will test the increased prediction that TPB provides, as well as determining the importance of this variable in predicting Intention. Previous research has failed to include this variable which has been shown to be an important component of Intention. It seems logical to assume that an individual's belief about whether he or she can seek help or address the problem individually would be important to understanding their Intention.

A global view of psychological help seeking gives researchers and practitioners a general rating of university student's Intention toward seeking psychological help. While this information is helpful, it does not provide information about the varying Subjective Norms, Attitudes, and Perceived Behavioral Controls that exist for seeking psychological help for different types of problems like anxiety or depression, career choice concerns, and alcohol or substance use. A global view assumes that individuals have consistent attitudes, norms, and behavior controls toward seeking help from a mental health professional that do not vary based on the type of concern. This would be equivalent to assessing an individual's attitude toward school overall. That measurement would be a composite of many more specific attitudes about subjects, classmates, instructors, etc. A general measure may not be a good predictor since more specific attitudes may have greater salience for the individual. While it provides a general impression that is vague, nuance is lost and accuracy decreased. This assumption has not yet been tested well, and the current

study will fill this gap in the research and indicate if differential models exist. In a study on 125 university students by Rochlen, Mohr, and Hargrove (1999), they designed a measure of career counseling attitude (Attitude Toward Career Counseling Survey) and found it provided significantly greater prediction of career counseling intention than a more global measure of help seeking attitude (Attitude Toward Seeking Professional Psychological Help Scale-Short Form). They completed a similar study with fewer than 70 students and only the relationship between the Attitude Toward Career Counseling Survey-Value subscale was replicated, and global attitude was significantly related to career counseling intention. Varying attitudes based on problem type were also found by Deane, Wilson, and Ciarrochi (2001). This study reported an interaction with the source of help as well. Individuals were significantly more likely to seek help from mental health professionals for suicidal ideation than for personal-emotional or anxiety-depression issues. Significantly different correlations between attitude and type of concern (psychological and interpersonal vs. academic vs. substance use) have been found with college students (Cepeda-Benito & Short, 1998). Specifically, psychological and interpersonal problems were best predicted with measures of psychotherapy attitude, psychological distress, social support, and by interaction between social support and the level of self-concealment. Academic concerns were best predicted by psychotherapy attitude, performance distress, psychotherapy fears, and the interaction between social support and self-concealment. Substance use was only predicted by psychotherapy attitude. These

results would indicate that a global view of psychological help seeking does not adequately predict behavior based on the specific concern.

Since the assumption that a global prediction of help seeking may not be appropriate for different types of problems, it is important to determine what types of problems are frequent and similar and would be beneficial to study. Clients come to counseling at university counseling centers for many different reasons, but research on psychological help seeking has tried to create categories to describe similar reasons. In their research, Oliver, Reed, Katz, and Haugh (1999) found problems that grouped into internalized distress, alcohol abuse, and eating problems for a university convenience sample. Some research in this area assessed the problems of those who seek counseling services, which may differ from the population as a whole. Based on a list of 42 possible problems, Erdur-Baker, Aberson, Barrow, and Draper (2006) factor analyzed the list and found five major categories of concerns among university students: academic concerns, relationship/adjustment issues, depression/romantic relationships, sexual issues, and eating concerns. These factors held stable for samples of students who sought services at a university counseling center in 1991, 1997, and a non services group from 1994. While the types of problems researched varies, there seems to be a large percentage of problems that are emotional (i.e. depression, anxiety, adjustment, bipolar, eating disorder), interpersonal (i.e. relationships, family), and a smaller percentage are substance use related. Each of these types seems to compose a significant portion of the work that university counseling centers

provide. Historically, career and vocational concerns have been part of the work at university counseling centers as well. Some universities have moved this type of counseling work to career centers on campus and not the counseling centers. It is the researcher's opinion that career issues remain an important part of counseling psychology and should not be excluded from research in help seeking.

The current study brought together two strong lines of research in psychological help seeking; the use of a single model across various types of common counseling problems. This study filled a gap between these two areas of research in this field. This research was designed to enrich our understanding of the unique relations among Attitudes, Subjective Norms, and Perceived Behavioral Controls related to psychological help seeking for problems related to anxiety or depression, career choice concerns, and alcohol or substance use. Career counseling emerged from Counseling Psychology's historic roots, and is still done today, though it is sometimes not completed in university counseling centers. As drug and alcohol use continues, therapeutic treatment of abuse and dependency remains an important area of treatment for university counseling centers. Another large category is personal problems like anxiety and depression. The current study looked at career choice concerns, alcohol or drug use, and anxiety or depression as categories describing different types of problems. These types of concerns represent a diverse and large representation of the work done in university counseling centers. Understanding what factors impact intention to seek help for these specific concerns will greatly increase therapists' abilities to

reach out to individuals and increase service utilization.

The TPB model was used as the theoretical model for this study. Research on TPB has strong empirical support for its ability to predict Intention and Behavior for a variety of behaviors. Previous research has established TRA as a strong model for help seeking, but little has been done to expand the research to use TPB which includes items related to control and self-efficacy. Analyzing the strength of the relationships that Attitude, Subjective Norms, and Perceived Behavioral Controls have concerning each specific type of problem enriches the understanding provided by the models. The addition of Perceived Behavioral Controls expands this area of research and determines the role that control and self-efficacy play in psychological help seeking. Previous research has reported some of these variable across problem type or all of these variables across one problem, but this study attempted to provide a more comprehensive and expanded view that allowed for model comparisons to determine which variables are most important in predicting psychological help seeking Intention in a sample of university students. This research provides useful information in understanding the variables that influence college student's help seeking Intention, which in turn can be used to address appropriate variable to increase service utilization.

This study assessed the differential magnitude of Attitude, Subjective Norm, and Perceived Behavioral Controls on psychological help seeking Intention for alcohol or substance use, career choice concerns, and anxiety or depression. It was hypothesized that different problem types will have the model variables

correlate with them differentially. TPB will be used as a framework to test the different problem types in a path analysis framework.

## Chapter 2

### Literature Review

The following section reviews in greater depth the variables and issues connected to psychological help seeking. A general overview of the psychological help seeking literature, review of popular models, literature on the selected model, review of variables, and hypotheses is addressed.

#### *Psychological Help Seeking*

Psychologists have long been interested in understanding what variables impact and predict behavior, and research in psychological help seeking is no exception. Help seeking is conceptualized as an individual's decision to seek help from a mental health professional to address some concern in his or her life. Research often studies intention to seek help as an appropriate proxy to actual behavior. People seek psychological help from mental health professionals for a variety of concerns in life. Interestingly, not all people who have problems choose to seek therapy to alleviate their concern. This study sought to understand the variables that impacted Intention toward psychological help seeking, which could later be used increase utilization among college students. A large recent survey of 2,785 university students, which screened for anxiety and mood disorders, reported anywhere between 37% and 84% of students did not get treatment for their disorder (Eisenberg, Golberstein, & Gollust, 2007). Concerns with relationships and vocation have also been noted (Lucas & Berkel, 2005). They also noted that poor rates of utilization can also be seen in adult samples. In their



sample ( $n = 597$ ), 15% of the students surveyed had received some type of mental health treatment involving counseling or medication. These results along with those noted previously in the Chapter 1 indicate that college students do report psychological concerns that could benefit from treatment. There seems to be reluctance on the part of a majority of college students to seek help when they have problems.

For those in the university setting, underutilization is troubling since many college students for the first time are away from their primary support network (i.e., family) and may not have adequate coping skills to manage their concerns. This makes university students a unique and vulnerable population to the potential negative consequences of untreated mental health concerns. While underutilization of mental health services is not uncommon in American society, understanding the variables that impact individual's intentions to seek psychological help would allow for greater intervention to reach students and increase utilization. Once the variables that impact intention are more clearly understood, interventions can be designed to address these variables specifically. A growing body of research is concerned to determine what variables are most important in understanding the psychological help seeking behavior of college students.

Understanding the variables that influence an individual's decision to seek treatment is essential to trying to help address the mental health concerns of a university population. Also, understanding how these variables differentially

influence intention is important. Most research in this area assumes that a global view of psychological help seeking will accurately predict seeking help for more specific types of problems. With the plethora of research that exists, there are countless models of understanding psychological help seeking that have looked at a variety of variables. The following section looks at several models and then important variables in the study of seeking psychological help.

In a review of the area, Vogel, Wester, and Larson (2007) summarized the research surrounding popular variables. They noted major factors that increase avoidance of seeking psychological help: social stigma, treatment fears, fear of emotion, anticipated utility and risk, reluctance to self-disclose, social norms, situational variables, and demographic variables. Social stigma is the fear of negative judgment from others due to help seeking. Treatment fears usually relate to more specific concerns about the nature of the relationship with the counselor. Fear of emotion is a reluctance to discuss affect. Anticipated utility and risk address the expected benefits and dangers that seeking help could create. Reluctance to self-disclose problems to another person causes some people to avoid treatment. Social norms also often dictate what is viewed as “appropriate” behavior. A summary of situation and demographic variables is also provided. Research on gender tends to indicate that women have more positive attitudes toward therapy. Ethnicity is often an important variable as Caucasians tend to have more positive views of counseling than minority groups. Age is a variable of limited study due to the use of college samples in most research. A tendency of

adolescents and older adults to avoid seeking help was reported. They also note that people tend to be more comfortable talking to a medical professional than a mental health professional. A brief review of problem type notes that barriers and type do often vary, but that this area needs further development.

### *Models of Psychological Help Seeking*

There are several models of help seeking in the literature and three major alternatives will be reviewed here, and the fourth will be used in the study. Cramer's Model, Deane's and Todd's Model, Andersen's Model, and the Theory of Planned Behavior all provide frameworks to understand individual's help seeking. A brief introduction and review of research for each model follows. The psychological help seeking literature appears to be variable based and most studies do not directly follow a specific theory. Also since several models have similar variables, a later section will review specific variables in greater depth.

*Cramer's Model (1999).* Cramer's model of psychological help seeking is composed of four variables: self-concealment, distress level, social support, and attitude toward counseling. He proposed a path model to explain an individual's decision to seek counseling. Self-concealment measures an individual's tendency to hide personal information and not share that with others. Level of distress assesses the intensity of the problem being experienced. Social support concerns the amount of support from significant others people has in their life. Attitude assessed the positive or negative view participants possess about seeking help. The path model Cramer selected begins with self-concealment. It posits that those

who self-conceal are less likely to have social support, have higher levels of distress, and possess more negative attitudes toward counseling. Lower social support is also more likely to be related to greater distress. It is distress and attitude then that influence actual help seeking behavior. Cramer reanalyzed the data from Cepeda-Benito & Short (1998) and Kelly & Achter (1995) with this model. The sample contained almost 1,000 individuals. The reanalysis supported Cramer's model. Cramer's model has been used in subsequent research as well.

A search on research that has cited Cramer's publication in 1999 reveals that his model was been tests in a variety of studies. Studies with individuals of all ages, including college students, have referenced this study. Research on a variety of problems like substance abuse, eating disorders, as well as general psychological help seeking have been done. Studies in psychological help seeking have also cited Cramer's work in looking at issues related to ethnicity and acculturation. Specifically, Liao, Rounds, & Klein (2005) tested Cramer's model with a sample of Caucasian and Asian/Asian American university students. Their results indicated that Cramer's model fit the data for both Caucasian and Asian/Asian American samples well. Further analysis indicated that self-concealment functioned differentially in the samples. The Asian concept of face was indicated as a potential explanation for the increased power of self-concealment in the Asian sample. The inclusion of acculturation scales including behavior and values significantly improved the model, particularly through the attitude variable. Much research has been done looking at the variables Cramer

indicated and will be reviewed later in the chapter.

*Deane's and Todd's Model (1996)*. This model also used four variables to study help seeking intention. Gender, treatment fearfulness, distress, and attitude toward counseling were studied for both suicidal thoughts and personal-emotional problems on a sample of 107 New Zealander university students. Treatment fearfulness assesses the level of discomfort individuals have about entering counseling. Distress indicates the amount of distress a person is experiencing. Attitude contains items to determine if the person has a positive or negative belief about seeking help. Significant relationships were only reported between the intention and attitude items for each type of problem. Both of these were positive relationships. Attitude, however, was negatively related to gender and the four subscales of treatment fearfulness (therapist responsiveness, image concerns, coercion concerns, and stigma concerns). The role of previous counseling experience was also assessed. They noted that individuals with previous experience in counseling were more likely to seek help for personal-emotional problems and have less fear of treatment. Participants indicated a high intention to seek help for suicidal thoughts. They noted that in their sample these four variables accounted for 50% of the variance for help seeking intentions. Implications for psychoeducation to increase intention were presented. Further review of the specific variables in this model will be presented later in this chapter.

A literature review of Deane's and Todd's article notes a variety of studies

as well. This study has also been cited with a variety of age, gender, and ethnic groups. A variety of disorders-drug abuse, suicidal thinking, and general problems-have also referenced this model. This study has also been cited when looking at graduate students and their help seeking. Nationality has also been a variable studied.

*Andersen (1995)*. Andersen's model is designed to be used with health services from a systemic perspective. His model has been around for over 30 years, and has been revised several times to more accurately explain how people seek help for health concerns. This model is the most complicated and involved of the four being reviewed. The current model is composed of four pieces that are related to one another. The environment, which addresses the larger health care system and external environment. Population characteristics including predisposing characteristics, enabling resources, and need. Health behavior looks at individual variables like personal practices and use. Outcomes is the last variable that is composed of perceived and evaluated health status and consumer satisfaction. This model also includes reinforcing loops that tie from outcome back to population characteristics and health behaviors. Environment directly effects population characteristics and outcomes. Population characteristics are related to health behaviors and outcomes. Health behavior effects outcomes and populations characteristics as well. Outcome loops back in the model to population characteristics and health behavior.

A review of articles that cite this article finds several hundred citations.

This model has been cited more than the previous two. In part due to its long history and broader application to general health care. The aforementioned variables have also been studied with this model, as well as medication treatment, disorders like PTSD and ADHD, health conditions like asthma, diabetes, and HIV, and many more. Later in this chapter some variables from this model commonly studied in psychological help seeking will be reviewed.

*Theory of Planned Behavior (Ajzen, 1991).* All of the models reviewed have been popular in help seeking literature, however, the Theory of Planned Behavior (TPB) will provided a more parsimonious and useful model for understanding psychological help seeking. Also, recent studies on psychological help seeking have relied heavily on an older version of this model (TRA) and had success at increasing understanding. The TPB has broad application to a number of behaviors and this study furthers the application to psychological help seeking. Also, TPB addresses an individual's internal beliefs and assumptions that underlie their intention to engage in behavior, which allows for a focused study of those variables.

The Theory of Planned Behavior is an extension of an earlier model, the Theory of Reasoned Action (TRA; Ajzen, 1985; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The TRA is a model for understanding volitional behavior based on Attitude, Subjective Norm, and Intention. The TPB is an extension of the TRA that allows for understanding non-volitional behavior by including Perceived Behavioral Controls. Because TPB is an extended model of

TRA, they will be reviewed together. The TPB is a theory created to explain behavior choices in individuals. The theoretical model is based on decades of research supporting this model as effective for a large variety of behaviors including health behaviors like exercise (Blanchard, Rhodes, Nehl, Fisher, Sparling, & Courneya, 2003; Madden, Scholder Ellen, & Ajzen, 1992; Rhodes & Courneya, 2005), mammography (Tolma, Reininger, Evans, & Ureda, 2006), and alcohol treatment (Codd, III & Cohen, 2003). This broad application makes TPB an excellent choice for research in psychological help seeking.

