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Muskaan Khanna March 23, 2021

Exploring Attitudes Towards Using Psychiatric Medication for Mental Disorders Through the Lens of the Theory of Planned Behavior

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Abstract

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The stigma associated with and the tension surrounding mental health and mental disorders can be significant barriers that prevent individuals from seeking help and treatment. In order to better understand decision-making related to mental health treatment, the present study examined several factors influencing the decision to use psychiatric medication to treat depressive and anxiety disorders through the lens of the Theory of Planned Behavior. Undergraduate participants (N=138) completed an online survey that assessed personal attitudes, subjective norms, and perceived behavioral control as predictors of intention to use psychiatric medication; gender and the degree of closeness to an individual with a diagnosed mental disorder were also measured. As predicted, the Theory of Planned Behavior factors (i.e., attitudes, subjective norms and perceived behavioral control) significantly predicted the intent to use psychiatric medication to treat depressive and anxiety disorders; of these, personal attitudes was found to be the strongest predictor of intent. However, gender and the degree of closeness to an individual with a mental health diagnosis did not significantly predict the intent to use psychiatric medication to treat depressive and anxiety disorders. Results suggest that The Theory of Planned Behavior is an appropriate model that can be used to understand decisions in the mental health domain, but more work is needed to better understand the precise nature and relative strengths of these factors in predicting various deliberate decisions regarding mental health and treatment.

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Exploring Attitudes Towards Using Psychiatric Medication for Mental Disorders Through the Lens of the Theory of Planned Behavior

Have you ever wondered why we make the choices we do? Have you ever wondered which factors guide our decision-making process? The seemingly unending tension surrounding mental health and mental disorders draws the question of how and why certain decisions pertaining to mental health are made. One of the most pressing questions pertains to why some individuals do not seek treatment for mental disorders, whereas others do. There are myriad factors that impact an individual's decision to use psychiatric medication and seek treatment for mental disorders, specifically depressive and anxiety disorders. The current study explored these multiple contributors in an attempt to better understand their individual and collective influence on mental health treatment decisions.

Mental Health Sphere

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines a mental disorder as "a behavioral or psychological syndrome or pattern that occurs in an individual" that "reflects an underlying psychological dysfunction" and "the consequences of which are clinically significant distress (e.g., a painful symptom) or disability (i.e., impairment in one of more important areas of functioning" (American Psychiatric Associate, 2013, p. 13). Although a wide range of mental disorders are classified in the DSM-5, there is no true consensus on their etiologies (Kendler, 2012). The lack of knowledge surrounding the causes, consequences, and subjective nature of symptoms results in a host of negative views and presumed psychological outcomes associated with mental disorders (Malla et al., 2015), including fear, shame, and loss of one's sense of agency. The framework in which this work takes place makes the assumption that these negative responses tend to translate to a public stigma, i.e., "negative social behaviors,

reactions, attitudes, and beliefs directed toward people with mental illness" (Kranke et al., 2011, p. 893), which could possibly induce self-stigma, i.e., "internalized effects of public stigma" (Kranke et al., 2011, p. 893). This hypothesized relation between public and private stigma provides one potential explanation for the way in which the suspicion of mental disorders could affect related decision-making via multiple routes. Specifically, an individual's perceptions of mental disorders and related decisions are presumably impacted not only by concern for what others may think (e.g., norms) but also by an individual's own internalized beliefs and evaluations (e.g., attitudes). Consequently, personal beliefs and public beliefs may be two factors that influence whether an individual accepts their diagnoses and obtains treatment for them (Pescosolido et al., 2007).

The effects of the stigma surrounding mental disorders extend to a wide range of themes. For instance, individuals are less likely to seek treatment because they are worried about the confidentiality aspect of diagnoses and treatment due to concerns that individuals in their community may find out (Pescosolido et al., 2007). Work by Gaiha and colleagues (2020) examining the magnitude and manifestations of public stigma amongst youth provides further evidence for the pervasiveness of confidentiality concerns. In a meta-analysis comprised of 30 studies and including nearly 7000 participants, Gaiha et al. (2020) found that one-third of youth displayed poor knowledge of mental health and mental health related problems. It is possible that the lack of knowledge of mental health translates to negative attitudes towards such disorders and the individuals with such diagnoses. Therefore, it can be inferred that individuals who have been diagnosed with a mental disorder are concerned about becoming the victim of stigmatizing behavior, and therefore, conceal the diagnosis and avoid treatment (Gaiha et al., 2020). Since there is a lower acceptance level for behavioral/mental disorders than physical/sensory disorders

(Choe et al, 2020), and because seeking mental health services tends to be seen as a sign of weakness, the aforementioned concern related to others finding out is perhaps understandable (Hoencamp et al., 2002). Contrary to medical illnesses, which are defined in terms of biological and neurological etiologies, mental disorders tend to be laden with values and beliefs (Malla et al., 2015). Consequently, a mental disorder diagnosis can negatively impact society's perception of an individual causing them to conceal the reality of their mental health.

In addition to concerns related to how they will be viewed by others, individuals suffering from mental disorders may also resist treatment due to concerns about how it will affect them personally. Mental disorders are known to affect the core of an individual, i.e., emotion, perception, thought, and action, which are the essence of human identity (Malla et al., 2015). Therefore, individuals may be worried that treatment for mental disorders, specifically psychiatric medication, can change more about the individual than the mental disorder itself. For instance, prior research has demonstrated that many individuals believe that the use of psychiatric medication has lasting consequences on development, resulting in a flat, "zombie-like personality" (Pescosolido et al., 2007). Indeed, some psychiatric medications can have significant side effects, particularly in the short term; thus, some of the concerns about psychological consequences of taking psychiatric medication are likely valid. Nonetheless, given these side effects, some of the concerns about psychological consequences of taking psychiatric medication can be viewed as valid. However, the stigma surrounding mental disorders can be so pervasive that it tends to overshadow the knowledge of the way psychiatric medication typically works in reality.

The majority of research on mental health and the stigma surrounding it has focused on adults. However, the development of mental disorders, such as depression and anxiety, peaks during adolescence (Powers & Casey, 2015). Adolescents, who are still in the midst of forming their identity, also tend to be more influenced by stereotypes and public perception than older individuals (Kranke et al., 2011). Therefore, the public association of mental disorders with an individual who is 'crazy' and 'psychotic' more strongly affects their decision to seek help (Kranke et al., 2011, p. 895). Additionally, since identity development during adolescence is largely shaped by one's peers, seeking help and using psychiatric medication may make adolescents feel alienated from their friends, resulting in an avoidance of any form of treatment, as a means to protect themselves and their self-esteem (Kranke et al., 2011).

While college students are often considered emerging adults, it can be argued that they are still by and large late adolescents. Students attending university are said to be leaving the nest for the first time, because for most students, attending university is the first time they are truly living alone, and given a true taste of independence. Additionally, prior research has demonstrated that emerging adults, classified within the 18-24 age group, tend to have the highest incidence and cumulative rates of depression, compared to any other age group (Peters, 2014). Similarly, prior research that has examined the impact of depression, anxiety and stress amongst university students found that 39.5% of students reported symptoms of moderate to severe levels of depression, 23.8% of students reported moderate to severe levels of anxiety, and 80.3% reported moderate to severe levels of perceived stress, within a sample of 148 university students (Othman et al., 2019). Clearly, many college students are directly affected by mental health dysfunction.

