

The Relationship Between Hope and Stigma in the Decision to Seek Mental Health Treatment

By

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Submitted to the graduate degree program in Educational Psychology and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

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Date Approved: 08 May 2018

Abstract

There is a significant disparity between the number of people who could benefit from mental health treatment and the number of people who seek mental health treatment. Barriers to treatment can include self-reliance and stoicism, a lack of trust for health providers, and, importantly, concern for stigma. Mental health self-stigma has been identified as a primary factor, yet there is a paucity of research examining self-stigma in context with other explicit and implicit influences on the decision-making process involved in a person's decision to seek treatment. In this study, participants sourced from Amazon's Mechanical Turk ($n = 150$) were randomly assigned to one of three study conditions to review and select options for navigating a mental health challenge, as well as report on characteristics such as hope, cognitive and psychological flexibility, distress tolerance, self-stigma, and situational and dispositional forms of rationality and intuition. Self-stigma was observed to have a large and significant association with the decision to seek treatment ($\beta = -.494, p < .001$). Hope, while not directly related to the decision to seek treatment ($\beta = .010, p = .912$), was related to other characteristics, such as cognitive flexibility ($\beta = .433, p < .001$), which did display a significant relationship with stigma ($\beta = -.402, p = .001$) and facets of distress tolerance. This study reveals hope and cognitive flexibility as potential avenues for intervention in an attempt to address stigma and promote mental health treatment.

Acknowledgements

Throughout my life, I have been blessed with a number of opportunities to further my mind, to develop myself, and to craft a life for which I am immeasurably grateful. Throughout my journey, I have been impacted by people like Ms. Marla Weber, Ms. Erica Lindberg, and Mr. Jan Verboom who took the time and care to genuinely invest in me as a student of music and also, a human being. This investment in my learning how to be in the world and interact with people in an authentic way was further shaped by Dr. Wayne Goins and Dr. Gary Mortenson, and it was what I came to understand about music and its function in my life from the teaching of Dr. Mortenson that helped facilitate my transition from seeing myself as a manly musician to being a musicianly man. With this new mindset, I began my journey at KU. I am grateful to Dr. Karen Multon who first took me on as an advisee and encouraged me to persevere when life's unexpected turns challenged what I thought I knew about my plans. To Dr. Tom Krieschok, I am grateful for your helping me through several of life's transitions and challenges all the while providing genuine, supportive guidance that reminded me that success and humanity can truly be an "and". Thank you.

No matter the professional and academic influences in my life, I would not be a fraction of the man I am today were it not for my family. I am filled with love and hope because of the support, influence, affection, and encouragement provided so willingly by my Mum, Dad, and Pap -and more recently- Tom and Kathy. Continuously, this influence was complemented by summer days with grandparents, aunts, and uncles that inevitably meant more to me than anyone could have ever intended or hoped. All of this love and support has always been bolstered by the presence -near or far- and love of my siblings: Aron, Derik, Andy -and more recently- Beth, Craig, and Sarah. Important throughout my life has always been my family of choice: life-long

friends, brothers in music, and a family of graduate students. All of you have helped make this possible through moments of respite, hours of joy, and bonds that will undoubtedly last a lifetime. Thank you.

The most critical component of all that I am today is the family I have built with my soulmate. Thad and Atti, you boys fill my life with joy, my heart with love, and my mind with possibility. Both of you constantly remind me of what is most important, and I do not think I will ever be able to communicate what an incredible privilege, honor, and blessing it is to be your Dad. Thank you for the breaks from studying and writing to play and walk outside, play Star Wars on the TV, read books, and watch all the dog centered television kids shows we can find. I love you. Alex, without you, all of what my life is today would not be. Your persistent and resilient presence has always been a source of strength in moments when I doubt, and your love, support, strength, and caring has helped our relationship and our family to flourish. I will never know how to express the full measure of my gratitude for the chance to be partners together. I cannot nor do I want to imagine traveling this journey and experiencing this life with anyone other than you. Thank you for helping me to become the man I am today and for all that you have done and sacrificed to help ensure that this piece of a dream has become a reality. I love you. To infinity and beyond. To all three of you, thank you does not come close, but it will have to do for now.