Ajzen and Fishbein (2005) noted that like all models, TPB has several underlying assumptions. These assumptions provide insight into understanding the general model. First, behavior is directly preceded by Intention. An individual's choice to engage in a behavior is best predicted by assessing their level of Intention. Second, Intentions are based on three other variables-Attitude, Subjective Norms, and Perceived Behavioral Controls. Third, these variables are themselves composed of beliefs that the individual has concerning the behavior, norms, and control. Fourth, these individual beliefs are a function of many demographic and background variables that vary between and among groups (see Figure 2).

These assumptions form a comprehensive model from individual differences to behavior. It seems easiest to explain the TPB model variables in reverse, beginning with behavior and working back to the variables that influence that choice. TPB predicts Behavior, so the model product is the specific behavior



in question. For the purposes of this study, Behavior was not assessed due to the nature of psychological help seeking often being influenced by level of distress. Also, a larger sample of the university population was used to give a more general view of psychological help seeking. This study was designed to understand how the variables in TPB influenced Intention, which is the immediately preceding variable to Behavior (Ajzen, 1985). Intention then is an individual's belief about engaging in a certain Behavior.

The TPB posits that three variables influence Intention, which then directly impacts Behavior. The variables are Attitude, Subjective Norm, and Perceived Behavioral Control (Ajzen & Fishbein, 2005). Attitude about a behavior is an important variable in predicting Intention. Attitude is generally influenced by the belief an individual has about engaging in that behavior. These beliefs are often based on what the individual believes the consequences of completing the behavior will be. For example, if I think that studying will help me get a good grade, then I will likely develop a positive Attitude toward studying and be more likely to intend to study before an exam. The second variable to effect Intention is Subjective Norm. These are the social pressures that individual's feel from others to engage in the behavior. These pressures are based on normative beliefs. These beliefs reflect societal and cultural expectations about the value of the behavior. Using the previous example, if my peers and family value studying as a means to get good grades, then I will likely have a view that studying is a good behavior. The third variable predicting Intention is Perceived

Behavioral Control (PBC). This variable was not part of the original TRA model and was added to allow for prediction of non-volitional behaviors. Perceived Behavioral Controls express the individual's perception that they are able to complete the behavior and overcome potential barriers to that. Beliefs about what influences will increase their likelihood of success or failure, as well as the level of difficulty believed to relate to completing the behavior all influence these controls. Some similarity can be found in the concepts of self-efficacy and control. Self-efficacy assesses the level of confidence to complete a specific behavior, while control assesses the level of perceived control the individual has to engage in a specific behavior. In the case of help seeking, Perceived Behavioral Controls will reference the amount of confidence the individual has in seeking help and the amount of control they feel they have over seeking help. In the example noted early, if I believe that I am able to get help studying, then I will be more likely to believe I have control over seeking help for studying and will be more likely to engage in that behavior. In addition, the PBC will be extended to include self-efficacy and control related to addressing individuals' concerns on his or her own. Consider our example, if I believe that I am able to study well and that I can avoid distractions on my own, then I will be more likely to believe I have control over studying and be more likely to engage in that behavior by myself. Assessing both PBCs related to seeking help and solving one's own problems will give greater efficacy to the model.

These underlying beliefs about the behavior, norms, and control that

influence our Attitude, Subjective Norm, and Perceived Behavioral Control respectively, are influenced by personal, social, and informational experiences (Ajzen & Fishbein, 2005). These demographic and experiential differences often afford individual's opportunities to observe their world and provide explanation for what occurs. In review, often our individual experiences and background develop into beliefs about specific behaviors, norms related to that behavior, and beliefs about how much control we have. These underlying beliefs influence the Attitude, Subjective Norm, and Perceived Behavioral Control that develop regarding the behavior. These three variables lead to Intention, which is the direct antecedent to behavior.

A search based on Ajzen's 1991 article, one of his earliest on TPB, finds over 1,800 other article citations. This large number is likely due to the long history this theory has, as well as its broad appeal to a variety of behaviors. TRA and TPB are not specific to psychological help seeking and have been used in a very wide variety of behavioral studies. A study by Rhodes and Courneya (2005) on a sample of 300 undergraduates in Canada used the TPB model to predict exercise behavior. Their results found that Attitude and Subjective Norm were significant predictors for Intention ( $r = 0.25$  and  $r = 0.12$ , respectively). Perceived Behavioral Control was not significantly related to Intention; however, self-efficacy was significantly related to Intention ( $r = 0.55$ ). Another study by Codd, III and Cohen (2003) used the TRA model and looked at 124 undergraduate student's help seeking intention for alcohol abuse. In their sample, Intention was

significantly predicted by Attitude ( $r = 0.30$ ) and Subjective Norm ( $r = 0.20$ ). Both studies used the assessment method recommended by Ajzen (2006), which designs an instrument specific to the behavior of interest. This method will be reviewed more in depth in Chapter 3.

The TPB is a strong model for understanding behavior individual's complete. Its strong empirical history and broad use make it a good choice for help seeking research. Psychological help seeking research seems to take a variable-based approach with few studies using a specific model to conceptualize and guide the study. Some studies have adapted and modified the model in their work. Previous research has found strong support for variables in TPB (see the following section for a review of these variables), which also increases the probable efficacy of this model in psychological help seeking. Grounding this study in TPB allowed it to expand the use of TPB to psychological help seeking and benefit from the strong empirical support for the model across a variety of behaviors.

#### *Variables Related to Psychological Help Seeking*

A brief review of the literature will reveal the very large number of variables that have been studied in order to understand individual's help seeking intention. Some of the most popular will be reviewed below. Variables are conceptualized and organized based on the TPB model to provide ease of explanation and understanding.

*Intention.* Intention is the dependent variable is this study. Due to the

difficulty of finding a large enough sample who engage in help seeking behavior and the potential sampling error, behavior will not be assessed. There is literature to support the link between Intention and behavior. In a large meta-analysis ( $n = 161$  published studies) of a variety of behaviors, a significant relationship ( $R = 0.47$ ,  $R^2 = 0.22$ ) was reported between Intention and Behavior (Armitage & Conner, 2001). They noted that their findings were similar to other meta-analyses testing TPB.

More specifically, Kleinman, Millery, Scimeca, and Polissar, (2002) sampled 371 adults between the fall of 2008 and 2009 who were leaving a hospital after substance detoxification about entering substance treatment. They followed up with 275 of those adults 30 days later to determine what variables predicted treatment utilization. Intention was assessed by asking two items, one related to whether they intended to enter drug treatment and another about their chances of going to drug treatment. Scaling and computation were not provided for the Intention scale. Behavior was assessed after a 30 day follow up and categorized based on length of stay in treatment (30 days, 1-29 days, or no days). Intention was a significant predictor of using treatment ( $r = 0.17$ ).

The link between behavior and Intention was also supported in a study looking at exercise behavior in 300 undergraduate students (Rhodes & Courneya, 2005). The sample was mostly female ( $n = 223$ ). These researchers used the TPB assessment method to develop instruments and then surveyed from psychology classes. They completed a three week follow up to determine which participants

completed the target behavior. Intention was a strong significant predictor for later exercise behavior ( $r = 0.81$ ). These studies demonstrate the strong positive relation between Intention and behavior. The stronger relation with exercise closely relates to the nature of this study. In the case of exercise and therapy, individual's must exhibit personal commitment and dedication to engage and benefit from the behavior. Also, there is sometimes reluctance in both cases to engage in the behavior due to personal or external beliefs. These similarities make exercise a similar behavior to seeking psychological help.

*Background Variables.* In TPB, there are many background variables that can lead to the development of beliefs an individual has concerning psychological help seeking. This section will highlight some of the major factors that previous research reported to be important.

*Gender.* Research points to an overall difference in Attitudes and Intentions to seek help by gender, though this is not always consistent. Women are generally more likely to seek treatment than men. Gonzalez, Alegria, and Prihoda (2005) in their analysis of the National Comorbidity study from 1990-1992 ( $n = 5,877$ ) found support for this attitude difference in their entire sample. Attitude toward psychological help seeking was assessed by three items assessing likelihood of seeking treatment for "a serious emotional problem," level of comfort talking about problems, and level of embarrassment experienced if the individual's friends learned he or she was in counseling. They reported that male participants were 32% - 54% less likely to have positive attitudes. However, they

reported that the gender difference did not hold for Latino or African-American young adults in the sample across any of the help seeking items. The significant difference in their entire sample is largely due to the high percentage (77%) of Caucasians in the sample (Gonzales, Alegrai, & Prihoda). A gender difference was also found in a sample of university students by Deane and Todd (1996). Consistent differences between males and females have been found by others researchers. Sheu and Sedlacek (2004) sampled 2,678 first year university students and found significant statistical and clinical differences on positive help seeking attitudes between men and women for career counseling, personal counseling, and time management training, but no significant differences between gender were found on study skills training or substance use counseling. In this study, items were created by professionals. In a sample of university students, men were less likely to have a positive Attitude about seeking help (Komiya, Good, & Sherrod, 2000). More stigma attitudes related to career counseling as well (Rochlen, Mohr, & Hargrove, 1999). College men who have a conflicted gender role were also less likely to have a positive attitude toward counseling (Pederson & Vogel, 2007). Men with less preference for affectivity also exhibited greater stigma toward career counseling (Rochlen & O'Brien, 2002). Tsan and Day (2007) found that women had more positive attitudes toward counseling in a traditional or email mode but there was no significant difference in technology-based modes (instant message, video, and microphone). Women were also more likely to have a positive attitude toward seeking help for a problem with alcohol

in a sample of undergraduate students (Cellucci, Krogh, & Vik, 2006).

There were no sex differences among a sample of depressed college students regarding their attitude toward seeking counseling (Halgin, Weaver, Edell, & Spencer, 1987). In their sample of university students, Oliver, Reed, Katz, and Haugh (1999) did not find a sex difference either. While the research is not unequivocal, it does appear that a general gender trend does occur in variables related to seeking psychological help.

*Ethnicity.* Research on differences by ethnic groups seems to vary in their general attitude toward seeking counseling.

Similarity between Latinos and Caucasians in their attitude of getting mental health treatment was found in one large study (Gonzales, Alegrai, & Prihoda, 2005). This study used a sample ( $n = 5,877$ ) from the National Comorbidity study (1990-1992) and found no significant difference between help seeking attitudes for Caucasians or Latinos based on items assessing willingness, comfort, or embarrassment. Alternatively, in a sample of university students, Latinos reported significantly greater willingness to seek help from mental health professionals than Caucasians for problems relating to general anxiety, speech anxiety, financial issues, and discrimination (De Melo & Farber, 2005).

Research on differences between Asian American and Caucasian individuals has been mixed. Sheu and Sedlacek (2004) found similarity between Asian American and Caucasian first year university students' ( $n = 2,678$ ) attitudes toward academic (study skills and time management) and mental health



(alcohol/drug, career, and personal) counseling. Using Cramer's model, Liao, Rounds, and Klein (2005) found that Asians and Asian Americans sampled had a stronger negative relationship between lower self-concealment and more positive attitude toward seeking help than a Caucasian sample, and the addition of acculturation increased model fit. Asian Americans who hold to their traditional beliefs tend to have a more negative attitude toward counseling (Kim, 2007). Korean college students reported more negative feelings toward counseling than an American sample (Yoo & Skovholt, 2001). A large survey of Filipino Americans reported that only 3% had sought treatment from mental health professionals (Gong, Gage, & Tacata, Jr., 2003). In a sample of university counseling center clients, Asian American students were significantly more likely than Caucasian students to indicate concerns with Vocational Identity and Vocational Information (Lucas & Berkel, 2005).

College aged African American young adults were more likely to have greater positive attitudes about treatment (Gonzales, Alegrai, & Prihoda, 2005). They reported that this increase in positive attitude could be as much as twofold for African Americans on items related to willingness, comfort, and stigma. In their sample of first year university students ( $n = 2,678$ ), Sheu and Sedlacek (2004) reported that African Americans were more willing to seek help from counselors especially for academic issues but not for mental health related concerns. As African American students gain more educational experience, they tend to have more positive attitudes as well (So, Gilbert, & Romero, 2005). Using

the National Comorbidity Study data from between 1990-1992, Diala and colleagues noted that African Americans reported more positive attitudes toward mental health services than Caucasians before seeking services, and more negative attitudes after receiving services (Diala, Muntaner, Walrath, Nickerson, LaVeist, & Leaf, 2000). For African American college students, being female was associated with more positive attitudes (Duncan & Johnson, 2007). Results for ethnicity provided unclear results related to help seeking behavior.

*Personality.* One personality variable that has received attention is willingness to disclose. Cramer (1999) reanalyzed data from two samples (Cepeda-Benito, 1998; Kelly & Achter, 1995) of almost 1,000 college students and found that self-concealment was directly related to increased distress, and distress was directly related to help seeking. Self-concealment is an individual's tendency to hide negative information. This was also found to be a significant predictor of help seeking attitude in a study of Asian American college students, but not in their Caucasian comparison group (Liao, Rounds, and Klein, 2005). In a sample of counselors-in-training, self-concealment was related to increased distress and less positive attitude toward counseling (Leech, 2007). A sample of university students revealed relationships between emotional expression and anticipated risk and benefit (Vogel, Wade, & Hackler, 2008a). Based on TPB theory, anticipated risk and benefit are often antecedent to Attitude.

*Attachment.* Two studies by Vogel and colleagues have highlighted the role of adult attachment in psychological help seeking. In a sample of university

students, Intention was negatively related to attachment avoidance and positively to attachment anxiety (Vogel & Wei, 2005). In a second study with over 800 college students, higher levels of attachment avoidance (Experiences in Close Relationships Scale) were related to viewing seeking help as having high risk ( $r = 0.21$ ) and low benefit ( $r = -0.08$ ; Disclosure Expectations Scale). Higher attachment avoidance was also related to Attitude ( $r = -0.11$ ; Attitude Toward Seeking Professional Psychological Help Scale-Short Form) and Intention ( $r = -0.09$ ; Intentions to Seek Counseling Inventory). Higher attachment anxiety was related to both greater risk ( $r = 0.18$ ) and benefit ( $r = 0.16$ ). It was significantly related to Intention ( $r = 0.20$ ), but not Attitude ( $r = 0.02$ ; Shaffer, Vogel, & Wei, 2006).

*Previous Experience.* Research is also conflicted about the role previous experience seems to have on seeking psychological help. For African American college students, previous experience was a significant negative predictor in their attitude toward counseling (Duncan & Johnson, 2007). Previous experience was significantly and positively related to both Attitude and Intention in a college sample (Vogel, Wade, Wester, Larson & Hackler, 2007). Interestingly, for depressed students previous counseling experience was not related to the attitude toward seeking counseling (Halgin, Weaver, Edell, & Spencer, 1987). Self-reported previous counseling experience was not related to college student's ( $n = 732$ ) desire to conceal personal information (Self Concealment Scale) for those in the upper and lower quartiles (Cepeda-Benito & Short, 1998). Analysis from the

National Comorbidity Study noted that after using counseling services, African American attitudes were less positive where they had been more positive before use (Diala, Muntaner, Walrath, Nickerson, LaVeist, & Leaf, 2000). Perhaps issues related to the counseling relationship would better explain these mixed findings. These results may indicate the importance of therapist effects and “fit” in counseling.