Therefore, it is important to understand how individuals in this age group think about and make decisions regarding care for their mental health.

Taken together, it is clear that a lack of understanding and tension surround the concept of mental disorders. These concerns affect not only what an individual personally believes about mental disorder but also their perceptions of others' expectations and views. It stands to reason that individuals faced with making decisions about their mental health take such factors as personal beliefs and perceptions of what others believe about mental disorders into account in determining if and how to treat mental disorders. These avenues of potential influence are particularly important to examine in a younger/college-age population, given a) the focus on identity development, b) the heightened influence of peers, and c) the prevalence rates of mental disorders emergence during this developmental stage. Thus, it is critical to examine more closely how multiple factors could affect an individual's decision-making and behavior regarding their own experience with mental disorders. In the next section, I describe a promising theoretical model for addressing these questions: The Theory of Planned Behavior.

Theory of Planned Behavior

The Theory of Planned Behavior provides a useful framework for understanding intentional and conscious decision-making processes. Specifically, the Theory of Planned Behavior highlights the three factors that contribute to the intention to perform a behavior (Ajzen & Madden, 1986). The first predictor of the intention to perform a behavior is the personal attitude of the individual performing the behavior, i.e., the magnitude of a favorable or unfavorable evaluation of the behavior. The second predictor of intention is the subjective norms surrounding the behavior, i.e., the social pressure surrounding the

behavior. Lastly, the third predictor of intention is perceived behavioral control, which an individual is believed to possess if they can independently decide whether or not to perform the behavior in question (Ajzen & Madden, 1986). Taken together, these three factors influence an individual's intention to perform a certain behavior.

Application of The Theory of Planned Behavior Within the Physical Health Sphere

The theory of Planned Behavior (Ajzen & Madden, 1986) is a well-established and generalizable model for understanding and predicting a wide variety of intentional behaviors. Of most direct relevance to the current study are applications of this theoretical model to physical health behaviors. Specifically, the Theory of Planned Behavior has been utilized to explain decisions related to physical health behaviors including medication adherence, which highlighted the importance of perceived behavioral control in predicting intention and adherence (Liddelow et al., 2020) and analgesic use following orthopedic surgery, which emphasized the value of holding positive attitudes and subjective norms, over negative attitudes and subjective norms (Pellino, 1997). Additionally, the Theory of Planned Behavior has been utilized to explain the prediction of self-medication with over-the-counter analgesics, which displayed The Theory of Planned Behavior and individual pain experience as predictors of intent (Pineles & Parente, 2012). Lastly, the Theory of Planned Behavior has been used to predict women's intentions to use pain relief medication during childbirth (Williams et al., 2008); this work highlighted the importance of attitudes, subjective norms and perceived behavioral control, independently, in predicting the use of different pain medication.

Although the Theory of Planned Behavior is a validated theory and a useful lens through which to understand deliberative decision-making in regard to physical health behaviors, there are still open questions to be addressed. First, the body of past work reveals mixed findings regarding the significance and relative importance of the model's three primary predictors. Second, to our knowledge, the Theory of Planned Behavior has not been applied to unpack intentional decisions within the mental health sphere.

Additionally, there is a question of inconsistencies in past work. Specifically, there is contradictory evidence regarding the role of perceived control in predicting behavioral intention. For instance, Pellino (1997) found that, although both attitudes and subjective norms positively predicted intention to take analgesics following surgery, perceived behavioral control was not found to be a significant predictor of intention to use analgesics (Pellino, 1997). In contrast, Liddelow and colleagues (2020) found that perceived behavioral control was the only significant predictor of intention and adherence of general prescription medication adherence (Liddelow et al., 2020). Additionally, in order to understand the adherence behaviors of patients with type II diabetes, Dilekler and colleagues (2019) found that while mediation analyses did find support for the intention for the attitudes-behavior and subjective norms-behavior, it did not find support for a mediating role of intention for the perceived behavioral control-behavior relation. Nonetheless, the direct effect of perceived behavioral control on the adherence behavior itself was found to be significant (Dilekler et al., 2019). Therefore, there are studies that have found all three predictors of intention of this theory to be significant, such as Wollancho and colleagues' (2020) work examining predictors of intention toward screening for cervical cancer in women (Wollancho et al., 2020). However, there are also

several studies that have found perceived behavioral control to a) not be significantly predictive of intent, as exhibited by a moderation analysis conducted to understand condom use adherence for homosexual sexual activity (Andrew et al., 2016) or b) only weakly predictive of intent, as was the case in a study examining intent to read information about alcohol use (Zhao et al., 2020).

Mixed/inconclusive evidence across prior work regarding the significance and relative importance of the three predictors of The Theory of Planned Behavior

A second issue involves the relative contribution of the model's individual predictors in influencing behavioral intent. The Theory of Planned Behavior proposes that personal attitudes, subjective norms and perceived behavioral control collectively predict intention. However, the **relative strength** of each of the factors in predicting intention is typically not highlighted. For instance, while examining women's intention to use pain relief medication during childbirth (Williams et al., 2008), subjective norms emerged as the strongest influence in independently predicting the use of nitrogen dioxide (NO2) and oxygen (O2), pethidine, an opioid analgesic administered via intramuscular or intravenous injection and epidural analgesia, which involves a local anesthetic to be injected into a space between spinal vertebrae in the lower back. Attitudes independently predicted the intention to use NO2 and O2, and epidural analgesia, whereas perceived behavioral control independently predicted the intention to use pethidine alone (Williams et al., 2008). Therefore, each of these three factors may have different relative strengths, depending on the behavior in question. This lack of clarity regarding the relative influence of the model's predictors, the inconsistencies found between different studies, and most importantly, the lack of application of this

theory to mental health decision-making behaviors, makes it difficult to predict which factors may influence an individual's choice of using psychiatric medication for depressive and anxiety disorders.

Current Study

The aim of the study was to examine the factors that influence the decision to use psychiatric medication to treat depressive and anxiety disorders. As highlighted above, there are multiple contributors that factor into an individual's deliberative decision-making process, specifically, the decision to use psychiatric medication to treat depressive and anxiety disorders. Therefore, the current study aims to explore these multiple contributors, using a model that has shown promise for addressing questions concerning multiple factors: The Theory of Planned Behavior (TPB) (Ajzen & Madden, 1986). In doing so, there is a direct application of TPB to decisions made within the mental health sphere, thereby filling a gap in literature.

The primary questions guiding the study are as follows:

1. Can the Theory of Planned Behavior be used to understand an individual's intent to use psychiatric medication to treat depressive and anxiety disorders?
2. Which of the facets of the Theory of Planned Behavior (attitudes, norms, perceived control) is the strongest predictor of an individual's intent to use medication to treat depressive and anxiety disorders?

In order to examine these questions, I proposed the following hypotheses:

1. If an individual has more positive attitudes towards using medication to treat depressive and anxiety disorders, then they will show greater intent to take medication to treat these mental disorders.
2. If an individual has more positive subjective norms towards using medication to treat depressive and anxiety disorders, then they will show greater intent to take medication to treat these mental disorders.
3. If an individual has greater perceived control towards using medication for depressive and anxiety disorders, then they will show greater intent to take medication to treat these mental disorders.