Table of Contents

Chapter 1: Underutilized: A review of the impact of stigma and decision-making on mental health treatment seeking behaviors..... 1

 Abstract 2

 Introduction 3

 Barriers to Treatment 4

 Decision-Making..... 7

 Challenges in Decision-Making..... 9

 Affective Forecasting 11

 Future Directions 13

 References 15

Chapter 2: Hope for Treatment: An exploration of stigma, hope, relativity, and the decision to seek mental health treatment..... 23

 Abstract 24

 Introduction 25

 Mental Health Stigma 26

 Decision-Making..... 28

 Malleable Characteristics 30

 Present Study 36

 Method 37

 Participants 37

 Materials 38

 Design..... 46

Procedure.....	48
Planned Analyses.....	50
Results.....	52
Conditions and Vignette.....	52
Model Creation.....	54
Study Hypotheses.....	57
Mediations.....	64
Discussion.....	66
Relationship Justifications.....	66
Primary Findings.....	69
Implications for Existing Theory.....	76
Implications for Practice and Future Research.....	79
Study Limitations.....	82
Summary.....	83
References.....	85
Appendix A: Demographics Questionnaire.....	99
Appendix B: Vignette and Conditions.....	101
Table 1.....	103
Figure 1.....	104

Chapter 1

Underutilized: A review of the impact of stigma and decision-making on mental health treatment
seeking behaviors

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Abstract

There is a significant disparity between the number of people who could benefit from mental health treatment and the number of people who seek mental health treatment. Barriers to treatment can include self-reliance and stoicism, a lack of trust for health providers, and, importantly, concern for stigma. While stigma is implicated as an important factor in the outcome of an individual's decision to seek treatment, its role in the decision-making process is not established. Making a decision often involves at least one of two processes: rationality and intuition. Each approach to decision-making may be more useful than the other dependent upon the nature of the situation. While a balance in rationality and intuition is encouraged, the decision-making process is subject to more influences, often unnoticed, than the observable characteristics of the options and context presented. One such influence is that of expected or anticipated outcome. It is not documented in the literature how these dynamics may interact with one another to inform and influence the decision to seek mental health treatment; therefore, research is needed to explore the role of stigma in the decision-making process and to better understand explicit and implicit influences on the choice to seek mental health treatment.

Underutilized: A review of the impact of stigma and decision-making on mental health treatment seeking behaviors

Mental health concerns are a worldwide reality. The World Health Organization (WHO) has reported that an estimated 350 million people are challenged with symptoms of depression (WHO, 2012). Unipolar depression, which represented the third leading cause of disease burden in 2004, is projected to be the number one disease burden by the year 2030 (WHO, 2008). An examination of the prevalence of mental health concerns in United States college students revealed that 30% to 45% of college students in a non-clinical sample experienced some form of mental health concern within the last year (American College Health Association, 2013). Despite the prevalence of mental health concerns and the estimated burden it imposes on society at large, mental health treatment services are vastly underutilized.

Wang et al. (2005) revealed that less than half of individuals in the United States who may benefit from mental health treatment actually seek it out. Older adults demonstrate a preference for speaking with friends and family or discussing their concerns with a primary care physician before seeking consultation with a qualified mental health professional (Kim, Cho, Park, & Park, 2015; Mackenzie, Gekowski, & Knox, 2006). Meanwhile, younger adults have demonstrated a higher likelihood of seeking mental health treatment (Kim et al., 2015). In a college sample, however, less than half of those experiencing challenges were estimated to utilize services, even when services were made available on campus (Eisenberg, Hunt, & Speer, 2013).

Blanco et al. (2008) observed that less than 25% of college students meeting mood disorder diagnostic criteria take action to seek out mental health care. International students are less likely to access mental health services as compared to those students who are citizens even

though need estimates are higher for this population (Mori, 2000). Investigations of differential use within cultural groups reveal that usage as low as 17.4% as has been observed in some Asian American communities (Kim et al., 2015). Rather than being an issue of access, Kim and Zane (2016) reported that the low rate of treatment utilization was linked with lower intentions to seek help, all of this despite higher rates of distress when compared with people identified as White.