*Level of Distress.* Greater distress appears to be related to a more positive attitude toward seeking help. The following is a brief review of this variable, though it was not of interest in the current study. In a comparison of severity and chronicity of presenting problem between two university counseling center samples (1991,  $n = 3,049$ ; 1997,  $n = 4,483$ ) and a non clinical sample (1995,  $n = 2,718$ ), the 1997 clinical sample indicated significantly greater severity in academic, relationships/adjustment issues, and depressions/romantic relationships, but not on sexual issues or eating concerns (Erdur-Baker, Aberson, Barrow, & Draper, 2006). College students ( $n = 429$ ) were broken into three groups based on depression score (Beck Depression Inventory) and previous counseling experience. Those high in depression and with previous experience in counseling, were significantly more likely to have a positive attitude and intention toward counseling, than non-depressed peers who had sought treatment or who had not sought treatment. Attitude and Intention were assessed by single items in this study (Halgin, Weaver, Edell, & Spencer, 1987). In a college sample from a large Midwest university, college students indicated significantly higher levels of career

distress, but only 12% had sought treatment (Fouad, et al., 2006). Higher scores on Physical Symptoms and on the Beck Depression Inventory were related to being more likely to talk with a counselor in a sample of almost 250 undergraduates (Oliver, Reed, Katz, & Haugh, 1999). Deane, Wilson, and Ciarrochi (2001) found that young adults would be more likely to seek help from a counselor for suicidal thoughts but not personal/emotional or anxiety/depression concerns. In a survey of university students, thoughts related to suicide were more related to seeking help than personal or emotional problems (Deane & Todd, 1996). Leech (2007) reported that for counselors-in-training heightened distress was related to greater Intention. The presence of a distressing event combined with concern about risk of disclosing to a counselor was found to predict help seeking behavior in a sample of college students (Vogel, Wester, Wei, & Boysen, 2005). These results would seem to indicate that increased distress leads people to seek psychological help. It is likely that greater distress would also lead to greater intent to seek services.

#### *Attitude Variables*

*Attitude.* Research on psychological help seeking often includes a variable to assess attitude. Ajzen and Fishbein (1977) reviewed the research on the link between attitude and behavior, and found that when there was high correspondence between the attitude and the behavior they were closely related. Research asking about attitude of seeking help from a mental health professional would have high correspondence to the behavior of seeking help from a mental

health professional. The TPB model posits that attitude related to a target behavior, i.e. help seeking, is directly correlated to intention of that same behavior. Research seems to support this notion. Attitude was a significant predictor ( $r = 0.30$ ) for intention to seek help for an alcohol problem in a sample of 124 undergraduates (Codd, III. & Cohen, 2003). In this study, the TRA method of item creation was used. Attitude was a significant predictor of intention in several samples of college students (Cepeda-Benito & Short, 1998; Liao, Rounds, & Klein, 2005; Pederson & Vogel, 2007). Cepeda-Benito and Short (1998) surveyed 732 university students using established measures for Attitude (Attitudes Toward Seeking Professional Psychological Help Scale-Long) and Intention (Intention of Seeking Counseling Inventory). Their results revealed Attitude was strongly correlated to Intention ( $r = 0.35$ ). The Intention measure has three subscales related to different problem types: psychological and interpersonal problems, academic concerns, and drug use concerns. Attitude was a significant predictor for each Intention subscale in multiple regression analysis following level of distress ( $\beta = 0.41$ ,  $\beta = 0.17$ ,  $\beta = 0.17$ , for psychological and interpersonal problems, academic concerns, and drug use concerns, respectively). Deane and Todd (1996) reported help seeking attitude was a significant predictor of intention to seek help in a sample of university students for personal and emotional problems and for suicidal thoughts. A similar result was reported by Vogel, Wade, and Hackler (2008a) in a university sample; Attitude was positively related to Intention. Attitude was significantly, positively related to Intention in a sample

by Shaffer, Vogel, and Wei (2006). A similar finding was reported on a sample of counselors-in-training (Leech, 2007). Vogel, Wester, Wei, and Boysen (2005) found that Attitude was positively related to Intention to seek counseling for interpersonal problems and substance use in a sample of college students. In another sample of college students, Attitude was a significant predictor of Intention (Vogel, Gentile, & Kaplan, 2008). In a sample of Italian college-aged students, Attitude toward career counseling was related to Intention for career counseling (Di Fabio & Bernaud, 2008). Not all research supports this relationship, however. Miville and Constantine (2006) did not find a significant relationship between help seeking attitude and use of counseling during the past year for a sample of Mexican American college students. This may be due to concern with cultural differences related to help seeking. Also, the TPB model indicates an indirect relationship between Attitude and Behavior via Intention. It should be noted that more positive attitudes seem to be correlated to greater willingness to seek counseling, which would be more closely related to Intention.

*Outcome Expectations.* TPB would place an individual's belief about an outcome as the antecedent to developing an Attitude concerning that behavior. Vogel, Wester, Wei, and Boysen (2005) surveyed college students and found that anticipated benefit was positively related to Attitude. Beliefs relating to benefits of treatment as assessed by four items were a strong predictor ( $r = 0.17$ ) for 371 individuals entering in a detoxification program (Kleinman, Millery, Scimeca, & Polissar, 2002). In this study, participants were recruited following their

admission to detoxification and followed up with 30 days later to determine which individuals followed through on treatment. In another study by Vogel, Wade, and Hackler (2008a), anticipated risk and benefit from disclosure were significant predictors (negatively and positively, respectively) for Attitude. These results were replicated in another study; anticipated risk and benefit were related to Attitude (Vogel, Gentile, & Kaplan, 2008).

#### *Subjective Norm Variables*

*Stigma.* The belief concerning what others think about counseling is another predictor of Intention in the TPB model. Typically, this relationship is negative as Subjective Norm is often operationalized as Stigma. This indicates that greater Stigma related to counseling results in less Intention to seek help. Attitude and Stigma were negatively correlated in a sample of college students (Komiya, Good, & Sherrod, 2000). Vogel, Gentile, and Kaplan (2008) replicated these results with a sample of college students. Stigma was significantly related to Attitude and Intention. In another study, the relationship between Intention (Intention to Seek Counseling Inventory) and Public Stigma (Perceived Devaluation-Discrimination Scale) were negatively correlated in college samples ( $n = 676$ ) as well (Vogel, Wade, Hackler, 2007b). These researchers found that a mediation model going from Public Stigma to Self-Stigma (Self-Stigma of Seeking Help Scale) to Attitude (Attitude Toward Seeking Professional Psychological Help Scale-Short) to Intention was effective. Public stigma assessed the individual's belief about society's view of others seeking help, where



Self-Stigma is the belief that the individual has concerning him or herself regarding seeking help. Attitude was significantly related to both types of Stigma ( $r = -0.12$ ,  $r = -0.65$  for Public Stigma and Self Stigma, respectively). Both types of stigma were also significantly related to Intention ( $r = -0.09$ ,  $r = -0.37$  for Public Stigma and Self Stigma, respectively). In another study, social Stigma was negatively related to Attitude in a study by Vogel as well (Vogel, Wester, Wei, & Boysen, 2005). In a sample of university men, self-stigma was strongly related to Attitude and Intention (Pederson & Vogel, 2007).

The concept of Face has been used in some research with Asian Americans. This concept is related to behavior that is socially acceptable. In a survey of over 2,200 individuals, Gong, Gage, and Tacata, Jr. (2004) found that greater concern with maintaining Face was associated with significantly lower willingness to see mental health professionals. Most research supports that positive Subjective Norms favor seeking psychological help and then seeking treatment. These results indicate a strong negative relationship between Stigma and Intention.

*Subjective Norm.* Norms are created by the social expectations of those around us. Some researchers have looked at the role of others' behaviors and recommendations. More positive attitudes about seeking counseling (Attitude Toward Seeking Professional Psychological Help Scale-Short) were positively correlated with students who knew someone who received counseling or had been told to go by someone they knew (Vogel, Wade, Wester, Larson & Hackler,

2007). This was found in two separate samples of university students totaling over 1,500. They reported that for those who sought mental health services, knowing someone who sought help was also positively correlated with greater intention to seek counseling. This would support the idea that if others had either been in counseling or recommended counseling, it would be more acceptable. Subjective Norm was a significant predictor in a university sample for intention to seek help for an alcohol problem, and when combined with Attitude accounted for 12% of the variance (Codd, III & Cohen, 2003). In this study using the TRA method of instrument design on a sample of 124 college students, Subjective Norm was correlated to Intention ( $r = 0.20$ ). Subjective Norm was found to predict treatment utilization in a study by Kleinman, Millery, Scimeca, and Polissar (2002) of addicts entering detoxification treatment.

#### *Control Variables*

*Perceived Behavioral Controls.* Composed of two separate components—self-efficacy and controllability. Self-efficacy related to an individual's belief in their ability to seek help, and controllability related to their ability to actually control their behaviors to seek help. Effective measures of Perceived Behavioral Controls should assess both (Ajzen, 2002). Ajzen (2002) also reported on several measures used by other researchers. The TPB model posits that Perceived Behavioral Controls are especially important for non-volitional behavior. Seeking help from a mental help professional seems fairly volitional, but there are often factors related to receiving those services (e.g., where these services can be found,

how to make an appointment, etc.) that could impact Intention. Rhodes and Courneya (2004) in their work have shown that using a phrase like, “if I really wanted to” holds motivation constant in Perceived Behavioral Control items and produces better items. Since this construct has had little use in the psychological help seeking realm, studies from other areas of psychology will be reviewed to give some indication of the role of PBC in TPB.

In a study of exercise behavior using TPB, a small to medium effect was found with PBC items as assessed by the TPB method on Intention ( $r = 0.23$ ) and Behavior ( $r = 0.24$ ; Rhodes & Courneya, 2005). The sample consisted of 585 undergraduate students completing a survey at two times to determine actual impact on the target Behavior. PBC as assessed by single items related to control, difficulty, and confidence was found significant in predicting exercise intention for a sample of undergraduates (Blanchard, Rhodes, Nehl, Fisher, Sparling, & Courneya, 2003). In a study of recycling and exercise behavior on a sample of over 100 Norwegian undergraduate students, the TPB was used to explain behavior at two times (Kraft, Rise, Sutton, & Roysamb, 2005). Analysis indicated that Attitude, Subjective Norm, and PBC were strong predictors for recycling intention. Exercise intention was predicted by Attitude and PBC, but not Subjective Norm. PBC was measured by items assessing perceived confidence and controllability; items addressing locus of control and perceived difficulty were not as helpful in prediction. The decision to engage in exercise is similar to the decision to seek psychological help. Both decisions involve commitment and

persistence from an individual. Also, both activities are sometimes marked by resistance.

Before the self-efficacy component of PBC is reviewed, another aspect unique to this study will be highlighted. PBC for an individuals' belief that they have efficacy and control to solve their own problem without seeking help will be assessed. This set of PBC is not usually assessed in the psychological help seeking literature or TPB, but logically may have a large impact on an individual's Intention to seek help. For that reason, items will be worded in the TPB method recommended manner and then adjusted to determine the PBC for not seeking help from a mental health professional.

*Self-Efficacy.* Perceived Behavioral Controls are often operationalized as self-efficacy. Self-efficacy items use language assessing the level of difficulty, certainty, confidence or capability to complete a behavior. Self-efficacy beliefs as assessed by 11 items related to the individual's confidence to complete a variety of aspects of treatment for 371 adults was a strong predictor ( $r = 0.21$ ) for entering a drug detoxification program (Kleinman, Millery, Scimeca, & Polissar, 2002). Little research has explored this area as it relates to psychological help-seeking. Issues of self-efficacy and controllability have not been as often applied to research in psychological help seeking. PBC have not been used in psychological help seeking literature, but research in other domains, namely exercise, have show enhanced prediction when including them in the models. It is likely that PBC would also play an important role in psychological help seeking.

### *Theory of Planned Behavior Measurement*

The TPB provides a model for understanding behavior and the factors that influence an individual's choice to engage in that behavior. The model is composed of three variables-Attitude, Subjective Norm, and Perceived Behavioral Controls-that influence Intention to engage in Behavior. Intention is the direct antecedent to Behavior itself. In the psychological help seeking literature, a more variable-based approach is common. These studies also tend to use established measures with strong psychometric properties and previous use in the area. Another approach when using TPB is to use the method proposed by Ajzen (2006). He developed a more standardized protocol to develop an instrument based on the TPB that assessed all aspects of the model specific to the behavior of interest. This method has been used extensively in other areas of research.

TPB was selected for the present study due to its extensive use in the empirical literature. This model has been used in a wide variety of studies about behavior. However, no studies in psychological help seeking have used this model. Several studies, many by Vogel, have used the TRA model and found strong support the model. TPB allows for a more comprehensive model than TRA to be tested. Also, the measurement method of TPB allows for a concise and effective way to test of the hypotheses in question.

The TPB method begins with identifying the behavior of interest. Ajzen (2006) recommends target behaviors that are specific enough to have meaning and are able to be used consistently in the instrument. This is also recommended

for reliability to follow-up when researchers are interested in determining which participants engaged in the behavior. For the purposes of this study, an appropriate target behavior would be, “seeking help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” This target is specific enough to address the unique presenting concern.

The TPB method provides a framework for incorporating the Behavior into item stems that will assess all TPB variables. The current study is interested only in Intention, Attitude, Subjective Norm, and Perceived Behavioral Control (assessed two ways), so only those variables will be described. Some latitude is allowed to make items relevant to the study, but internal consistency is important to determine the effectiveness of the variable items. Intention is assessed often by three items with stems assessing the likelihood of engaging in the behavior, the level of truth that they will do the behavior, and the level of agreement to engage in the behavior. Attitude is assessed by semantic differential scales that are appropriate for the Behavior. Ajzen (2006) notes that attitudes are often divided into instrumental which addresses the usefulness of the Behavior and experiential which addresses predicted reactions to the Behavior. Sample adjective pairs include harmful-beneficial, pleasant-unpleasant, good-bad, worthless-valuable, enjoyable-unenjoyable. Subjective Norms are assessed to determine the social perception of engaging in the Behavior. Items are worded to determine whether the individuals believes significant others think they should engage in the

Behavior, the likelihood that they will be expected to engage in the behavior, and the level of approval others would have for engaging in the behavior. It can also be appropriate to assess whether significant others engage in the Behavior. Perceived Behavioral Control assesses both efficacy and controllability. Efficacy is often assessed by items asking about the possibility of engaging in the behavior and if they wanted to, could they engage. Controllability items usually assess the level of perceived control over engaging and the level of agreement regarding their control over the behavior. These methods are recommended and Ajzen (2006) also notes that additional items can be included and a pilot test can be used to determine a measure that has variable items that are internally consistent. In the present study, the TPB method will be used due to its previous success in other research (see previous section discussing variables for specific review of studies using this method) and its parsimony.

### *Problem Statement*

Psychological help seeking is a construct of considerable interest in the psychological literature for obvious reasons. Previous research appears to take either a global (psychological help seeking as a whole) or specific (i.e. substance use, career, etc. help seeking) approach. Few studies provide a theory based analysis of a variety of concerns to allow for adequate comparison across presenting concerns. The current study is designed to use TPB to assess differences across the model for predicting Intention to seek help for common concerns: anxiety or depression, career choice concerns, and alcohol or substance

use. This will provide a unique contribution to the field of psychological help seeking.

### *Research Questions*

The overall question of interest relates to how variables (Attitude, Subjective Norm, PBC-Thera, and PBC-Self) differentially impact Intention to seek psychological help for anxiety or depression, career choice concerns, and alcohol or substance use. This study will be using TPB as a theory to understand Intention. Path analyses will provide insight into which variables are more significant in predicting Intention for these common presenting concerns. Individual differences will also be assessed for gender post hoc. This variable will allow for moderating effects to be tested in the models.