Additionally, two more factors - gender and the effect of how close one was to an individual who has been diagnosed with a mental disorder – were also examined as exploratory hypotheses in the current study. The role of gender in the mental health field has been studied extensively. For example, prior research has demonstrated that women experienced and perceived less stigma than men in terms of the diagnosis and treatment of mental disorders (Pescosolido et al., 2007), which is perhaps why men are less likely to seek help from mental health professionals (Berger et al., 2013). Similarly, prior research has demonstrated that individuals who have had some sort of contact with someone who has been diagnosed with a mental disorder tend to report less stigma (Pescosolido et al., 2007), but sometimes simply knowing someone is not enough to reduce or shape perceptions of stigma. However, the nature of the contact, and the relationship with that individual can do so (Pescosolido et al., 2007). Consequently, the current study aimed to explore the effect of gender and how close one was to an individual who has been diagnosed with a mental disorder within the scope of this study.

Two exploratory hypotheses examined in the current study:

1. Examining the effect of gender on the intent to use medication to treat depressive and anxiety disorders.
2. Examining the effect of how close one was to an individual who has been diagnosed with a mental disorder on the intent to use medication to treat depressive and anxiety disorders.

Methods

Participants

This study included 152 undergraduate Emory University students, who were recruited from the Emory SONA system. Emory SONA is a system that consists of all research studies available to students in introductory Psychology classes (PSYC 110 and PSYC 111); individuals participate in research studies in order to fulfill the research requirements of these courses. After reading the study description on SONA, those who decided to participate clicked on the link to access the study materials, which were set up on REDcap, a web application used for building and managing surveys. Data from fourteen participants were subsequently excluded due to incompleteness; the final sample was comprised of 138 participants.

Descriptive information for the sample is provided in Table 1. In general, the sample consisted of mostly women (approximately two thirds of participants were women) and was primarily comprised of students who identified as White or Asian.

Materials and Measures

Since the primary theoretical framework of interest in this study was the Theory of Planned Behavior (Ajzen, 2006), several existing measures were adapted by the researchers to assess how the theory's key factors might apply to the specific question of using psychiatric medication for depressive and anxiety disorders. For ease of presentation, all four measures capturing elements of the Theory of Planned Behavior are provided in Appendix A.

Measures of Primary Variables

Attitudes. Attitudes toward taking psychiatric medication for depressive and anxiety disorders (Ajzen, 2006; see Appendix A) were assessed using six semantic differential scales, ranging from 1 to 7, with the following endpoints: (a) bad/good, (b) unfavorable/favorable, (c) negative/positive, (d) against/in favor, (e) unbeneficial/beneficial, and f) inappropriate/appropriate. All six attitude items were highly correlated (rs from .68 to .84) and internally reliable ($\alpha = .95$). As such, these six items were averaged to create a composite variable assessing attitudes toward using medication to treat depressive and anxiety disorders, with higher scores indicating more positive attitudes.

Subjective Norms. Subjective norms toward taking psychiatric medication for depressive and anxiety disorders (Ajzen, 2006; see Appendix A) were assessed by asking participants the likelihood that a) most people *who are important to them* would approve of them taking psychiatric medication for depressive and anxiety disorders and b) most people *like them* would take psychiatric medication for depressive and anxiety disorders. These questions were assessed using two semantic differential scales, ranging from 1 to 7, with the following endpoints: (a) agree/disagree, and (b) likely/unlikely. The two subjective norm items were correlated (r =

0.562) and internally reliable (α = .719). As such, these two items were averaged to create a composite variable assessing subjective norms toward using medication to treat depressive and anxiety disorders, with higher scores indicating more positive norms.

Perceived Behavioral Control. Perceived behavioral control (Ajzen, 2006; see Appendix A) was assessed using one semantic differential scale, ranging from 1 to 7, with the following endpoint: (a) agree/disagree. Higher scores indicated higher perceived behavioral control.

Intention. Intention toward taking psychiatric medication for depressive and anxiety disorders (Ajzen, 2006; see Appendix A) was assessed using one semantic differential scale, ranging from 1 (disagree) to 7 (agree). Higher scores indicated more positive intentions.

Measures of Additional Variables

Closeness. In order to examine the exploratory hypothesis of if and how the degree of closeness to an individual with a mental disorder diagnosis may impact the intent to use psychiatric medication to treat depressive and anxiety disorder, the variable degree of closeness was included in the theory of planned behavior survey (Ajzen, 2006; see Appendix A). It was assessed by asking participants if they personally knew anyone who had been diagnosed a depressive and/or an anxiety disorder. Those who answered “yes” were then asked to rate how close they were to this individual. These questions were assessed using one semantic differential scale, ranging from 1 to 7, with the following endpoint: (a)not at all close/extremely close, with higher scores indicating a greater degree of closeness.

Demographics. The demographic survey (see Appendix B) assessed gender, age, sexual orientation, ethnicity, religious affiliation, academic year, major, hometown and family style of the sample.

Procedure

The study employed an online survey design. Measures were completed by participants at their convenience in any physical location they chose (e.g., dorm room, public computer areas around campus, etc.). The study materials were administered via REDcap, a commercial online survey platform. Participants clicked the link provided in the SONA system and were then redirected to a consent statement and the study materials in REDcap. The participants first completed measures assessing aspects of the Theory of Planned Behavior (attitude, subjective norms, perceived behavioral control, intent and degree of closeness), followed by a demographics survey and concluded by a debriefing form to give them more information about the purpose of the study. Participants received one SONA credit upon completion of the study.

Design

A correlational survey design was used to examine whether the factors comprising the Theory of Planned Behavior (i.e., attitudes, subjective norms, perceived behavioral control) predicted intent to use psychiatric medication for depressive and anxiety disorders, as well as the relative predictive strengths of these individual factors. Additionally, the direct and interactive effects of a) gender and b) degree of closeness to an individual who was diagnosed with a depressive or anxiety disorder were also explored.

Results

Descriptive Statistics

Descriptive Statistics for the primary and additional variables of interest are presented in Table 2. Before proceeding with additional analyses, it was necessary to ensure that the data met the assumptions for linear regression. All variables of interest met the assumptions of linearity, normality, and homoscedasticity, making it appropriate to run analyses with these data in their original form.

Tests of Main Hypothesis

Multiple linear regression analysis was used to examine both the main and interactive effects of the Theory of Planned Behavior predictors (attitudes, subjective norms and perceived behavioral control) on the intent to use psychiatric medication to treat depressive and anxiety disorders. The independent variables (i.e., composite attitudes, composite subjective norms and perceived behavioral control) were entered simultaneously in Block 1, while intent was entered as the dependent variable. Additionally, collinearity diagnostics confirmed that there was reasonable tolerance.