Barriers to Treatment

When considering the disparity between the need for treatment and the rates of service utilization, attitude toward seeking mental health services is important. More favorable attitudes, however, do not consistently predict higher levels of treatment utilization (Mackenzie, Gekowski, & Knox, 2006). An investigation into barriers to mental health treatment on college campuses noted systemic impediments including cost, location of services, and of awareness of resources (Marsh & Wilcoxon, 2015). Culture has been hypothesized as another important influence, as cultures hold differing attitudes toward the appropriateness and perceived benefit of mental health services, psychotherapy in particular (Kim & Zane, 2016). Values and beliefs may directly conflict with the United States concept of mental health (Mori, 2000), which could offer some explanation for the observation that level of acculturation is associated with higher levels of treatment engagement (Han & Pong, 2015). Within and beyond culture, Fischer et al. (2016) identified four primary attitudinal barriers to treatment seeking behaviors: self-reliance, stoicism, lack of trust, and concern for stigma.

Self-reliance and stoicism. Strict adherence to masculine ideology and traditional values can negatively impact attitudes toward mental health treatment. Therapeutic interventions that attempt to target emotion may not be as helpful for people who possess such ideology and values due to fear of intimacy and challenges in identifying emotions (Sullivan, Camic, & Brown,

2015). Some traditional beliefs hold that immoral thoughts and actions are directly linked with mental health concerns (Aubrey, 1991). In order to preserve the reputation of an individual or a family, mental health concerns may be denied in the hope that the individual or family will not be shamed or ostracized (Flaskerud, 1986).

Lack of trust. Medical health and mental health treatment are like many other social situations and can be subject to cultural mistrust. The mistrust experienced generalizes beyond the bounds of the provider and client relationship and impacts the perception of the larger treatment community (LaVeist, Isaac, & Williams, 2009; Whaley, 2001). Mistrust can be a primary contributor to delays in seeking treatment. Even once services have been engaged, mistrust can continue to impact the course of treatment through a failure to attend repeat sessions and resistance to adhere to medical advice (LaVeist, Isaac, & Williams, 2009). Due to this mistrust, individuals may be more likely to rely on the beliefs inherent to their family system or culture, engage more with self-reliance, or subscribe to messages about treatment and mental health generated by media, peer perceptions, and religious beliefs. These avenues are potential origin points for stigma (Kranke, Guada, Kranke, & Floersch, 2012).

Concern for stigma. The experience of stigma has been suggested as a primary reason for the underutilization of mental health services among Asian American students (Han & Pong, 2015). The experience of stigma is not limited, however, to cultural minorities. Secrecy and shame are common experiences resulting from mental health diagnoses and mental health treatment across demographics (Kranke, Floersch, Townsend, & Munson, 2010). Marsh and Wilcoxon (2015) suggested that stigma is not a significant impediment to seeking mental health treatment; however, it was acknowledged that the literature on the impact of stigma is mixed, in part due to challenges in consistently defining stigma across studies.

Corrigan (2004) outlined two primary forms of stigma as it relates to mental health treatment services. The first is public stigma, which can be understood as the way in which an ill-informed public responds to members of the stigmatized group, particularly when prejudices about the stigmatized group are endorsed by the responding members of the public. An example of this might be when a person who discloses a mental health diagnosis struggles to be hired for an employment opportunity because the supervisor is fearful that the applicant will be unstable and disruptive to the work environment. The second is self-stigma, which is defined as what members of a stigmatized group do to themselves if public stigma becomes internalized. An example of this may be a damaged self-concept as a result of being “crazy.” Williams and Polaha (2014) extended the literature on stigma by solidifying the dynamic of perceived stigma. Perceived stigma can be understood as the expected negative response by members of the public and the potential to experience shame and embarrassment due to an individual’s identification with a stigmatized group.

In one study, public stigma was observed to delay treatment seeking behaviors for up to 83.2% of people in the sample of caretakers and individuals utilizing secondary mental health care services (Dockery et al., 2015). At the same time, an awareness of stigma alone is not sufficient to generate negative attitudes and subsequent negative impacts for an individual (Bathje & Pryor, 2011). While offering some clarity to the observation that stigma is not consistently observed as a barrier to treatment (Marsh & Wilcoxon, 2015), this finding lends support for findings that suggest that perceived stigma (Golberstein, Eisenberg, & Gollust, 2008) and public stigma (Eisenberg, Downs, Golberstein, & Zivin, 2009) may not be the most impactful forms of mental health stigma. Instead, when stigma is internalized as self-stigma, it begins to have more detrimental impacts on self-esteem, self-concept, and an individual’s rate of

service utilization (Bathje & Pryor, 2011; Clement et al., 2014; Eisenberg, Downs, Golberstein, & Zivin, 2009; Jennings et al., 2015).