### *Hypotheses*

The current study is designed to look at how TPB variables differentially impact university students' Intention to seek psychological help for different presenting concerns-anxiety or depression, career choice concerns, and alcohol or substance use. The TPB posits that Attitude, Subjective Norm, and Perceived Behavioral Controls predict Intention, which is the direct antecedent to Behavior. Figure 4 represents that model for this study. This model will be used for each of the three presenting concerns of interest. The differential relations will be compared to determine which variables are most strongly related to seeking help for each type of problem. The psychological help seeking literature has also reported a fairly consistent gender trends as well with women typically having



more positive global attitudes. These gender differences will be tested as well. Hypotheses will be reported for both relations among the variables and mean differences.

Regarding the path relations across the types of concerns, it is hypothesized that differences will emerge.

1. Attitude will have the strongest positive relation of any concern to Intention for Career Choice Concerns since selecting a career is such a large part of the university experience and students often seek help in this process. Attitude will have the weakest positive relation of any concern to Intention for Alcohol or Substance Use due to the belief in a university setting that use of alcohol and substances are normative and not seen as dangerous.
2. Subjective Norm will have the strongest negative relations of any concern to Intention for Alcohol or Substance Use. This will likely be due to stigma associated with admitting to having problems with alcohol or substances. Subjective Norm will have the weakest negative relation of any concern to Intention for Career Choice Concerns. Seeking help for career issues will likely have little stigma since it is such a common part of the university experience.
3. PBC-Thera will have the strongest positive relation of any concern to Intention or Anxiety or Depression. It is likely that participants will have a strong sense of being able to access help from mental health

professionals for these concerns due to their higher prevalence in the university population and outreach efforts by counseling services. PBC-Thera will have the weakest positive relation of any concern to Intention for Alcohol or Substance Use since many students are reluctant to seek help for this issue.

4. PBC-Self will have the strongest negative relations of any concern to Intention for Alcohol or Substance Use. This will likely be due to the difficulty many individuals feel related to addressing these on their own. PBC-Self will have the weakest negative relation of any concern to Intention for Career Choice Concerns since many students expect the university to help in the process.

Regarding mean differences for the types of concerns, differences are likely.

1. For Attitude, it is expected that Career Choice Concerns will have the highest mean value and Alcohol or Substance Use the lowest. It seems reasonable that in a university setting, students will have more positive attitudes to finding a career (one of the purposes of college) and less positive regarding substance use.
2. For Subjective Norm, the highest mean value will be for Alcohol or Substance Use and the lowest for Career Choice Concerns. In a university student sample, it is likely that there will be more stigma about getting help with substance use and less about issues related to

career choices.

3. For PBC-Thera, Anxiety or Depression will have highest mean score and Alcohol or Substance Use will have the lowest. It is likely that participants will feel greater control and efficacy to seek help for concerns that are more prevalent and “common” on a campus.
4. For PBC-Self, Alcohol and Substance Use will have the highest mean value and Career Choice Concerns the lowest. Since students attend university to prepare for a career, it is likely they will not feel much control or efficacy to resolve this concern, while they may feel a stronger desire to address their substance use alone. For Intention, Anxiety or Depression will have the highest mean value and Alcohol or Substance Use the lowest. This will likely be due to the more accepted treatment of concerns like anxiety and depression over substance use in a university sample.

A moderation effect by gender will be assessed (Figure 3). It is possible that women will have stronger relations on the paths of Subjective Norm and PBC-Thera on Intention, and men will have stronger relations on the paths of Attitude and PBC-Self on Intention. This is possibly due to women’s stronger social awareness and men’s expectation of independence. It is also likely that women will have higher means on Attitude and PBC-Thera, and lower means on Subjective Norm and PBC-Self than men. Women will also have a higher mean Intention to seek help for psychological problems. These hypotheses are based on

previous literature indicating that women tend to be more receptive to seeking help from mental health professionals.

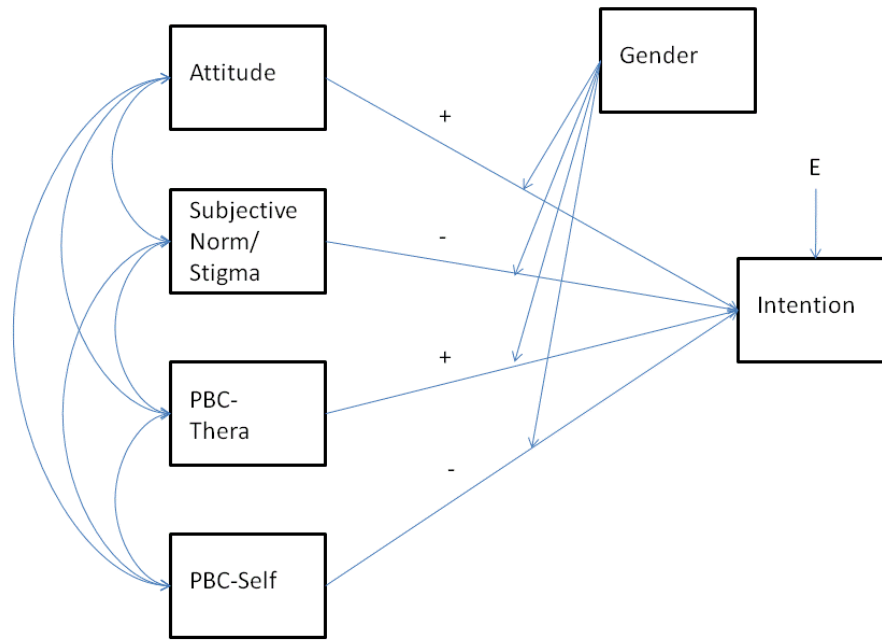


Figure 3. Theory of Planned Behavior model used for each presenting concern.

## Chapter 3

### Method

#### *Sample*

Participants were recruited from various courses in the education (442 participants) and psychology (644 participants) departments at a large, southwestern public university during the fall semester of 2009. Extra credit or research credit in their course was used as incentive. Participants were removed who had not completed at least half of the items for each TPB variable. Linear interpolation via SPSS 17.0 was used to determine missing values and create a sample with values for each of the TPB items (this is explained in greater detail later on). This final sample contained 889 students (354 from education courses and 535 from psychology courses) for a completion rate of 82%. A statistical program SPSS 17.0 was used to randomly separate the total sample into two samples of similar size. The sample was randomly split into two separate samples in order to provide an initial sample and a replication sample to retest the model. Several statistical procedures, including  $\chi^2$  and many other significance tests, are biased in large samples. By splitting the sample, the chances of capitalizing on sample error are diminished. Also, this allowed for the study to provide a replication sample. Replication is an important component of research that is often ignored.

*Initial Sample.* The initial sample contained 441 participants, 167 from the education courses and 274 from the psychology courses. Approximately 48% of

this sample was 18 years old, 23% indicated 19 years old, 9% were 20 years old, 7% were 21 years old, 4% were 22 years old, 3% were 23 years old, and the remaining 6% ages 24 to 38. Approximately 36% of the sample was male ( $n = 159$ ) and 64% was female ( $n = 280$ ). Regarding ethnicity, 71% was Caucasian or White, 15% was Latino/a or Hispanic, 5% was Asian-American or Pacific Islander, 3% was African-American or Black, approximately 1.5% was Native American or American Indian, 4% indicated Other. This category included bi-racial and multi-racial participants as well as several “Middle Eastern” or “Arab” participants. Over 53% reported being 1<sup>st</sup> year students, 23% were 2<sup>nd</sup> year, 11% were 3<sup>rd</sup> year, 7.5% were 4<sup>th</sup> year, and 4.5% were 5<sup>th</sup> year or more.

Several items assessed previous and current experiences with mental health professionals for the initial sample. Sixty-five percent indicated no previous experience with a mental health professional, 10% indicated previous experience with an outcome that was not positive, 23% indicated previous experience with a positive outcome. When asked if participants had ever experienced problems or concerns with the areas of interest, 42% noted anxiety or depression, 26% noted career choice concerns, 11% noted alcohol or drug use, and 45% noted none.

*Replication Sample.* The replication sample contained 448 subjects, 187 from the education courses and 260 from the psychology courses. Forty-three percent of the sample indicated being 18 years old, 25% were 19 years old, 9% were 20 years old, 9% were 21 years old, 4% were 22 years old, 2.5% were 23

years old, 2% were 24 years old, and 5% ranged in age from 25-58. Regarding sex, 40% ( $n = 179$ ) are male and 60% ( $n = 267$ ) are female. Seventy percent indicated Caucasian or White, 13% was Latino/a or Hispanic, 6.5% was Asian-American or Pacific Islander, 4% was African-American or Black, approximately 1.6% was Native American or American Indian, 5% indicated Other. The “Other” category included bi-racial, multi-racial, and several “Middle Eastern” or “Arab” students. Over 52% were 1<sup>st</sup> year students, 23% were 2<sup>nd</sup> year, 12% were 3<sup>rd</sup> year, 9% were 4<sup>th</sup> year, and 4% were 5<sup>th</sup> year or more.

Mental health variables were also reported for the replication sample. Sixty-eight percent noted no previous experience with a mental health professional, 9% noted previous experience with an outcome that was not positive, 23% noted previous experience with a positive outcome. When asked to indicate any previous problem or concern with the areas of interest, 37% noted anxiety or depression, 28% noted career choice concerns, 12% noted alcohol or drug use, and 47% noted none.

### *Measures*

*Demographics.* A demographic questionnaire was designed to assess age, gender, ethnicity, and year in school (Appendix B). Previous experience and outcome (positive or not positive with mental health professionals were used to determine the nature of the sample collected (Appendix C). The questions regarding previous mental health experience and outcome are used as demographic variables in this study. Also, an item assessing previous experience

or concern related to anxiety or depression, career choice concerns, and alcohol or drug use was used to indicate areas of concern reported by the sample (Appendix C). Informed consent (Appendix A) was presented on the first page of the survey and those who agreed were directed to complete the survey.

*Distress measure.* For each concern, three items were included to assess the current level of distress being experienced in each area (anxiety or depression, career choice concerns, and alcohol or drug use). These scales were not used in the current study. Items used a seven point Likert scale ranging from “Strongly Disagree to Strongly Agree” and included stems: “Currently, I am experiencing concerns related to my (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.”, “I feel bothered by my current (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.”, and “My current level of distress regarding (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use does not concern me.” Cronbach  $\alpha$ 's on the Initial Sample for the Current Distress Measure for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .89, .79, and .78 respectively. Reverse coded items were adjusted so that a total sum score could be calculated to represent the variable construct.

*TPB instrument.* A TPB instrument (Appendix D) was designed to assess the level of “seeking help from a mental health professional to address a problem I would have with (1) anxiety/depression or (2) career choice concerns or (3) alcohol or drug use.” The recommendations by Ajzen (2006) were used to design



a measure assessing Attitude, Subjective Norm, Perceived Behavioral Control (for seeking help and for addressing concerns on their own), and Intention. Previous researchers (Codd, III & Cohen, 2003; Madden, Ellen, & Ajzen, 1992; Rhodes & Courneya, 2005) have all used Ajzen's model for developing instruments with success. Chapter 2 contains more in-depth reviews of these studies and their methodology. Reverse coded items were adjusted so that a total sum score could be calculated to represent the variable construct.

Attitude was assessed by using the following stem, "For me, seeking help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use would be..." The following adjective pairs were used to gain a seven point Likert rating of Attitude: Harmful-beneficial, Pleasant-Unpleasant, Good-Bad, Worthless-Valuable, and Unenjoyable-Enjoyable. Cronbach  $\alpha$ 's on the Initial Sample for the Attitude Factor for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .83, .89, and .78 respectively. Attitude was summed so that higher scored indicated more positive attitudes toward psychological help seeking.

Subjective Norm was assessed by seven point Likert ratings using the following items, "Most people who are important to me think that I 'Should-Should not' seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use." "It is expected of me that I seek help from a mental health

professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as “Extremely likely-Extremely unlikely.” “The people in my life whose opinion I value would ‘Approve-Disapprove’ of my seeking help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Subjective Norm was summed so that higher scores indicated greater Stigma toward psychological help seeking. Cronbach  $\alpha$ 's on the Initial Sample for the Subjective Norm Factor for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .82, .78, and .83 respectively. Subjective Norm was summed so that higher scored indicated more stigma toward psychological help seeking.

Perceived Behavioral Control was assessed by seven point Likert rating for both seeking help and solving the problem individually. The items related to seeking help were, “For me to seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use would be ‘Impossible-possible.’” “If I wanted to I could seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as “Definitely true-Definitely false.” “How much control do you believe you have over seeking help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use?” Being rated

as “No control-complete control.” “It is mostly up to me whether or not I seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as ‘Strongly agree-Strongly disagree’.” For items related to not seeking help, the stem, “seek help from a mental health professional” was replaced with, “work on my own.” The phrase “seeking help from a mental health professional” was replaced with “working on your own.” Cronbach  $\alpha$ 's on the Initial Sample for the Perceived Behavior Control by mental health professional (PBC-Thera) for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .73, .74, and .69 respectively. Cronbach  $\alpha$ 's on the Initial sample for the Perceived Behavior Control by addressing the concern individually (PBC-Self) for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .83, .83, and .85 respectively. PBC-Thera was summed so that higher scores indicated higher control over an individual's ability to seek help from a mental health professional. PBC-Self was summed so that higher scores reflected higher control over an individual's ability to solve his or her concern on his or her own.

Intention was assessed using a seven point Likert format for rating, “I intend to seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as “Extremely unlikely-Extremely likely.” “I will try to seek help from a mental health professional to address a problem I

would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as “Definitely true-Definitely false.” “I plan to seek help from a mental health professional to address a problem I would have with (1) anxiety or depression or (2) career choice concerns or (3) alcohol or drug use.” Being rated as “Strongly disagree-Strongly agree.” Cronbach  $\alpha$ 's on the Initial Sample for the Intention Factor for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use were .87, .90, and .91 respectively. Intention was summed so that higher scores represented greater intention to seek help.

#### *Procedure*

Subjects were recruited from courses in the education and psychology departments. They were awarded either extra or research credit for their participation depending on the course in which they were enrolled. The survey was completed online via Question Pro. Appendices A-E contains copies of the measures that were used in the online survey. The survey was available during the fall semester of 2009. The final page was designed to print as verification for extra credit and research credit was assigned via an online department system. Items from the demographic questionnaire were completed first. The Distress and TPB items were presented in a counterbalanced order. Extra credit or research credit in their course was used as incentive.

#### *Missing Data*

In order to address the issue of missing data from the sample, several

procedures were used to remove participants who did not marginally complete the survey. The raw dataset contained 1,086 participants. SPSS 17.0 was used to run initial analyses to determine the nature of these participants. First, participants who did not complete at least 50% of the items for each TPB variable measure were removed. This was done by using a count analysis to identify the number of missing items on each TPB variable for each individual. Participants were kept in the sample if they completed half of the items for each TPB variable—three items for Attitude, two items for Subjective Norm, two items for Perceived Behavioral Control by Others, two items for Perceived Behavioral Control by Self, and two items for Intention. This criterion had to be met for each of the three concerns, Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use, in order to remain in the sample. Participants who failed to meet this criterion were removed from the sample. Table 1 reports the number of participants who failed to meet the 50% criterion for each variable. A total of 197 participants were removed for failing to complete at least half the items on one of the TPB variables for one of the three concerns. This left a sample of 889 participants.

Table 1

*Number of missing items for each TPB variable for each concern*

|                    | Anxiety or<br>Depression | Career Choice<br>Concerns | Alcohol or<br>Substance Use |
|--------------------|--------------------------|---------------------------|-----------------------------|
| Attitude           | 137                      | 135                       | 154                         |
| Subjective<br>Norm | 134                      | 136                       | 147                         |
| PBC-Thera          | 141                      | 137                       | 153                         |
| PBC-Self           | 142                      | 145                       | 155                         |
| Intention          | 149                      | 148                       | 160                         |

In order to provide summed scores on the TPB variables for all 889 participants, linear interpolation was used to compute values for missing items. This regression method uses data from each participant to determine the approximate value of the missing data. Because this procedure is based on individual data from each participant, it is more accurate than mean imputation procedures that select the item mean as the best estimate for the missing value. Linear interpolation allows for a more “accurate” estimate of the missing value. This procedure was completed by SPSS 17.0. In this final sample, 73% ( $n = 647$ ) had no missing values, 18% ( $n = 161$ ) had one missing value, 7% ( $n = 58$ ) had two missing values, and 3% ( $n = 23$ ) had between three and five missing values.