Results of the multiple regression are presented in Table 3. As predicted, there was a significant positive relationship between composite attitude and intent ($p < 0.001$; see Figure 1), composite subjective norms and intent ($p < 0.006$; see Figure 2) and perceived behavioral control and intent ($p = 0.001$; see Figure 3). Therefore, as composite attitude, composite subjective norms and perceived behavioral control increased, so did intent to use psychiatric medication to treat anxiety and depression. The multiple regression revealed composite attitudes to be the strongest predictor of intent ($\beta = 0.41$, $t= 5.88$, $p<0.001$), followed by perceived behavioral control ($\beta = 0.27$, $t= 329$, $p<0.001$),

with composite subjective norms displaying the smallest effect size ($\beta = 0.23$, $t= 2.77$, $p<0.001$). Additionally, the overall regression model accounted for 63% of the observed variance in intent, thereby highlighting the utility of the Theory of Planned Behavior in predicting the intent to use medication for depressive and anxiety disorders.

Exploratory Analyses with Additional Variables

Associations with Gender

Linear regression was used to examine both the direct and interactive effects of the gender on the intent to use medication to treat depressive and anxiety disorders. In order to avoid collinearity separate linear regressions were conducted; multiple comparisons were not corrected for. In the first linear regression, composite attitudes, composite subjective norms, perceived behavioral control and gender were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression analyses are presented in Table 4. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), composite subjective norms and intent ($p = 0.007$) and perceived behavioral control ($p = 0.001$) and intent. However, gender was not significantly associated with intent ($p = 0.341$).

In the second linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction of *gender and composite attitude* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 5. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), composite

subjective norms and intent ($p = 0.007$) and perceived behavioral control ($p = 0.001$) and intent. However, the interaction of gender and composite attitude was not significantly associated with intent ($p = 0.337$).

In the third linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction of *gender and composite subjective norms* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 6. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), and perceived behavioral control ($p = 0.001$) and intent. However, there was no significant relationship between composite subjective norms and intent ($p = 0.057$). Additionally, the interaction of gender and composite subjective norms was not significantly associated with intent ($p = 0.422$).

In the fourth linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction of *gender and perceived behavioral control* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 7. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), composite subjective norms and intent ($p = 0.007$). However, there was no significant relationship between perceived behavioral control ($p = 0.053$) and intent. Additionally, the interaction of gender and perceived behavioral was also not significantly associated with intent ($p = 0.153$).

Associations with Degree of Closeness

Linear regression analyses were used to examine both the direct and interactive effects of the degree of closeness with an individual who has been diagnosed with a mental disorder, on the intent to use medication to treat depressive and anxiety disorders. In order to avoid collinearity, separate linear regressions were conducted; multiple comparisons were not corrected for. In the first linear regression, composite attitudes, composite subjective norms, perceived behavioral control and degree of closeness were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 8. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), composite subjective norms and intent ($p = 0.013$) and perceived behavioral control ($p < 0.001$) and intent. However, degree of closeness was not significantly associated with intent ($p = 0.572$).

In the second linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction of *degree of closeness and composite attitudes* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 9. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), composite subjective norms and intent ($p = 0.010$) and perceived behavioral control ($p < 0.001$) and intent. However, the interaction of degree of closeness and composite attitudes was also not significantly associated with intent ($p = 0.601$).

In the third linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction *of degree of closeness and composite subjective norms* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 10. There was a significant positive relationship between composite attitude and intent ($p < 0.001$) and perceived behavioral control ($p < 0.001$) and intent. However, there was no significant relationship between composite subjective norms and intent ($p = 0.086$). Additionally, the interaction of degree of closeness and composite subjective norms was not significantly associated with intent ($p = 0.618$).

In the fourth linear regression, composite attitudes, composite subjective norms, perceived behavioral control and the interaction *of degree of closeness and perceived behavioral control* were used as the independent variables, while intent was used as the dependent variable.

Results of the linear regression are presented in Table 11. There was a significant positive relationship between composite attitude and intent ($p < 0.001$), and composite subjective norms and intent ($p = 0.007$). However, there was no significant relationship between perceived behavioral control ($p = 0.053$) and intent. Additionally, the interaction of degree of closeness and perceived behavioral control was not significantly associated with intent ($p = 0.153$).

Discussion

The current study is an extension of a relatively limited body of literature related to understanding the factors that influence an individual's decision to use psychiatric medication to treat depressive and anxiety orders, through the lens of the Theory of Planned Behavior. Several past studies have identified the negative perceptions surrounding mental illness, which are often represented in terms of a public and self-stigma (Malla et al., 2015, Kranke et. al., 2011), as an important consideration regarding seeking psychological treatment. In addition, recent research on this topic has found that individuals with a mental illness diagnoses are afraid becoming the victim of stigmatizing behavior (e.g., being perceived as dangerous, irresponsible, violent, unpredictable and disabled), and therefore conceal the diagnosis and avoid treatment (Gaiha et al., 2020). The effects of the stigma surrounding mental illnesses extend to a wide range of themes. For instance, individuals are less likely to seek treatment because they are worried about the confidentiality aspect of diagnoses and treatment due to concerns that individuals in their community would find out (Pescosolido et al., 2007). The shame associated with members of the community finding out can be understood in terms of the finding that seeking mental health services tends to be seen as a sign of weakness (Choe et. al, 2020). Perhaps the lack of education and awareness surrounding mental illness can explain the aforementioned findings, as well as the belief that the use of psychiatric medication has lasting consequences on development, resulting in a flat, zombie-like personality (Pescosolido et al., 2007).

Therefore, the purpose of the current study was to understand and examine the factors that influence the decision to use psychiatric medication, using the Theory of

Planned Behavior. This theory highlights three factors that contribute to the intention to perform a behavior (Ajzen & Madden, 1986). The first predictor of the intention to perform a behavior is the personal attitude of the individual performing the behavior. The second predictor of intention is the subjective norms surrounding the behavior – i.e., perceptions of how close others would view the individual engaging in the action. Lastly, the third predictor of intention is perceived behavioral control, which an individual is believed to possess if they can independently decide whether or not to perform the behavior in question (Ajzen & Madden, 1986). Taken together, these three factors influence an individual's intention to perform a certain behavior. This theory has been instrumental in understanding and explaining intentional and conscious decision-making processes, specifically within the domain of physical health (e.g., Liddelow et al., 2020, Pellino, 1997, Pineles & Parente, 2012, Williams et al., 2008). The current study fills a gap in the literature by exploring the potential application of the Theory of Planned Behavior to decisions in the domain of mental health.

Main Hypotheses

First, in line with previous research demonstrating that attitudes (Pellino, 1997), subjective norms (Pellino, 1997) and perceived behavioral control (Liddelow et al., 2020) positively predicted intention within the realm of physical health behavior, I hypothesized that if an individual had more positive attitudes, more positive subjective norms, and greater perceived behavioral control towards using medication to treat depressive and anxiety disorders, then they would show greater intent to take medication for these mental disorders. As predicted, multiple regression indicated that all three factors were significant predictors of intent, in line with the hypotheses. Additionally, attitude was the

strongest predictor of intent, followed by perceived behavioral control and subjective norms respectively. These results were interesting because a) the significant positive relationship of perceived behavioral control in predicting intent, especially because this significant effect has been inconsistent in past research and b) the model accounts for 63% of the observed variance in intent.