*Analysis.*

This section will summarize the steps of path analysis (PA) on the initial and replication data samples. The section will progress in an order that explains the research decisions made by the researcher through the processes of model

specification, model estimation, evaluation of fit, comparison of nested models, reevaluation of fit, and model comparison across concern, sample, and gender. In order to assess the differential magnitude that TPB variables have on different presenting concerns, PA was used. Each TPB variable-Attitude, Subjective Norm, PBC-Thera, PBC-Self, and Intention-were computed for each concern.

Path analysis allowed the researcher to answer the questions of most interest which relate to the relationships among the TPB variables across the concerns. Ajzen (2006) notes that in creating a TPB measure many variables are multi-dimensional, which makes a path approach an appropriate way to analyze the data. An item level approach would work best for uni-dimensional constructs; however, Attitude and Perceived Behavior Control are both conceptualized as multi-dimensional.

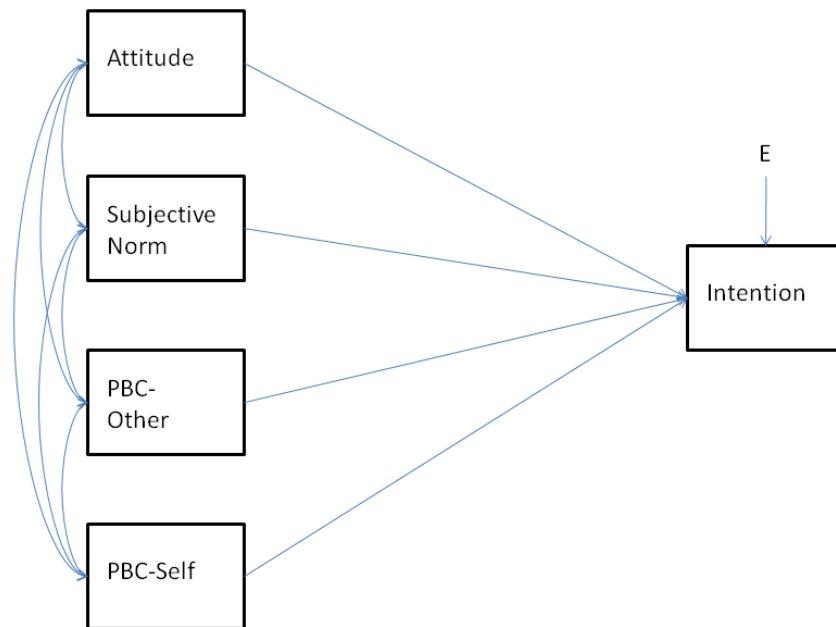
Path analyses for the variables in each concern were tested to determine the fit of the TPB model for each type of problem (Weston & Gore, Jr., 2006). Several goodness of fit indices ( $\chi^2$ , CFI, SRMR, and RMSEA are explained later) were computed to determine the model fit for each problem type. These were selected based on data normality. This allowed the TPB model to be tested for its efficacy in predicting Intention for each problem type. Then model differences across type of concern were assessed by constraining the models and comparing model fit differences when parameter loadings were assumed to be equal (no differences exist) and to vary (differences exist). Test for path loading invariance were conducted based on sample and gender to determine if differences exist in

the data (Byrne, 2008). Mean differences were also assessed to provide a richer picture of the sample and gender differences.

*Model Specification.*

The TPB is based on several constructs that directly impact Intention (Ajzen, 1991, Ajzen, 2006). Intention is directly impacted by Attitude, Subjective Norm, and Perceived Behavior Control. In the current study, PBC was assessed for the belief that the individual could access mental health resources and also that an individual could address his or her problem on his or her own. This model was applied to each area of concern-Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use. In path analysis each TPB variable becomes an observed variable based on the sum score of the items related to that variable. Previous sections in Chapter 2 and 3 describe the variables in greater detail. Figure 4 shows a model of the TPB model used for each concern.





*Figure 4.* Theory of Planned Behavior model used for the path analysis each concern.

*Model Estimation.*

Model estimation in PA is the imposition of an a priori model onto a set of data. Maximum Likelihood (ML) estimation was used to specify model parameters for this analysis. ML is a common estimation method due to its relative robustness. It assumes independence among observations, multivariate normality, and use of the correct model. These assumptions can be generally assumed for this data and ML tends to be robust to violations (Kline, 2005; Weston & Gore, 2006). Review of kurtosis and skewness statistics, Mardia's Coefficient and  $\kappa$ , produced by EQS 6.1.91 indicated that the data were relatively

“normal” (values less than 2) and were be treated as such for purposes of analysis. The Mardia’s Coefficients were 4.04 ( $\kappa = .12$ ), 2.20 ( $\kappa = .06$ ), and 1.88 ( $\kappa = .05$ ) for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use, respectively.

#### *Evaluation of Fit.*

At this stage, the results from the model estimation were evaluated. Evaluation is often done by consulting several different fit indices simultaneously in order to prevent capitalization on chance in the sample as well as limitations within each fit index. If the imposed model does not “adequately” explain the data, then the model is respecified. For this study, several fit indices ( $\chi^2$ , CFI, SRMR, and RMSEA) were used to help evaluate the models (Hu & Bentler, 1999; Kline, 2005; Weston & Gore, 2006). The  $\chi^2$  statistic is an evaluation of poor fit. It tests a null hypothesis of “perfect fit” by the data to the proposed model. This statistic is based on a known distribution and can therefore be evaluated with a probability value. The  $\chi^2$  is sensitive to sample size and generally large samples provide poor fit. Generally, a numeric value close to the degrees of freedom (df) in the model indicates better fit. The RMSEA is another common fit statistic. This statistic also assesses poor fit. It accounts for sample size and has a correction for parsimony in the model. There is also an adjustment to provide evaluation of population values. It is produced with a 90% confidence interval (90% CI). Generally, values less than .1 are reasonable with equal to or less than .06 being ideal. The CFI is a third well known fit index. This statistic is based on

the comparison of a baseline model to the model imposed by the researcher. It can be used to assess incremental improvement. Values above .95 are generally accepted as representing good fit. The SRMR is a standardized estimate of fit that evaluates the difference between the data and the model. It compares correlations in the model to the correlations among the data. Generally values less than .08 indicate good fit. The following indices will be referenced later.

## Chapter 4

### Results

This section contains the results of the analyses. It begins with preliminary data concerning the overall characteristics of the sample and then the path analyses to determine if differential loadings exist for the TPB for a variety of concerns.

Table 2 presents the number of participants, means, and standard deviations for all the TPB variables in the entire sample and then by gender as well. Tests for mean differences will be discussed later. Table 3 contains the bivariate correlations for all the TPB variables. This table reveals that correlations for similar constructs are positive and moderate in value. For Attitude, correlations range from .24 to .50. For Subjective Norm, correlations range from .29 to .55. For PBC-Thera, correlations range from .53 to .62. For PBC-Self, correlations range from .34 to .51. For Intention, correlations range from .35 to .60.

Table 2

*TPB Variable Means and Standard Deviations for the Entire Sample and by Gender*

| Variable Name                           | Entire Sample<br>(n = 889) |      | Males<br>(n = 338) |      | Females<br>(n = 547) |      |
|---|----------------------------|------|--------------------|------|----------------------|------|
|   | Mean                       | SD   | Mean               | SD   | Mean                 | SD   |
| <b>Attitude</b>                         |                            |      |                    |      |                      |      |
| Anxiety or Depression                   | 24.15                      | 5.93 | 23.09              | 6.28 | 24.81                | 5.63 |
| Career Choice Concerns                  | 24.46                      | 6.09 | 23.39              | 5.57 | 25.14                | 6.32 |
| Alcohol or Substance Use                | 23.08                      | 6.00 | 22.17              | 6.47 | 23.63                | 5.65 |
| <b>Subjective Norm</b>                  |                            |      |                    |      |                      |      |
| Anxiety or Depression                   | 10.36                      | 5.11 | 11.18              | 5.12 | 9.85                 | 5.05 |
| Career Choice Concerns                  | 11.91                      | 4.62 | 11.92              | 4.48 | 11.88                | 4.71 |
| Alcohol or Substance Use                | 10.20                      | 5.69 | 10.77              | 5.40 | 9.87                 | 5.85 |
| <b>Perceived Behavior Control-Other</b> |                            |      |                    |      |                      |      |
| Anxiety or Depression                   | 22.09                      | 4.54 | 21.58              | 4.71 | 22.38                | 4.42 |
| Career Choice Concerns                  | 21.82                      | 4.63 | 21.26              | 4.86 | 22.17                | 4.46 |
| Alcohol or Substance Use                | 22.03                      | 4.55 | 21.52              | 4.72 | 22.32                | 4.42 |
| <b>Perceived Behavior Control-Self</b>  |                            |      |                    |      |                      |      |
| Anxiety or Depression                   | 20.62                      | 5.09 | 20.82              | 5.29 | 20.49                | 4.96 |
| Career Choice Concerns                  | 22.76                      | 4.74 | 22.37              | 4.88 | 22.99                | 4.64 |
| Alcohol or Substance Use                | 20.59                      | 5.32 | 20.64              | 5.27 | 20.54                | 5.37 |
| <b>Intention</b>                        |                            |      |                    |      |                      |      |
| Anxiety or Depression                   | 11.84                      | 5.31 | 11.16              | 5.18 | 12.23                | 5.35 |
| Career Choice Concerns                  | 10.06                      | 5.01 | 10.07              | 4.90 | 10.07                | 5.09 |
| Alcohol or Substance Use                | 12.11                      | 5.73 | 11.49              | 5.73 | 12.48                | 5.69 |

Table 3

*TPB Variable Correlations for the Entire Sample*

|                        | Attitude |      |      | Subjective Norm |      |      | PBC-Thera |      |      | PBC-Self |     |     | Intention |     |     |
|------------------------|----------|------|------|-----------------|------|------|-----------|------|------|----------|-----|-----|-----------|-----|-----|
|                        | Anx      | Car  | Sub  | Anx             | Car  | Sub  | Anx       | Car  | Sub  | Anx      | Car | Sub | Anx       | Car | Sub |
| <b>Attitude</b>        |          |      |      |                 |      |      |           |      |      |          |     |     |           |     |     |
| Anx                    | 1.00     |      |      |                 |      |      |           |      |      |          |     |     |           |     |     |
| Car                    | .31      | 1.00 |      |                 |      |      |           |      |      |          |     |     |           |     |     |
| Sub                    | .50      | .24  | 1.00 |                 |      |      |           |      |      |          |     |     |           |     |     |
| <b>Subjective Norm</b> |          |      |      |                 |      |      |           |      |      |          |     |     |           |     |     |
| Anx                    | -.47     | -.19 | -.27 | 1.00            |      |      |           |      |      |          |     |     |           |     |     |
| Car                    | -.14     | -.47 | -.14 | .41             | 1.00 |      |           |      |      |          |     |     |           |     |     |
| Sub                    | -.29     | -.11 | -.44 | .55             | .29  | 1.00 |           |      |      |          |     |     |           |     |     |
| <b>PBC-Thera</b>       |          |      |      |                 |      |      |           |      |      |          |     |     |           |     |     |
| Anx                    | .42      | .16  | .24  | -.31            | -.02 | -.21 | 1.00      |      |      |          |     |     |           |     |     |
| Car                    | .26      | .35  | .21  | -.19            | -.23 | -.15 | .54       | 1.00 |      |          |     |     |           |     |     |
| Sub                    | .27      | .19  | .33  | -.22            | -.05 | -.23 | .62       | .53  | 1.00 |          |     |     |           |     |     |

Continued on next page

Table 3 continued

*TPB Variable Correlations for the Entire Sample*

|                  | Attitude |     |     | Subjective Norm |      |      | PBC-Thera |      |      | PBC-Self |      |      | Intention |      |      |
|------------------|----------|-----|-----|-----------------|------|------|-----------|------|------|----------|------|------|-----------|------|------|
|                  | Anx      | Car | Sub | Anx             | Car  | Sub  | Anx       | Car  | Sub  | Anx      | Car  | Sub  | Anx       | Car  | Sub  |
| <b>PBC-Thera</b> |          |     |     |                 |      |      |           |      |      |          |      |      |           |      |      |
| Anx              | .42      | .16 | .24 | -.31            | -.02 | -.21 | 1.00      |      |      |          |      |      |           |      |      |
| Car              | .26      | .35 | .21 | -.19            | -.23 | -.15 | .54       | 1.00 |      |          |      |      |           |      |      |
| Sub              | .27      | .19 | .33 | -.22            | -.05 | -.23 | .62       | .53  | 1.00 |          |      |      |           |      |      |
| <b>Intention</b> |          |     |     |                 |      |      |           |      |      |          |      |      |           |      |      |
| Anx              | .48      | .19 | .29 | -.68            | -.30 | -.47 | .28       | .12  | .16  | -.11     | .02  | -.11 | 1.00      |      |      |
| Car              | .15      | .45 | .16 | -.28            | -.67 | -.17 | -.06      | .14  | -.02 | -.06     | -.19 | -.04 | .36       | 1.00 |      |
| Sub              | .36      | .18 | .45 | -.50            | -.28 | -.63 | .15       | .10  | .17  | -.07     | .03  | -.19 | .60       | .35  | 1.00 |

*p* values  $\geq .07$  are significant at the  $p \leq .05$  level. *p* values  $\geq .09$  are significant at the  $p \leq .01$  level.

*Note.* Anx = Anxiety or Depression; Car = Career Choice Concerns; Sub = Alcohol or Substance Use; PBC = Perceived Behavior Control.

Table 4 is a repeated measures test of the mean differences of similar TPB constructs across concern in the overall sample. The mean values were reported earlier in Table 2. This was included to examine the hypothesized differences in mean scores across the three conditions. It was hypothesized that for Anxiety or Depression, PBC-Thera will have the highest mean value. For Career Choice Concerns, Attitude will have the highest mean value, Subjective Norm and PBC-Self will have the lowest mean value. For Alcohol or Substance Use, Attitude and PBC-Thera will have the lowest mean value, Subjective Norm and PBC-Self will have the highest mean value.

Attitude was most positive for Career Choice Concerns ( $M = 24.46$ ). Significant differences ( $p < .05$ ) were found between Alcohol or Substance Use ( $M = 23.08$ ) and both Anxiety or Depression ( $M = 24.15$ ) and Career Choice Concerns. These differences account for 4% of the variance in scores ( $\lambda = .96$ , partial  $\eta^2 = .04$ ).

Subjective Norm was highest in Career Choice Concerns ( $M = 11.91$ ). Significant differences ( $p < .05$ ) were found between Career Choice Concerns and both Alcohol or Substance Use ( $M = 10.20$ ) and Anxiety or Depression ( $M = 10.36$ ). These differences account for 9% of the variance in scores ( $\lambda = .91$ , partial  $\eta^2 = .09$ ).

PBC-Thera was highest for Anxiety or Depression ( $M = 22.09$ ). No



significant differences ( $p < .05$ ) were found. These differences account for no significant variance in scores ( $\lambda = 1.00$ , partial  $\eta^2 = .00$ ).

PBC-Self was highest for Career Choice Concerns ( $M = 22.76$ ). Significant differences ( $p < .05$ ) were found between Career Choice Concerns and both Alcohol or Substance Use ( $M = 20.59$ ) and Anxiety or Depression ( $M = 20.62$ ). These differences account for 17% of the variance in scores ( $\lambda = .83$ , partial  $\eta^2 = .17$ ).

Intention was highest for Alcohol or Substance Use ( $M = 12.11$ ). Significant differences ( $p < .05$ ) were found between Career Choice Concerns ( $M = 10.06$ ) and both Alcohol or Substance Use ( $M = 12.11$ ) and Anxiety or Depression ( $M = 11.84$ ). These differences account for 11% of the variance in scores ( $\lambda = .89$ , partial  $\eta^2 = .11$ ).

Table 4

*TPB Variable Repeated Measures Test of Mean Differences,  $\lambda$ , and Partial  $\eta^2$  for the Entire Sample*

| Variable Name | Entire Sample   |           |                  |
|---------------|-----------------|-----------|------------------|
|               | Mean Difference | $\lambda$ | Partial $\eta^2$ |
| Attitude      |                 | .96       | .04              |
| Anx vs. Car   | -.31            |           |                  |
| Anx vs. Sub   | 1.08*           |           |                  |
| Car vs. Sub   | 1.39*           |           |                  |

Continued on the following page

Table 4 (continued)

*TPB Variable Repeated Measures Test of Mean Differences,  $\lambda$ , and Partial  $\eta^2$  for the Entire Sample*

| Variable Name   | Entire Sample   |           |                  |
|-----------------|-----------------|-----------|------------------|
|                 | Mean Difference | $\lambda$ | Partial $\eta^2$ |
| Subjective Norm |                 | .91       | .09              |
| Anx vs. Car     | -1.56*          |           |                  |
| Anx vs. Sub     | .16             |           |                  |
| Car vs. Sub     | 1.71*           |           |                  |
| PBC-Thera       |                 | 1.00      | .00              |
| Anx vs. Car     | .27             |           |                  |
| Anx vs. Sub     | .06             |           |                  |
| Car vs. Sub     | -.21            |           |                  |
| PBC-Self        |                 | .83       | .17              |
| Anx vs. Car     | -2.14*          |           |                  |
| Anx vs. Sub     | .04             |           |                  |
| Car vs. Sub     | 2.18*           |           |                  |
| Intention       |                 | .89       | .11              |
| Anx vs. Car     | 1.78*           |           |                  |
| Anx vs. Sub     | -.27            |           |                  |
| Car vs. Sub     | -2.04*          |           |                  |

\*  $p < .05$

Note. Anx = Anxiety or Depression; Car = Career Choice Concerns; Sub = Alcohol or Substance Use; PBC = Perceived Behavior Control.

Table 5 contains the repeated measures difference analyses for each TPB variable compared across sample (initial vs. replication) and gender (males vs.

females). For the initial and replication samples, mean differences ranged from .10 to .66 in absolute value. None of these were significant ( $p > .05$ ). Partial  $\eta^2$  for all the comparisons were .00, except for the Attitude score for Alcohol or Substance Use which was .01.

For the males and females, significant differences were found across gender. For Attitude, females were significantly higher ( $p < .05$ ) on all three scores (differences = 1.72, 1.75, and 1.46 on Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance use respectively). Partial  $\eta^2$  for the significant comparisons were .02, .02, and .01 (for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively).

For Subjective Norm, males were significantly higher ( $p < .05$ ) on two scores (differences = 1.33 and .91 on Anxiety or Depression and Alcohol or Substance use, respectively). Partial  $\eta^2$  for the significant comparisons were .02 and .01 (for Anxiety or Depression and Alcohol or Substance Use respectively).

For PBC-Thera, females were significantly higher ( $p < .05$ ) on all three scores (differences = .81, .91, and .80 on Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance use, respectively). Partial  $\eta^2$  for the significant comparisons were .01, .01, and .01 (for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively).

For PBC-Self, no significant gender differences were noted.

For Intention, females were significantly higher ( $p < .05$ ) on two scores (differences = 1.06 and .99 on Anxiety or Depression and Alcohol or Substance Use respectively). Partial  $\eta^2$  for the significant comparisons were .01 and .01 (for Anxiety or Depression and Alcohol or Substance use, respectively).

Table 5

*TPB Variable Repeated Measures Test of Mean Differences and Partial  $\eta^2$  for the Samples and Genders*

| Variable Name          | Initial vs. Replication |                  | Males vs. Females |                  |
|------------------------|-------------------------|------------------|-------------------|------------------|
|                        | Mean Difference         | Partial $\eta^2$ | Mean Difference   | Partial $\eta^2$ |
| <b>Attitude</b>        |                         |                  |                   |                  |
| Anx                    | .17                     | .00              | -1.72*            | .02              |
| Car                    | .13                     | .00              | -1.75*            | .02              |
| Sub                    | -.29                    | .01              | -1.46*            | .01              |
| <b>Subjective Norm</b> |                         |                  |                   |                  |
| Anx                    | .36                     | .00              | 1.33*             | .02              |
| Car                    | .36                     | .00              | .05               | .00              |
| Sub                    | .12                     | .00              | .91*              | .01              |
| <b>PBC-Thera</b>       |                         |                  |                   |                  |
| Anx                    | -.12                    | .00              | -.81*             | .01              |
| Car                    | -.14                    | .00              | -.91*             | .01              |
| Sub                    | -.21                    | .00              | -.80*             | .01              |
| <b>PBC-Self</b>        |                         |                  |                   |                  |
| Anx                    | -.22                    | .00              | .33               | .00              |
| Car                    | -.15                    | .00              | -.62              | .00              |
| Sub                    | .10                     | .00              | .10               | .00              |

Continued on the following page

Table 5 (continued)

*TPB Variable Repeated Measures Test of Mean Differences and Partial  $\eta^2$  for the Samples and Genders*

| Variable Name | Initial vs. Replication |                  | Males vs. Females |                  |
|---------------|-------------------------|------------------|-------------------|------------------|
|               | Mean Difference         | Partial $\eta^2$ | Mean Difference   | Partial $\eta^2$ |
| Intention     |                         |                  |                   |                  |
| Anx           | -.53                    | .00              | -1.06*            | .01              |
| Car           | -.49                    | .00              | -.00              | .00              |
| Sub           | -.66                    | .00              | -.99*             | .01              |

\* $p < .05$ .

Anx = Anxiety or Depression; Car = Career Choice Concerns; Sub = Alcohol or Substance Use; PBC = Perceived Behavior Control.

*Initial Sample.*

The correlations among the TPB variables within each concern are presented in Table 6. Path analyses were conducted on each concern individually. Maximum Likelihood estimates were computed for each analysis. The TPB models were “just-identified,” which means that the analyses cannot compute fit indices. In order to gain a degree of freedom on needed to compute fit indices, TPB variable correlations were used to determine if any variable correlations were non-significant. Each model contained one non-significant relation. For Anxiety or Depression, the relation between Attitude and PBC-Self was selected ( $p > .05$ ). For Career Choice Concerns, the relationship between Subjective Norm

and PBC-Self was selected ( $p > .05$ ). For Alcohol or Substance Use, the relation between Attitude and PBC-Self was selected ( $p > .05$ ). The Path analyses were rerun individually and set the non-significant covariance equal to zero. This provided one degree of freedom, which allowed the models to provide fit indices.

Table 6

*TPB Path Variable Correlations*

| Variable        |     | Subjective Norm | PBC-Thera | PBC-Self |
|-----------------|-----|-----------------|-----------|----------|
| Attitude        | Anx | -.42*           | .44*      | .04      |
|                 | Car | -.45*           | .32*      | .13*     |
|                 | Sub | -.42*           | .39*      | .05      |
| Subjective Norm | Anx |                 | -.27*     | .18*     |
|                 | Car |                 | -.25*     | .08      |
|                 | Sub |                 | -.24*     | .19*     |
| PBC-Thera       | Anx |                 |           | .40*     |
|                 | Car |                 |           | .56*     |
|                 | Sub |                 |           | .41*     |

\* $p < .05$ .

Anx = Anxiety or Depression; Car = Career Choice Concerns; Sub = Alcohol or Substance Use; PBC = Perceived Behavior Control.

Table 7 shows the ML fit indices for each TPB model for each concern run individually. For Anxiety or Depression, the  $\chi^2 = .75$  with 1 df and  $p = .39$ . This indicates very good fit. The RMSEA = .00 with a 90% CI = .00, .12 these represent reasonable fit. The CFI = 1.00 which represents very good fit. The

SRMR = .02 which represents very good fit. Based on these indices there seems to be very good fit to the TPB model for the Anxiety or Depression variables. The TPB model also accounts for 48% ( $R^2 = .48$ ) of the variance for Anxiety or Depression Intention. For Career Choice Concerns, the  $\chi^2 = 2.74$  with 1 df and  $p = .10$ . This indicates good fit. The RMSEA = .06 with a 90% CI = .00, .16 these represent some fit. The CFI = 1.00 which represents very good fit. The SRMR = .02 indicating very good fit. Based on these indices there seems to be very good fit to the TPB model for these variables. The TPB model also accounts for 46% ( $R^2 = .46$ ) of the variance for Career Choice Concerns Intention. For Alcohol or Substance Use, the  $\chi^2 = 1.28$  with 1 df and  $p = .26$ . This indicates very good fit. The RMSEA = .03 with a 90% CI = .00, .13 these represent some fit. The CFI = 1.00 which represents very good fit. The SRMR = .02 which represents very good fit. Based on these indices there seems to be good fit to the TPB model for the Alcohol or Substance Use variables. The TPB model also accounts for 46% ( $R^2 = .46$ ) of the variance for Alcohol or Substance Use Intention. Figure 5 shows the standardized path loadings for each concern individually.

Table 7

*Fit Indices and R<sup>2</sup> for each TPB Model Run for Each Concern*

| Fit Indices          | Anxiety or Depression     | Career Choice Concerns     | Alcohol or Substance Use   |
|----------------------|---------------------------|----------------------------|----------------------------|
| $\chi^2$             | .75 on 1 df ( $p = .39$ ) | 2.74 on 1 df ( $p = .10$ ) | 1.28 on 1 df ( $p = .26$ ) |
| <i>CFI</i>           | 1.00                      | 1.00                       | 1.00                       |
| <i>SRMR</i>          | .02                       | .03                        | .02                        |
| <i>RMSEA</i>         | .00                       | .06                        | .03                        |
| <i>90% CI</i>        | .00, .12                  | .00, .13                   | .00, .13                   |
| <i>R<sup>2</sup></i> | .48                       | .46                        | .46                        |



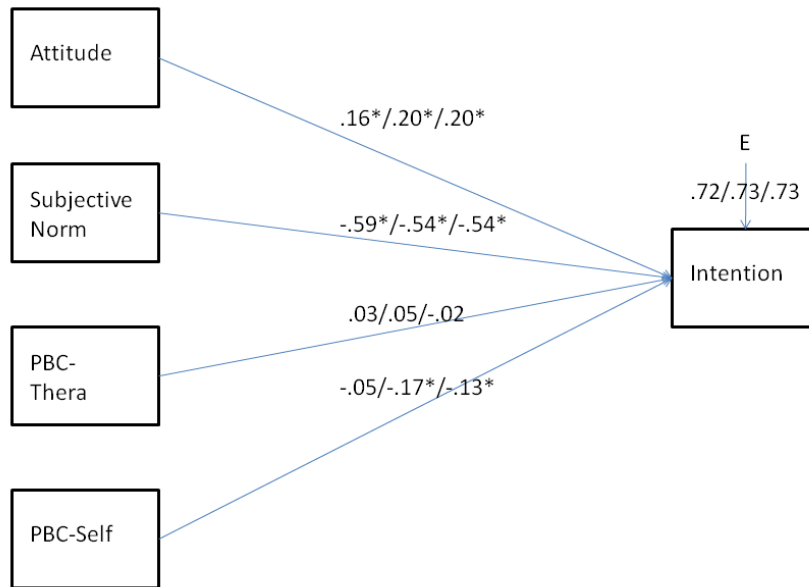


Figure 5. Standardized solutions for each concern individually (first value is for Anxiety or Depression, second is for Career Choice Concerns, third is for Alcohol or Substance Use).

\*  $p < .05$ .

Since each model individually contained very good fit, the models were analyzed simultaneously. Covariance among all the input variances were estimated. Error covariance was also allowed for Intention across the concerns. Allowing this covariance will help account for the similarity in wording of Intention items. The TPB posits that variables in the model may be correlated,

refer to the above tables to see exact correlations; therefore, allowing for these to be estimated accounts for patterns among the data (Ajzen & Fishbein, 2005). It seems reasonable that TPB variables will covary not only with other TPB within their own model, but across other models as well. Also, item similarity likely increased the correlations. The first version allowed the TPB variables in each model to independently predict Intention.

Figure 6 shows the full model run for the TPB concerns run simultaneously and allowing covariance among the independent variables and error covariances. As noted previously, the relations among the variables is supported by TPB research. To review the relations among the independent variables Table 6. For each of the remaining figures these relations among the independent variables are assumed.

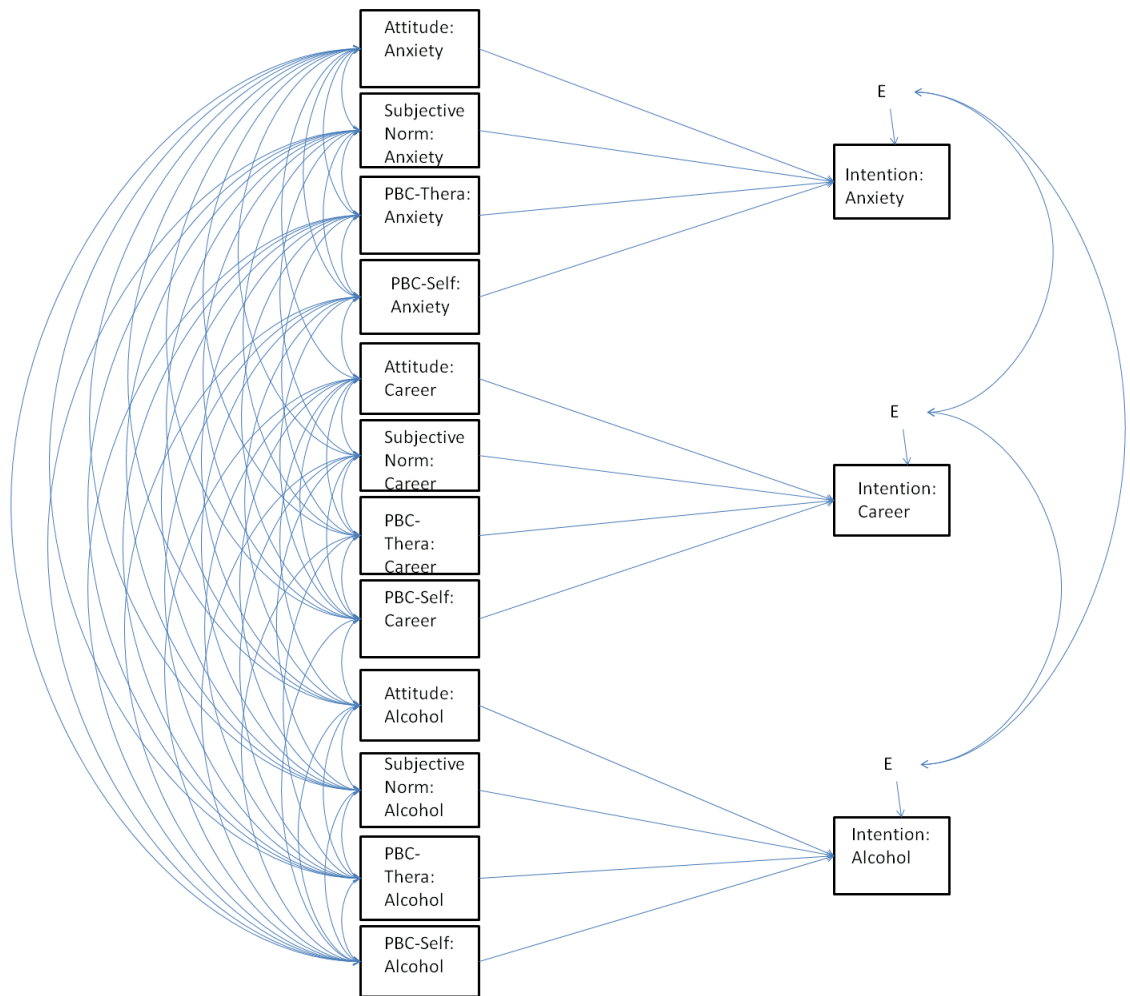


Figure 6. Model for TPB analyses run together with all paths and covariance.