Exploratory Hypotheses

Two exploratory hypotheses were also examined in the current study. The first explored the effect of gender on the intent to use medication for depressive and anxiety disorders. This variable was examined because of prior research that has demonstrated the difference between men and women in terms of the perceived stigma (Pescosolido et al., 2007) and help-seeking behaviors (Berger et al., 2013) surrounding mental health. The linear regressions indicated that gender did not significantly predict intent, nor did gender moderate the primary relationships between Theory of Planned Behavior elements and intent. These results were particularly surprising because prior research suggests that men and women often differ in terms of perceptions of and experiences with mental health challenges. For instance, Liddon and colleagues (2019) found that men and women tend to deal with stress in different ways, for example, the preference of focusing on emotions as a coping strategy for women, and the preference of using pornography as a coping strategy for men. Additionally, work by Berger and colleagues (2013) indicated that men are less likely than women to seek help from mental health professionals, particularly as a result of attempts to maintain their masculinity. Therefore, the non-significant findings related to gender in the current study run counter to prior work. Additionally, the number of female participants was almost double the number of male

participants in the current study. Therefore, it is possible that these non-significant findings are the result of the disproportion between the number of male and female participants. The potential direct and interactive effects of gender on decision-making in the mental health sphere should be explored further in future research.

The second exploratory hypothesis examined the effect of how close one was to an individual who has been diagnosed with a mental disorder on the intent to use medication to treat depressive and anxiety disorders. This variable was examined because prior research has demonstrated that individuals who know someone with a mental disorder diagnosis tend to report less stigma (Pescosolido et al., 2007). Despite this, the linear regression displayed that degree of closeness was not a significant direct predictor of intent, nor did closeness moderate the relationships between the Theory of Planned Behavior predictors and intent. The current study's results are somewhat surprising in light of prior research that has demonstrated that some sort of contact with someone who has been diagnosed with a mental disorder tend to report less stigma (Pescosolido et al., 2007). However, other research suggests that the relation between closeness and elements of the Theory of Planned Behavior may not be so straightforward. For instance, work by Corrigan and Nieweglowski (2019) suggests that the relationship between familiarity with and stigma surrounding mental disorders is U-shaped. According to this model, public stigma is present when individuals do not have any experience with mental health and mental disorders, and reduces when they acknowledge the presence of acquaintances, co-workers, friends and family who have experienced mental disorders (Corrigan & Nieweglowski, 2019). However, according to this model, the stigma associated with mental disorders tends to *increase* as the relationship becomes more intimate as a result

of the burden of looking after the individual with the mental disorder. This more nuanced pattern may explain the lack of significant linear effect of degree of closeness, as well as non-significant moderation of the effects of attitudes and perceived control, in the current study.

In order to explore whether the aforementioned U-shaped model could capture the relation between degree of closeness and intention to use psychiatric medication in the current study, a quadratic of the degree of closeness variable was created (degree of closeness squared) and used to predict intent in the linear regression analysis. However, this new degree of closeness variable was also not significant in predicting intent (p = 0.102). Therefore, the data from the current study does not seem to fit with the U-shaped model proposed by Corrigan and Nieweglowski (2019). Future research should focus on better understanding the nature of the "closeness" variable, and its impact, if any, of an individual's decision to use psychiatric medication to treat depressive and anxiety disorders. Additionally, future research should also focus on investigating whether the U-shaped model is predictive of other factors that impact the decision-making process.

Strengths

Even though the stigma associated with mental illness and psychiatric medication has been studied extensively in the past, the current study undertook a new dimension by examining the factors that influence an individual's decision to use psychiatric medication to treat depressive and anxiety disorders using the Theory of Planned Behavior. To our knowledge, this theory has not been applied within the mental health realm in the past. Thus, the current study filled a gap in literature, suggesting a theoretical lens through which we can better understand how individuals weigh their personal

attitudes against the beliefs and opinions of those they surround themselves with and even the general public, with respect to mental health decision-making.

Results of the current study lend strong support to the viability of using the Theory of Planned Behavior to understand and predict deliberative decisions related to mental health. All three primary hypotheses were supported: attitudes, subjective norms, and perceived behavioral control all emerged as significant predictors of individuals' intent to use medication to treat anxiety and depressive disorders. The significant effect of perceived behavioral control on intent was particularly interesting because of the inconsistencies of the role of this variable in predicting in prior literature (Pellino, 1997, Liddelow et al., 2020, Dilekler et al., 2019, Wollancho et al., 2020). Additionally, the decision to use multiple regression as the analysis examining the main hypotheses allowed for a direct comparison of the strength of the predictors. Lastly, the overall regression model predicted 63% of the variability observed in the intent scores, thereby providing evidence for the value and utility of using the Theory of Planned Behavior framework to examine and predict decisions in the mental health domain.

Another strength of the current study is its focus on college students/college-aged individuals. The majority of research on mental health and the stigma surrounding it has been based on adults. However, the participants in this study were current undergraduate students (age range: 18-23 years). The choice of participants was a deliberate one because the development of mental illnesses, such as depression and anxiety, peak during adolescence (Powers & Casey, 2015). Additionally, since identity development during adolescence is largely shaped by the individuals they surround themselves with (Powers & Casey, 2015), it is important to understand how the personal beliefs and opinions of

others guide the decision-making of younger individuals. Therefore, the decision to focus on a relatively younger sample can be considered a strength because the current investigation was designed with generalizability and real-world application in mind. A diverse sample was recruited, which was relatively representative of the Emory undergraduate community, presumably making the study's findings generalizable to the wider population of college students. Future studies could directly examine this generalizability question.

Limitations

Despite its strengths, the current study had several limitations. Firstly, the study did not assess the final piece of the Theory of Planned Behavior: the behavior itself. The study looked at the ability of attitudes, subjective norms and perceived behavioral control to predict intent; however, the study did not assess whether the intention to engage in a behavior then led to the behavior being performed in reality. Given the nature of this topic, it was not practically feasible to assess the actual use of medication to treat mental disorders within the scope of the current study. Nonetheless, it is important to mention that intent to engage in a behavior does not always equate to the actual behavior (Ajzen & Madden, 1986). Future work should include assessments of behavioral "follow-through" to examine the extent to which intent translates into action regarding the treatment of mental illness.

Secondly, there were certain discrepancies found within the data itself. For example, although the majority of the participants did not indicate that they had a prior mental disorder diagnosis, most also indicated that they had used psychiatric medication in the past. It is unclear whether the participants did not understand the questions that

were being asked, or whether they used psychiatric medication for another purpose, or without a diagnosis. This particular aspect can also be explored in the future.

Thirdly, the sample size of 138 participants and its associated power prevented a mediation analysis from being performed. Therefore, the current study was unable to assess whether the two exploratory variables: (i.e., gender and degree of closeness) impacted intent by altering attitudes, subjective norms and/or perceived behavioral control.

Fourthly, this was an online study, so participants completed the survey virtually, without any supervision from the researchers. Even though there were instructions at the start of every survey, it is possible that some participants may have had difficulty in understanding, interpreting and answering certain questions, but were unable to receive clarification from the research team because of the nature of the study. Additionally, there are drawbacks associated with relying on a self-report survey methodology to examine questions related to mental health. For instance, it is possible that the participants answered the survey questions in socially desirable ways – painting themselves in a more positive light to align with what might be viewed as favorable by others. Furthermore, given the similarity in structure, subject, and wording of the questions assessing both predictors and the outcome of interest, it is also possible that participants were inadvertently primed to answer all the questions in a similar manner, in an effort to remain consistent with their prior responses.