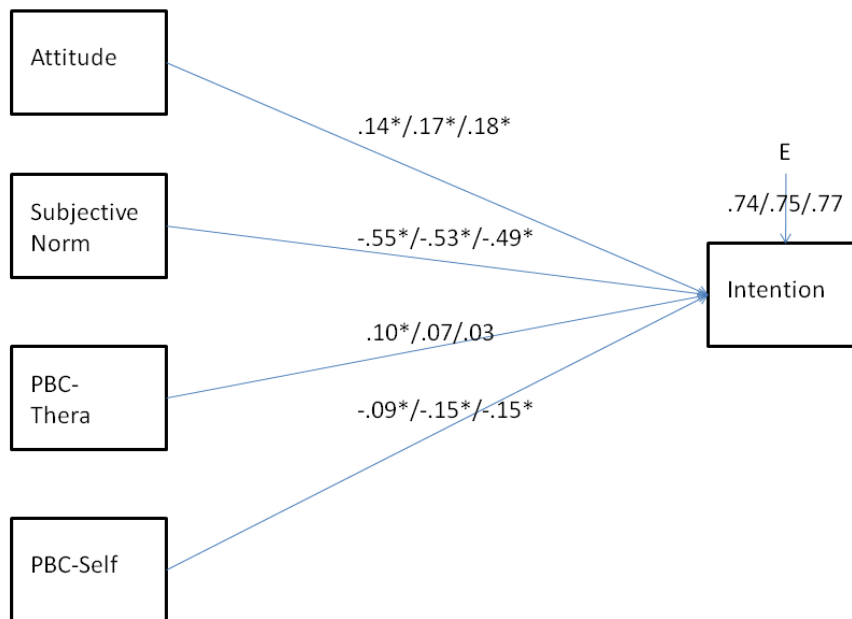
Table 8 shows the fit indices. The  $\chi^2 = 77.56$  with 24 df and  $p < .001$ . This indicates poor fit. The RMSEA = .07 with a 90% CI = .05, .09 these represent good fit. The CFI = .98 which represents strong fit. The SRMR = .04 indicating

very good fit. Based on these indices there seems to be strong fit to the TPB models for the concerns together. Figure 7 shows the standardized solutions for all three concerns analyzed simultaneously.

Table 8

*Fit Indices for All Three TPB Models Run Simultaneously*

| Fit Indices   | Values         |
|---------------|----------------|
| $\chi^2$      | 77.56 on 24 df |
| <i>CFI</i>    | .98            |
| <i>SRMR</i>   | .04            |
| <i>RMSEA</i>  | .07            |
| <i>90% CI</i> | .05, .09       |



*Figure 7.* Standardized path loadings for all three concerns run simultaneously (first value is for Anxiety or Depression, second is for Career Choice Concerns, third is for Alcohol or Substance Use).

\*  $p < .05$ .

*Model Comparison.*

A test for path invariance across type of concern was assessed to determine if there was differential impact of TPB variables depending on the type of concern. This test applies equality constraints to the model. In this case, the constraints were placed on the path loadings between similar variables for the TPB models in each concern. For example, previous analysis allowed the

relationship between Attitude and Intention to be freely estimated for all three concerns. The equality constraint assessed whether using the sample value for each of the concerns would impact the overall model fit. A  $\chi^2$  difference test was used to determine if the change in  $\chi^2$  value was enough to warrant significant change.

#### *Reevaluation of Model Fit.*

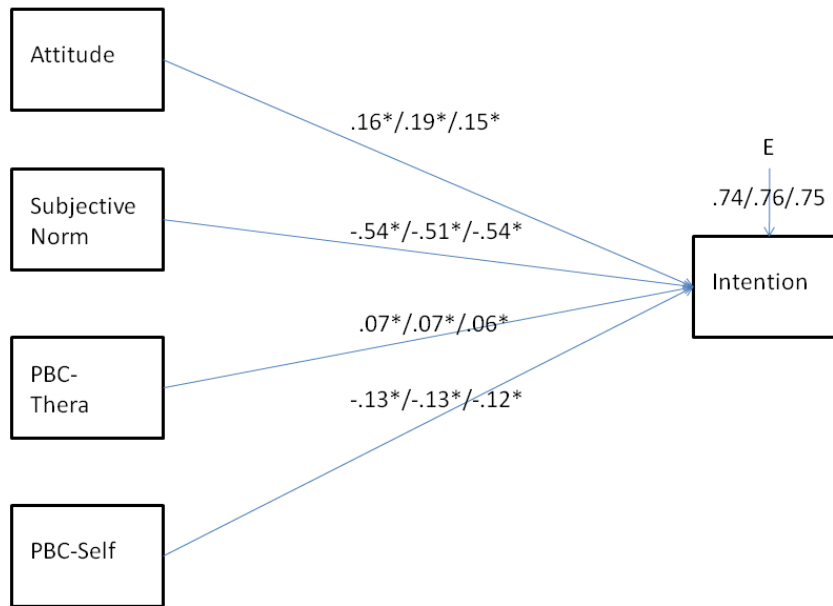
With the equality constraints placed on all the path loadings, this served as a test of the global or specific nature of the variable used to predict psychological help seeking. Fit indices were computed for all the models together with the equality constraints. Table 9 contains the fit indices for this respecified model. The  $\chi^2 = 87.31$  with 32 df and  $p < .001$ . This indicates poor fit. The RMSEA = .06 with a 90% CI = .05, .08 these represent good fit. The CFI = .98 which represents strong fit. The SRMR = .06 indicating some fit. Based on these indices there seems to be good fit to the TPB models for the concerns together with the path equality constraints in the model. The  $\chi^2$  distribution is a known distribution; therefore, nested models can be compared to determine if they are significantly different. The  $\chi^2$  difference is 9.75 on 8 df. A  $\chi^2$  difference table can be used to determine if that value reaches the threshold for significance. In order to be significantly different, the critical value would need to be equal or exceed 15.51 for  $p \leq .05$  on 8 df. It does not, which indicates that the models are not

significantly different. This final model will serve as the most parsimonious and best fitting model to the initial sample. Figure 8 shows the path loadings for the model with path equality constraints.

Table 9

*Fit Indices for Revised TPB Models Run Simultaneously with Path Equality Constraints*

| Fit indices   | Values         |
|---------------|----------------|
| $\chi^2$      | 87.31 on 32 df |
| <i>CFI</i>    | .98            |
| <i>SRMR</i>   | .04            |
| <i>RMSEA</i>  | .06            |
| <i>90% CI</i> | .05, .08       |



*Figure 8.* Standardized solutions for path loadings with path equality constraints (first value is for Anxiety or Depression, second is for Career Choice Concerns, third is for Alcohol or Substance Use).

\*  $p < .05$ .

*Replication Sample.*

In order to assess if the TPB path model fits the replication sample, a test of model invariance across samples was conducted. The least restrictive model was selected first to determine the fit if all parameters, including error variances, were freely estimated if the initial and replication samples were run simultaneously. This was then compared with a constrained model based on the



final initial sample model. This comparison model included path equality constraints both within and across samples. Table 10 contains the fit indices for the model with and without path equality constraints within and across samples. For the unconstrained path model across samples, the  $\chi^2 = 155.12$  with 48 df and  $p < .001$ . This indicates poor fit. The RMSEA = .07 with a 90% CI = .06, .08 these represent reasonable fit. The CFI = .98 which represents strong fit. The SRMR = .04 indicating strong fit. For the equality path model across samples, the  $\chi^2 = 174.61$  with 68 df and  $p < .001$ . This indicates poor fit. The RMSEA = .06 with a 90% CI = .05, .07 these represent some fit. The CFI = .98 which represents strong fit. The SRMR = .04 indicating strong fit. Overall, these indices would indicate that both models fit well. The  $\chi^2$  difference is 19.49 on 20 df. A  $\chi^2$  difference table can be used to determine if that value reaches the threshold for significance. In order to be significantly different, the critical value would need to be equal or exceed 31.41 for  $p \leq .05$  on 20 df. It does not, which indicates that the models are not significantly different. There do not appear to be significant sample differences in the path relations of TPB variables.

Table 10

| <i>Fit Indices for Test of Invariance between the Initial and Replication Samples</i> |   |  |
|---|---|--|
| Fit Indices   | No equality constraints between initial and replication samples | Equality constraints between initial and replication samples |
| $\chi^2$  | 155.12 on 48 df   | 174.61 on 68 df  |
| <i>CFI</i>  | .98   | .98  |
| <i>SRMR</i>   | .04   | .04  |
| <i>RMSEA</i>  | .07   | .06  |
| <i>90% CI</i>   | .06, .08  | .05, .07   |

*Post Hoc Test for Gender Differences.*

Previous literature has noted that gender differences sometimes exist for psychological help seeking. In order to assess this hypothesis, model invariance was assessed for path loadings between genders in the replication sample. Table 11 shows the fit criteria for the final model (path equality constraints across concerns) with and without the test of path loading invariance across the genders. For the free path constraints across gender, the  $\chi^2 = 88.21$  with 48 df and  $p < .001$ . This indicates poor fit. The RMSEA = .06 with a 90% CI = .04, .08 these represent good fit. The CFI = .99 which represents strong fit. The SRMR = .04 indicating strong fit. For the equality path constraints across gender, the  $\chi^2 = 108.78$  with 68 df and  $p < .001$ . This indicates poor fit. The RMSEA = .05 with a 90% CI = .03, .07 these represent good fit. The CFI = .99 which represents strong

fit. The SRMR = .04 indicating strong fit. Both models have strong fit to the data. The  $\chi^2$  difference is 20.57 on 20 df. A  $\chi^2$  difference table can be used to determine if that value reaches the threshold for significance. In order to be significantly different, the critical value would need to be equal or exceed 31.41 for  $p \leq .05$  on 20 df. It does not, which indicates that the models are equivalent. There do not appear to be significant gender differences in the relations of TPB variables to Intention.

Table 11

*Fit Indices for Gender Invariance for TPB with the Replication Sample*

| Fit Indices   | No gender equality constraints | Gender equality constraints |
|---------------|--------------------------------|-----------------------------|
| $\chi^2$      | 88.21 on 48 df                 | 108.78 on 68 df             |
| <i>CFI</i>    | .99                            | .99                         |
| <i>SRMR</i>   | .04                            | .04                         |
| <i>RMSEA</i>  | .06                            | .05                         |
| <i>90% CI</i> | .04, .08                       | .03, .07                    |

In summary, there appear to be similar loadings for each TPB variable in the model for each type of concern. These loadings were also similar for the samples and gender in the 2<sup>nd</sup> sample. Attitude had a small and positive relationship (.15 to .19) with Intention. Subjective Norm, which was scored to indicate Stigma, had a large and negative relationship (-.51 to -.54) with Intention. PBC-Thera had a minimal and positive relationship (.06 to .07) with Intention.

PBC-Self had a small and negative relationship (-.12 to -.13) with Intention.

## Chapter 5

### Discussion

Psychology has long been interested in understanding what influences an individual's choice to seek psychological help. Researchers have often looked at this construct as either a global construct or concern specific (i.e. career counseling). This study sought to determine if college students' view psychological help seeking differ for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use.

The Theory of Planned Behavior (TPB) was selected as a model to test these hypotheses due to its strong empirical support for a variety of behaviors including psychological help seeking. This model allowed the researcher to assess Attitude, Subjective Norm, and Perceived Behavior Control (two ways) to predict Intention to seek help. By not assessing actual help seeking behavior, the researcher gained more participants. Perceived Behavior Control was assessed in the traditional manner-how much control and efficacy an individual perceives they have to engaging in psychological help seeking; and PBC was assessed as it related to control and efficacy to work on the problem as an individual. Ajzen (2006) provides guidelines for creating a TPB measure to assess the TPB model; these were followed to create similar measures for each of the three concerns. These can be found in the appendices.

The hypotheses of interest were related to anticipated differential path loadings for the TPB variables within each concern model. Path analysis was selected for its ability to determine the predictive utility of each variable in the model. Initial path models provided strong fit to the data, indicating that the TPB model was an appropriate choice. In order to assess the questions related to global or specific views of psychological help seeking, a series of more and more constrained models were tested.

Results from the analyses support a parsimonious view of psychological help seeking. The strong fit provided by the final models with equality constraints for the path loadings across the types of concerns along with the mean differences create an interesting picture. Similar TPB variables have the same weight regardless of concern. For example, Attitude was equally important in predicting Intention for all three concerns. This supports a view that when making decisions about seeking help, college students consider TPB variables to have equal weights regardless of concern, with Attitude, Subjective Norm (stigma), and PBC-Self being the most important. Some mean differences did emerge. These support a view of some specificity in help seeking. College students have more positive beliefs for some concerns than others.

In the entire sample, there were significant differences between mean scores across several of the TPB variables. Participants reported a significantly

lower Attitude for seeking help for Alcohol or Substance Use concerns than the others. It may be that college students have less positive attitudes to addressing these problems with a mental health professional. The partial  $\eta^2 = .04$ , which indicates 4% of the variance was accounted for by concern. A significant difference for Subjective Norm was for Career Choice Concerns. College students seem to not perceive seeking help for this concern as something their peers would approve. The partial  $\eta^2 = .09$ , which indicates 9% of the variance accounted for by concern. Perhaps dealing with career concerns is not something “acceptable” to seek help from a mental health professional. No significant differences were found for PBC-Thera. For PBC-Self, Career Choice Concerns again had a significantly higher score indicating a greater belief in control and efficacy to address this concern on his or her own. The partial  $\eta^2 = .17$ , which indicates 17% of the variance accounted for my concern. It seems that dealing with concerns about career choice is an individual process. This result also supports the Subjective Norm difference. Individuals may believe they need to address this concern individually and their peers will not approve of seeking help. Not surprisingly then, Career Choice Concerns Intention was significantly lower than the other concerns. The partial  $\eta^2 = .11$ , which indicates 11% of the variance accounted for by concern. Intending to seek help for Anxiety or Depression and Alcohol or Substance Use is more likely. This may be due to college students’

views that some problems are “meant” for counseling and therapy.

Regarding mean differences for the samples (initial vs. replication) and gender (males vs. females), effect sizes indicate that the differences were minimal. The fact that some differences are significant, especially for Attitude related to gender is likely due to the large sample sizes. The small partial  $\eta^2$  values signify minimal importance of gender in looking at mean differences. Most literature has supported significant mean differences in psychological help seeking, so these results should be replicated. These results support some previous research (see Chapter 2), so they are not unique, but do not appear to be the overall trend.