Fifthly, the participants received research credit as compensation for taking part in this study. Even though this can be considered an effective incentive, it is also possible that some participants may have completed the study for the sole purpose of receiving the

credit, and therefore, not giving their answers much thought or consideration.

Additionally, since the study mostly consisted of participants who were recruited from introductory psychology courses, it is possible that some participants were not naive to the study's true purpose. Given the relatively small class sizes and interconnected nature of Emory University's student body, it is reasonable to expect that some participants who had already participated in the study may have revealed the study's details or aims to future participants.

Future Directions

First, future research should work to address the current study's limitations. In particular, I believe that it is important to expand the scope of the current study. The current study examined the influence on attitudes, subjective norms and perceived behavioral control on the intent to use psychiatric medication to treat depressive and anxiety disorders. However, the intent to engage in a behavior is not equivalent to truly engaging in the behavior, as evidenced by prior studies. For instance, Pellino (1997) found that demonstrated that the intentions to take analgesics following surgery did not relate to the actual amount of analgesics used. These findings highlight the discrepancy in the association between intentions and objective behavior. Therefore, I believe future research should focus on addressing this concern.

I think it is important for the questions of the current study to be addressed using a different sample - specifically, one composed of individuals who have been formally diagnosed with anxiety or depression. In using a clinical sample for such a study, the researchers would also be able to address the aforementioned objective behavior because these individuals may have been in the actual position to decide whether or not to take

psychiatric medication. Therefore, the behavioral follow-through would be more feasible to assess in a clinical sample. Additionally, in order to understand the effects of stigma on mental health and psychiatric medication, it is necessary to understand the perspective on those individuals who have personally experienced this stigma and who have had to make the decision of whether or not to use psychiatric medication as a form of treatment.

Future studies could directly address the generalizability of the current findings by examining these hypotheses in different types of samples. For instance, I think it is important to examine this question in varying age groups, starting early in adolescence, or perhaps track individuals longitudinally. In doing so, one would also be able to examine and track the time-period during which the opinions held by others start to influence the decision-making process. I also believe a cross-cultural examination would be beneficial, as we would be able to understand the impact of culture on certain decision-making processes. Specifically, a cross-cultural analysis with respect to this question and controversial topic would be interesting because the stigmatization of mental illness in conservative and traditional cultures may display results in contradiction to what it is seen in liberal, western cultures (Ikizer et al., 2018, Winkler et al., 2015).

Thirdly, the factors that influence an individual's decision to use psychiatric medication as a treatment are not restricted to attitudes, subjective norms and perceived behavioral control. There are several factors that may be considered while making such a decision. Therefore, future research should explore other factors that may affect treatment decisions, such as the severity of symptoms, religious and cultural views, and financial drawbacks. It would be interesting to determine whether such factors can be synthesized within the existing Theory of Planned Behavior elements (e.g., perhaps financial

drawbacks affect intent via decreased perceptions of behavioral control). More advanced analytical strategies - mediation, path analyses, multilevel modeling - may provide greater clarity in terms of the many factors that likely influence individuals' decisions regarding mental health treatment.

Conclusion

The current study extended our understanding of how certain factors affect the decision to use psychiatric medication as a treatment for depressive and anxiety disorders. In using the Theory of Planned Behavior to examine this question, the current study fills a gap in literature by using this theory within the domain of mental health. This research lays the foundation for improving the lives of countless individuals who are diagnosed with mental illnesses and improving the treatment options and standard of care they are given.

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Table 1

Sample Characteristics

Characteristic	***Mean (SD)***	***Frequency (%)***
Age	19.27 (1.20)	
Gender		
Male		46 (33.6)
Female		88 (64.2)
Other		2 (1.5)
Prefer not to say		1 (0.7)
Sexual Orientation		
Heterosexual		109 (79.6)
Homosexual		10 (7.3)
Other		13 (9.5)
Prefer not to say		5 (3.6)
Ethnicity		
White/Caucasian		53 (38.7)
Hispanic/Latino(a)		16 (11.7)
African American/Black		7 (5.1)
Asian		54 (39.4)
Native American		0 (0)
Other		6 (4.4)
Prefer not to say		1 (0.7)
Religion		
Christian-Protestant		28 (20.3)
Christian-Catholic		13 (9.4)
Jewish		21 (15.2)
Muslim		3 (2.2)
Hindu		3 (2.2)
Buddhist		4 (2.9)
Atheist		11 (8.0)
Agnostic		18 (13.0)
Not religious		36 (26.1)
Other		1 (0.7)
Year in School		
1st Year (Freshman)		71 (51.4)
2nd Year (Sophomore)		37 (26.8)
3rd Year (Junior)		19 (13.8)
4th Year (Senior)		7 (5.1)
Other		4 (2.9)

Hometown	
Rural	0 (0)
Small town	16 (11.6)
Suburban	36 (26.1)
Small city	5 (3.6)
Medium-sized	26 (18.8)
Large city	55 (39.9)
Other	0 (0)
Family Style	
2 Parent Household	112 (81.2)
Single Parent	15 (10.9)
Household	1 (0.7)
Stepfamily	3 (2.2)
Extended Family	7 (5.1)
Other:	0 (0)

Table 2

Descriptive Statistics for Primary and Additional Variables of Interest

Variable	*Mean*	*SD*	*Min*	*Max*	*Skew*
Composite Attitude	5.62	1.22	1.00	7.00	-1.23
Composite Subjective Norms	5.13	1.55	1.00	7.00	-1.01
Perceived Behavioral Control	5.58	1.28	1.50	7.00	-0.822
Degree of Closeness	5.69	1.70	1	7	-1.58
Intention	5.00	1.82	1	7	-0.818

Table 3

Multiple Regression Analyses Examining the Effect of Composite Attitude, Composite Subjective Norms and Perceived Behavioral Control on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept		-1.176		0.4582	
Composite Attitude	0.615	0.1045	5.88	< 0.001	0.410
Composite Subjective Norms	0.265	0.0959	2.77	0.006	0.227
Perceived Behavioral Control	0.262	0.0797	3.29	0.001	0.269

Table 4

Multiple Regression Analyses Examining the Effect of Gender on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-1.414	0.5221	-2.708	0.008	
Composite Attitude	0.602	0.1068	5.633	< 0.001	0.3992
Composite Subjective Norms	0.264	0.0966	2.736	0.007	0.2262
Perceived Behavioral Control	0.265	0.0805	3.296	0.001	0.2719
Gender	0.175	0.1833	0.955	0.341	0.0512

Table 5

Multiple Regression Analyses Examining the Effect of Gender and Composite Attitude interaction on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-1.1275	0.4690	-2.404	0.018	
Composite Attitude	0.5506	0.1250	4.404	< 0.001	0.3654
Composite Subjective Norms	0.266	0.0966	2.762	0.007	0.2283
Perceived Behavioral Control	0.2642	0.0804	3.285	0.001	0.2708
Gender and Composite Attitude	0.0300	0.0312	0.963	0.337	0.0656

Table 6

Multiple Regression Analyses Examining the Effect of Gender and Composite Subjective Norm interaction on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-1.443	0.4684	-2.443	0.016	
Composite Attitude	0.6063	0.1065	5.692	< 0.001	0.4024
Composite Subjective Norms	0.2178	0.1135	1.920	0.057	0.1865
Perceived Behavioral Control	0.2653	0.0805	3.293	0.001	0.2720
Gender and Composite Subjective Norms	0.02711	0.0337	0.805	0.422	0.0605

Table 7

Multiple Regression Analyses Examining the Effect of Gender and Perceived Behavioral Control interaction on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-1.0968	0.4671	-2.35	0.020	
Composite Attitude	0.5934	0.1065	5.57	< 0.001	0.394
Composite Subjective Norms	0.2633	0.0961	2.74	0.007	0.225
Perceived Behavioral Control	0.1874	0.0958	1.96	0.053	0.192
Gender and Perceived Behavioral Control	0.0489	0.0340	1.44	0.153	0.117

Table 8

Multiple Regression Analyses Examining the Effect of the Degree of Closeness on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-0.8475	0.5186	-1.634	0.105	
Composite Attitude	0.5160	0.1078	4.787	< 0.001	0.3644
Composite Subjective Norms	0.2490	0.0985	2.529	0.013	0.2191
Perceived Behavioral Control	0.2972	0.0806	3.685	< 0.001	0.3135
Degree of Closeness	0.359	0.0633	0.567	0.572	0.0356

Table 9

Multiple Regression Analyses Examining the Effect of the Degree of Closeness and Composite Attitude interaction on the intent to use medication to treat depressive and anxiety disorders.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-0.68316	0.5018	-1.362	0.176	
Composite Attitude	0.48495	0.1303	3.721	< 0.001	0.3425
Composite Subjective Norms	0.25330	0.0972	2.605	0.010	0.2229
Perceived Behavioral Control	0.29650	0.0806	3.677	< 0.001	0.3128
Degree of Closeness and Composite Attitude	0.00598	0.0114	0.524	0.601	0.0439

Table 10

Multiple Regression Analyses Examining the Effect of the Degree of Closeness and Composite Subjective Norms interaction on the intent to use medication to treat depressive and anxiety disorders

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-0.70525	0.4940	-1.428	0.156	
Composite Attitude	0.51994	0.1072	4.851	< 0.001	0.3672
Composite Subjective Norms	0.22006	0.1272	1.730	0.086	0.1936
Perceived Behavioral Control	0.29674	0.0807	3.679	< 0.001	0.3131
Degree of Closeness and Subjective Norms	0.00629	0.0126	0.501	0.618	0.0474

Table 11

Multiple Regression Analyses Examining the Effect of the Degree of Closeness and Perceived Behavioral Control interaction on the intent to use medication to treat depressive and anxiety disorders

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-1.0968	0.4671	-2.35	0.020	
Composite Attitude	0.5934	0.1065	5.57	< 0.001	0.394
Composite Subjective Norms	0.2633	0.0961	2.74	0.007	0.225
Perceived Behavioral Control	0.1874	0.0958	1.96	0.053	0.192
Degree of Closeness and Perceived Behavioral Control	0.0489	0.0340	1.44	0.153	0.117