In the final model, while each TPB variable was significantly related to intention to seek help, the magnitudes of these relations varied. The Attitude variables had strong and positive correlations with their corresponding Intention variables. These correlations support previous research and TPB that Attitude is an important antecedent to Intention (Ajzen & Fishbein, 2005). Once in the path model, these values dropped in magnitude ( $r = .16, .19, .15$  for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively). These values still indicate the importance of Attitude.

The Subjective Norm variables had very strong and negative correlations with their corresponding Intention variables. These correlations support previous



research and TPB that Subjective Norm, and in this case Stigma, is an important antecedent to Intention (Ajzen & Fishbein, 2005). Once in the path model, these values dropped slightly in magnitude ( $r = -.54, -.51, -.54$  for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively). These variables were the most important in predicting Intention. These results support that for college students, their belief about significant others has the greatest influence on their intentions. This supports developmental theories that indicate that adolescence is often marked by an increased importance placed on peers and their opinions.

The PBC-Thera variables had moderate and positive correlations with their corresponding Intention variables. These correlations support previous research and TPB that Perceived Behavior Control is an important antecedent to Intention (Ajzen & Fishbein, 2005). Once in the path model, these values dropped in magnitude ( $r = .07, .07, .06$  for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively). These variables were the lowest in the path model, indicating that their influence is minimal at best. This variable was assessing the amount of efficacy and control individuals believed they possessed to access help from a mental health professional. These results indicate that this is a minor predictor of intention.

The PBC-Self variables had moderate and negative correlations with their

corresponding Intention variables. These correlations support previous research and TPB that Perceived Behavior Control is an important antecedent to Intention (Ajzen & Fishbein, 2005). Once in the path model, these values did not change much in magnitude ( $r = -.13, -.13, -.12$  for Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use respectively). These variables were similar in magnitude to Attitude indicating a similar weight in the decision making process. This variable was assessing the amount of efficacy and control individuals believed they possessed to address their concern on their own. These results indicate that this is an important predictor that should not be overlooked. Individuals appear to seek fixing their problems on their own as decreasing their Intention to seek help. This variable was added by the researcher for this study and further research will be needed to determine its generalizability to the TPB model.

Interestingly, it is important to note that the TPB is an extension of the TRA (Theory of Reasoned Action). It appears that since both TRA variables provide significant support to help seeking intention, college students' view psychological help seeking as volitional. It seems that concerns with efficacy and control to access services add little to the prediction of Intention. This is also supported by research on TPB and TRA; volitional behaviors benefit from the addition of PBC, but only minimally (Madden, Scholder Ellen, & Ajzen, 1992).

The additional of PBC-Self is similar in magnitude to that of Attitude and therefore should be considered. This variable was added by the researchers in this study and assessed the amount of efficacy and control and individual felt to address their concerns on their own. This variable has not been researched previously, but this study indicates that it is another important variable in the psychological help seeking literature. Individuals have beliefs about the amount of efficacy and control they have over accessing mental health services, but this has minimal impact. On the other hand, considering what those individuals believe they can address on their own is significant and likely influences their decision to seek help. Not surprisingly this variable, like Stigma, was negatively related to Intention. Individuals who have a belief that they can address their concerns on their own are not as likely to seek help from mental health professionals.

From a research perspective, these results support the use of Attitude, Subjective Norm, and PBC-Self when predicting Intention to seek psychological help. Previous research has established Attitude and Subjective Norm as strong and important variables in the psychological help seeking process. Also, the importance of an individual's belief about his or her ability and efficacy to address their problem should be considered. Some individuals may feel a strong sense of personal responsibility to address their problem individually.

Regarding application to practice, these results provide a two-fold picture of psychological help seeking for college students. First, when considering whether or not to seek help, TPB variables are important variables used by individuals-especially, Attitude, Subjective Norm, and PBC-Self. The importance of these variables is similar regardless of the issue. Second, there are some differences in how college students view different problems. Career Choice Concerns appear to be problems that college students believe they should address individually and their peers will not approve of seeking help for this type of concern. There appear to be few meaningful differences between how students view Anxiety or Depression and Alcohol or Substance Use.

Future research will benefit from applying this model to other populations and settings. These results may be somewhat generalizable to college students, but should not be extended too broadly since the sample was not random. Additional research may also help to clarify the complex picture of these results-equal weight for the TPB variables, but some significant mean differences. Future research could also examine the nature of psychological help seeking and whether a TPB or TRA approach seems more appropriate. Researchers will benefit from further study of considering the addition of PBC-Self to models. There may be behaviors where considering the belief of control and efficacy to complete a behavior individually is important. Additional research to determine the truly

global versus specific nature of psychological help seeking will require additional research. Also, this study focused on three common concerns only-Anxiety or Depression, Career Choice Concerns, and Alcohol or Substance Use. Additional research may consider other concerns (e.g. relationship problems, abuse, suicide).

The TPB provides a helpful and useful template for creating measures that assess the model in behavior. They do lack later replication and standardization, however, so that provides some limit to their utility. Additional studies will benefit from including established scales to determine the construct validity of the TPB items and more precisely assess the variable of interest. Later research may consider piloting specific items as another approach to determining the global versus specific nature of psychological help seeking.

This study has several limitations. While the total sample is large and did allow for replication, the individuals were not randomly selected and came from a university sample. This limits the generalizability of the results. Also, due to the researcher's interest in assessing a variety of concerns, a limited number of items were used to assess each construct. Using established scales or more items allows for greater precision and accuracy in assessing the constructs.

This study provides a rich picture of psychological help seeking. While it does not settle the debate about the global versus specific nature of help seeking, it does provide support for the use of TPB in this area. Also, these results present

path equivalence for TPB variables in predicting Intention for three common concerns. This likely indicates that when considering seeking help, the variables used in the decision making process are the same regardless of the concern. This theory based approach provides a strong basis to continue research in the area in a systematic manner. Some mean differences do seem apparent for different concerns, but some of these may provide limited utility in practice. Not surprisingly, this study fills in some holes in this area, but also creates additional ones. Psychological help seeking is a worthy area of research, not only for its empirical benefits, but its easy utility in practice. Understanding why people seek help from mental health professionals and how they make those decisions will enable researchers and practitioners to help people with a variety of concerns.

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APPENDIX A  
INFORMED CONSENT



Dear Participant:

I am a graduate student under the direction of Professor Terence Tracey, Ph.D. in the Division of Psychology in Education at Arizona State University.

I am conducting a research study to determine university students' willingness to seek help from mental health professionals for a variety of common psychological problems. I am inviting your participation, which will involve completing an online survey which takes approximately 30 minutes. Participants must be 18 or older to complete the survey.

Your participation in this study is voluntary. You can skip questions if you wish. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Extra credit in your class is being offered as compensation for your time. The final screen of the survey is designed to be printed by each participant and then provided to your instructor as proof of your survey completion for extra credit (be sure you complete this survey at a computer with printer access).\*

Responses from this survey will be used to help mental health researchers and professionals understand what factors influence students' willingness to seek help. There are no foreseeable risks or discomforts to your participation.

All data will be collected via this online survey and used in aggregate form for analyses. Your responses will be anonymous. The results of this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact the research team: Timothy Hess ([tim.hess@asu.edu](mailto:tim.hess@asu.edu)) or Terence Tracey ([terence.tracey@asu.edu](mailto:terence.tracey@asu.edu)). If you have any questions about your rights as a

participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Filling out of the questionnaire will be considered your consent to participate.

Sincerely,

Timothy Hess, M.A.

\*The following third paragraph was used for the sample that received research credit for their participation: “Your participation in this study is voluntary. You can skip questions if you wish. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Research credit in your class is being offered as compensation for your time.”

APPENDIX B  
DEMOGRAPHIC QUESTIONNAIRE

Please answer each question as completely and honestly as possible. All information collected will be confidential and anonymous.

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

Sex: \_\_\_\_\_ M \_\_\_\_\_ F

Ethnicity: \_\_\_\_\_ African American or Black  
\_\_\_\_\_ Asian American or Pacific Islander  
\_\_\_\_\_ Latino or Hispanic  
\_\_\_\_\_ Native American or American Indian  
\_\_\_\_\_ Caucasian or White  
\_\_\_\_\_ Other: \_\_\_\_\_

What year in school are you? \_\_\_\_\_ 1st year                      \_\_\_\_\_ 2nd year  
\_\_\_\_\_ 3rd year                      \_\_\_\_\_ 4th year                      \_\_\_\_\_ 5th year or more

\*\*Measures from Appendices B, C, and D were counterbalanced.

APPENDIX C  
MENTAL HEALTH ASSESSMENT

Please answer each question as completely and honestly as possible. All information collected will be confidential and anonymous. Note the term “mental health professional” is intended to refer to anyone who has training to address mental health concerns including psychiatrists, psychologists, therapists, counselors, or social workers.

Click "Continue" to continue with the survey.

Please indicate your previous experience with mental health professionals (i.e., psychiatrists, psychologists, therapists, counselors, or social workers). (Please select one)

None, I have never worked with a mental health professional

I have worked with a mental health professional before and the experience was not positive

I have worked with a mental health professional before and the experience was positive

Please indicate if you have ever experienced problems or concerns in the following areas (please indicate all that apply).

Anxiety or Depression

Career Choice Concerns

Alcohol or Drug Use

None

Please indicate your level of agreement with the statements below.

Currently, I am experiencing concerns related to my anxiety or depression.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

I feel bothered by my current anxiety or depression.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

My current level of distress regarding anxiety or depression does not concern me.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

Currently, I am experiencing concerns related to my career choice.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

I feel bothered by my current career choice.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

My current level of distress regarding career choice does not concern me.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

Currently, I am experiencing concerns related to my alcohol or drug use.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

I feel bothered by my current alcohol or drug use.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

My current level of distress regarding alcohol or drug use does not concern me.

Strongly Disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly Agree

\*\*Measures from Appendices B, C, and D were counterbalanced.

APPENDIX D  
THEORY OF PLANNED BEHAVIOR INSTRUMENT



Please use the phrase below for each item on this page.

For me, seeking help from a mental health professional to address a problem I would have with *anxiety or depression* would be ...

Harmful \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Beneficial  
Pleasant \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Unpleasant  
Good \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Bad  
Worthless \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Valuable  
Unenjoyable \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Enjoyable

[Survey page break]

Please indicate the number that represents your level of belief about seeking help.

Most people who are important to me think that I \_\_\_\_\_ seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Should \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Should not

Please indicate the likelihood that represents your level of belief about seeking help.

It is expected of me that I seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Extremely likely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely unlikely

Please indicate the number that represents the level of approval about seeking help.

The people in my life whose opinion I value would \_\_\_\_\_ of my seeking help

from a mental health professional to address a problem I would have with *anxiety or depression*.

Approve \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Disapprove

[Survey page break]

Please indicate the level of possibility regarding the statement below.

For me to seek help from a mental health professional to address a problem I would have with *anxiety or depression* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following statement.

How much control do you believe you have over seeking help from a mental health professional to address a problem you would have with *anxiety or depression*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the level of possibility regarding the statement below.

[Survey page break]

For me to work on my own to address a problem I would have with *anxiety or depression* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could work on my own to address a problem I would have with *anxiety or depression*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following statement.

How much control do you believe you have over working on your own to address a problem you would have with *anxiety or depression*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I work on my own to address a problem I would have with *anxiety or depression*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the likelihood that represents your level of belief about seeking

help.

I intend to seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Extremely unlikely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely likely

Please indicate how true the following statement is for you.

I will try to seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of agreement you have with the following statement.

I plan to seek help from a mental health professional to address a problem I would have with *anxiety or depression*.

Strongly disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly agree

[Survey page break]

Please use the phrase below for each item on this page.

For me, seeking help from a mental health professional to address a problem I would have with *career choice concerns* would be ...

Harmful \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Beneficial

Pleasant \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Unpleasant

Good \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Bad

Worthless \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Valuable

Unenjoyable \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Enjoyable

[Survey page break]

Please indicate the number that represents your level of belief about seeking help.

Most people who are important to me think that I \_\_\_\_\_ seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Should \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Should not

Please indicate the likelihood that represents your level of belief about seeking help.

It is expected of me that I seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Extremely likely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely unlikely

Please indicate the number that represents the level of approval about seeking help.

The people in my life whose opinion I value would \_\_\_\_\_ of my seeking help from a mental health professional to address a problem I would have with *career choice concerns*.

Approve \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Disapprove

[Survey page break]

Please indicate the level of possibility regarding the statement below.

For me to seek help from a mental health professional to address a problem I would have with *career choice concerns* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following statement.

How much control do you believe you have over seeking help from a mental health professional to address a problem you would have with *career choice concerns*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the level of possibility regarding the statement below.

[Survey page break]

For me to work on my own to address a problem I would have with *career choice concerns* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could work on my own to address a problem I would have with *career choice concerns*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following statement.

How much control do you believe you have over working on your own to address a problem you would have with *career choice concerns*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I work on my own to address a problem I would have with *career choice concerns*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the likelihood that represents your level of belief about seeking help.

I intend to seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Extremely unlikely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely likely

Please indicate how true the following statement is for you.

I will try to seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of agreement you have with the following statement.

I plan to seek help from a mental health professional to address a problem I would have with *career choice concerns*.

Strongly disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly agree

[Survey page break]

Please use the phrase below for each item on this page.

For me, seeking help from a mental health professional to address a problem I would have with *alcohol or drug use* would be ...

Harmful \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Beneficial

Pleasant \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Unpleasant

Good \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Bad

Worthless \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Valuable

Unenjoyable \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Enjoyable

[Survey page break]

Please indicate the number that represents your level of belief about seeking help.

Most people who are important to me think that I \_\_\_\_\_ seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Should \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Should not



Please indicate the likelihood that represents your level of belief about seeking help.

It is expected of me that I seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Extremely likely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely unlikely

Please indicate the number that represents the level of approval about seeking help.

The people in my life whose opinion I value would \_\_\_\_\_ of my seeking help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Approve \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Disapprove

[Survey page break]

Please indicate the level of possibility regarding the statement below.

For me to seek help from a mental health professional to address a problem I would have with *alcohol or drug use* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following statement.

How much control do you believe you have over seeking help from a mental health professional to address a problem you would have with *alcohol or drug use*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the level of possibility regarding the statement below.

[Survey page break]

For me to work on my own to address a problem I would have with *alcohol or drug use* would be...

Impossible \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Possible.

Please indicate how true the following statement is for you.

If I wanted to I could work on my own to address a problem I would have with *alcohol or drug use*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of control you believe you have in the following

statement.

How much control do you believe you have over working on your own to address a problem you would have with *alcohol or drug use*?

No control \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Complete control

Please indicate the level of agreement you have with the following statement.

It is mostly up to me whether or not I work on my own to address a problem I would have with *alcohol or drug use*.

Strongly agree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly disagree

Please indicate the likelihood that represents your level of belief about seeking help.

I intend to seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Extremely unlikely \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Extremely likely

Please indicate how true the following statement is for you.

I will try to seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Definitely true \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Definitely false

Please indicate the level of agreement you have with the following statement.

I plan to seek help from a mental health professional to address a problem I would have with *alcohol or drug use*.

Strongly disagree \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ : \_\_\_ Strongly agree

\*\*Measures from Appendices B, C, and D were counterbalanced.

APPENDIX E  
THANK YOU PAGES

### Extra Credit Survey Version

Click Continue to access the Thank You page that can be printed to verify Extra Credit.

[Survey page break]

Your response has been saved and recorded with ID [number]. If you are completing this for extra credit, please print this page and turn it into your instructor. Instructors please note this survey takes approximately 30 minutes to complete.

### Research Credit Survey Version

Click "Continue" to access the final page and submit your results.

[Survey page break]

Your response has been saved and recorded with ID [number].