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Figure 1

Significant Positive Relationship between Composite Attitude and Intent

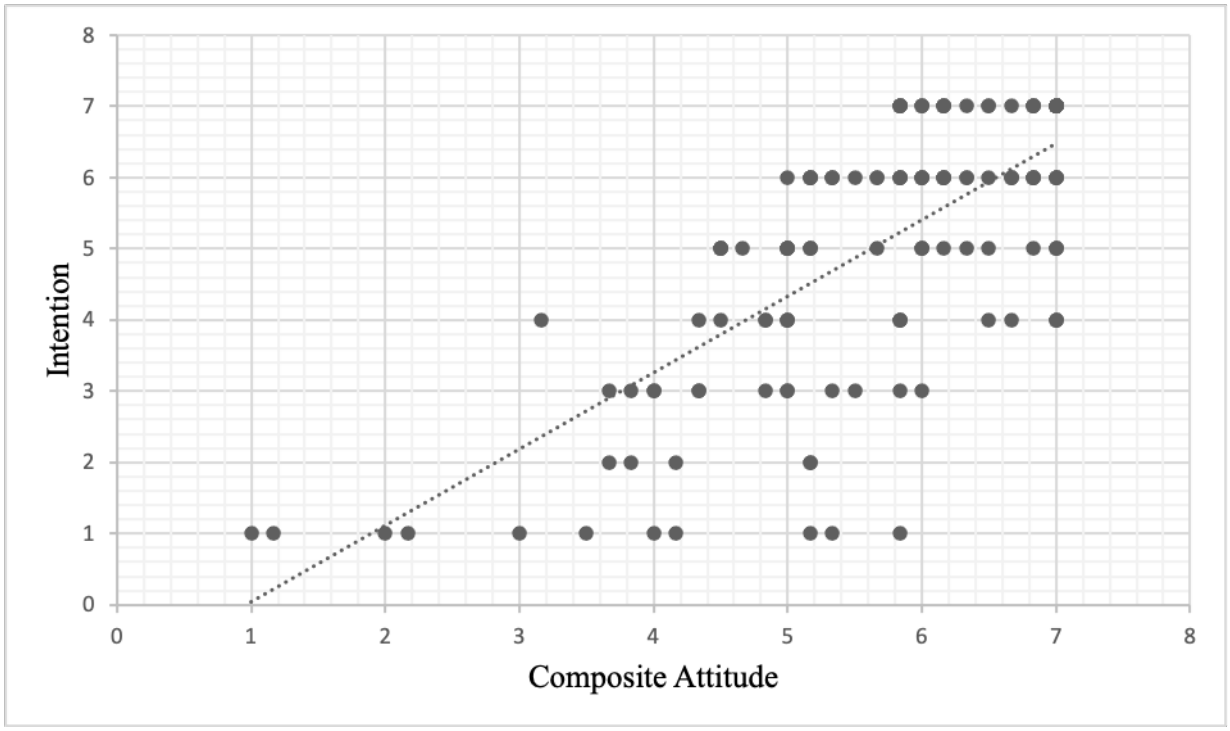


Figure 2

Significant Positive Relationship between Composite Subjective Norms and Intent

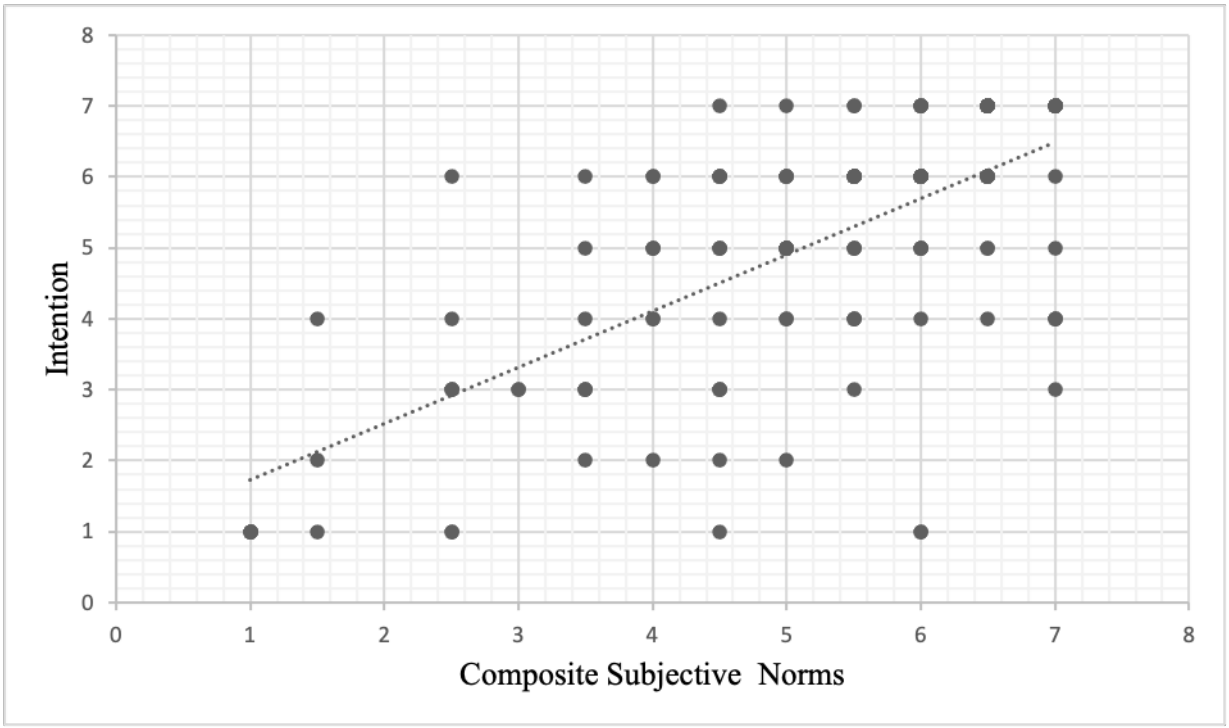
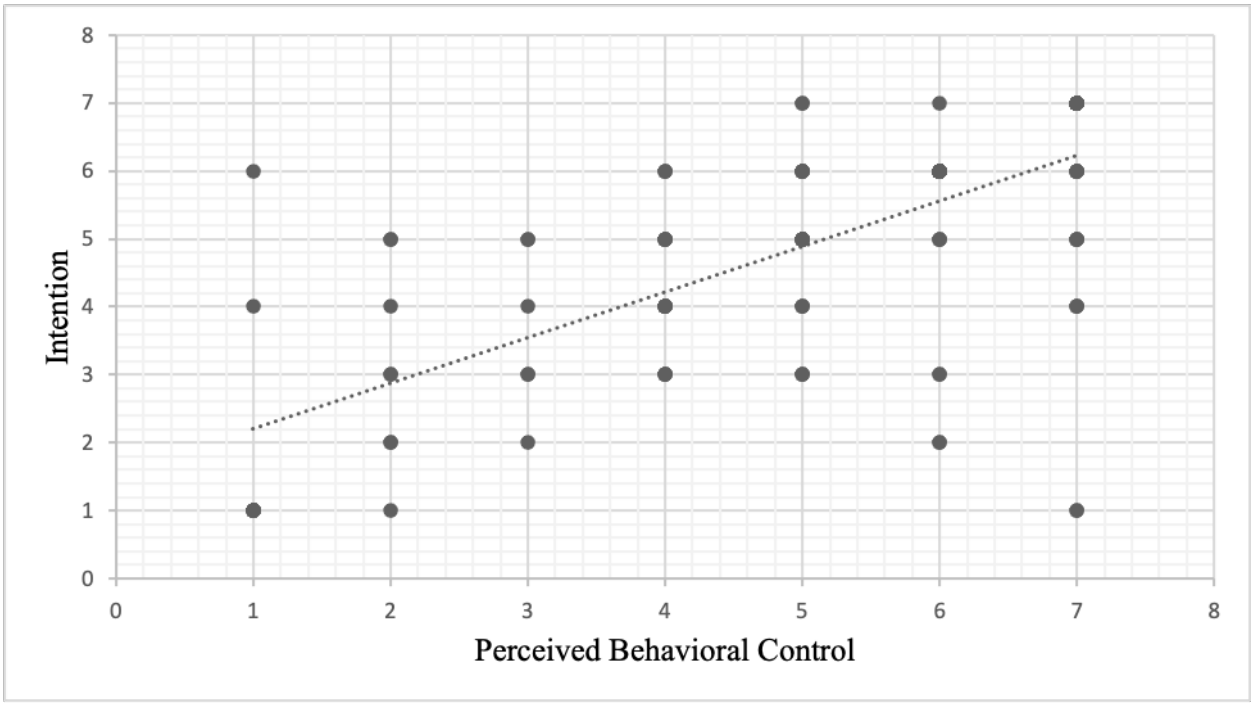


Figure 3

Significant Positive Relationship between Perceived Behavioral Control and Intent



Appendix A: Theory of Planned Behavior Survey (Adapted from Ajzen, 2006)

Attitude: Instrumental and experiential aspects

1. Taking psychiatric medication for depressive and anxiety disorders would be:

Bad	1	2	3	4	5	6	7	Good
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Against	1	2	3	4	5	6	7	In Favor
Harmful	1	2	3	4	5	6	7	Beneficial
Inappropriate	1	2	3	4	5	6	7	Appropriate

Subjective norm: Injunctive and descriptive aspects

1. Most people who are important to me would approve of me taking psychiatric medication for depressive and anxiety disorders

Disagree	1	2	3	4	5	6	7	Agree

2. Most people like me would take psychiatric medication for depressive and anxiety disorders.

Unlikely	1	2	3	4	5	6	7	Likely

Perceived Behavioral Control: Capacity and autonomy aspects

1. I am confident that I would be able to take psychiatric medication for depressive and anxiety disorders

Disagree	1	2	3	4	5	6	7	Agree

Intention

1. If I were experiencing depression or an anxiety disorder, I would use psychiatric medication to treat it.

Unlikely	1	2	3	4	5	6	7	Likely

Degree of Closeness

1. Do you personally know anyone who has been diagnosed with depression and/or an anxiety disorder?

Yes	No

2. If yes, how close is this person to you?

Not at all close	1	2	3	4	5	6	7	Extremely close

Appendix B: Demographics Survey

Age: _____

Gender:
- Man
- Woman
- Other
- Prefer not to respond

Sexual Orientation (check one):
- Heterosexual
- Homosexual
- Other (please specify): _____
- Prefer not to respond

Ethnicity (check one):
- White/Caucasian
- Hispanic/Latino(a)
- African American/Black
- Asian
- Native American
- Other (please list): _____

Religious affiliation (check one):
- Christian – Protestant
- Christian – Catholic
- Jewish
- Muslim
- Hindu
- Buddhist
- Atheist
- Agnostic
- Not religious
- Other (please list):__

Year in School (check one):
- 1st Year (Freshman)
- 2nd Year (Sophomore)
- 3rd Year (Junior)
- 4th Year (Senior)
- Other (please specify): _____

Major (if you have not yet declared a major, please list intended major/area of academic

interest): _____

How would you characterize your hometown? (check one)

- Rural (unincorporated)
- Small town (village or town)
- Suburban (metropolitan area of a large city)
- Small city (population < 30,000)
- Medium-sized city (population 30,000 – 100,000)
- Large city (population > 100,000)
- Other: _____

Family Style

- 2 Parent Household
- Single Parent Household
- Stepfamily
- Extended Family
- Other: _____