In addition to the exhaustive body of literature that has been formed to attempt to understand the exact function of stigma (see Jennings et al., 2015) mental health stigma remains a complex issue in need of better understanding (Sickel, Seacat, & Nabros, 2014). One example of this is that, while public stigma is not as critical of an influence on attitudes toward mental health treatment and intentions to seek mental health treatment, it does amplify the presence of self-stigma, which is significantly associated to attitudes and intentions (Vogel, Bitman, Hammer, & Wade, 2013). This model of public stigma leading to self-stigma about attitudes toward mental health concerns has been replicated both in the original population studied and across different cultures of the world (Vogel, Strass, Heath, Al-Darmaki, Armstrong, Baptista, Brenner, Goncalves, Lannin, Liao, Mackenzie, Mak, Rubin, Topkaya, Wade, Wang, & Zlati, 2017). Still, most work that is done on mental health stigma remains atheoretical (Sickel, Seacat, & Nabros, 2014). Provided that knowing more about the context of the effects of self-stigma will facilitate the development of helpful interventions (Vogel et al., 2017), the heretofore unexplored context of the degree to which self-stigma is related to the decision-making process utilized by an individual when electing to seek, delay, or avoid treatment warrants thorough investigation.

Decision-Making

Predominant theories on decision making employ a dual-system understanding of how information and cues are recognized, processed, and expressed (Kirkpatrick & Epstein, 1992). Stanovich and West (2000) popularized System 1 and System 2 as common points of reference for each one of the independent systems within the dual-system approaches. Kahneman (2003) presented a comprehensive overview of both System 1 and System 2 and the way in which these

systems interact with one another. System 1 can be characterized as fast, automatic, effortless, associative, emotional, and habitual. By contrast, System 2 is slow, serial, effortful, controlled, and flexible. It is estimated that System 2 can process between 40 and 60 bits of information per second. For reference, a random letter of the alphabet will demand approximately five bits. This number stands in stark contrast to the combined total capacity of Systems 1 and 2 of 11,200,000 bits (Dijksterhuis, 2004).

Epstein (2003, 2010) applied the concepts of System 1 and System 2 in his development of Cognitive-Experiential Self-Theory (CEST). In this context, System 1 also is referred to as Intuition or Experiential, while System 2 is referred to as Rational or Analytical. Like with Kahneman (2003), Experiential is automatic, preconscious, effortless, rapid, concrete, affect-laden, low in resource demand, and associative in nature. Rational is effortful, conscious, abstract, affect-free, high in resource demand, analytic in nature, and based in verbal reasoning. As such, Rational demands logical influence that is rooted in how an individual should be, which can be challenged by strong, emotion-based motivations presented through Intuition (Epstein, 2010). Intuition can be trained, particularly when in an environment with stable and regular relationships between cues and outcomes that provide an opportunity to learn the underlying rules influencing the relationships (Kahneman & Klein, 2009).

When System 1 processes an object in the environment, thoughts, or perceptions of external cues it generates automatic impressions. System 2 interacts with the impressions to either express them directly, termed intuitive judgement, or modify them prior to expression. Judgements are always intentional and explicit, even if they are never overtly expressed (Kahneman, 2003). In contrast to the influence of System 2, System 1 can have influence over System 2 without that influence being noticed (Epstein, 2003; Kirkpatrick & Epstein, 1992).

While neither system is considered superior over the other (Epstein, 2010), some situations may be best suited for either effortful analysis or for intuition (Dane, Rockmann, & Pratt, 2012). For other situations, a balance of both System 1 and System 2 may be best (Dijksterhuis & van Olden, 2006; Krieschok, Black, & McKay, 2009; Sjoberg, 2003).

Challenges in Decision-Making

It is important to note, however, that people's preferences for one system over another in a given situation does not constitute best fit. For instance, when in professional roles, people tend to prefer to rely upon System 2; however, observed improvements in judgement only occur when intuitive decisions are incorporated (Sjoberg, 2003). In fact, intuition can be as effective as analytical processes even before decision-relevant domain mastery has been achieved (Dane, Rockmann, & Pratt, 2012). While each system contributes differently to a wide variety of situations, neither is immune to flaws (Ariely & Norton, 2010; Epstein, 2010; Sjoberg, 2003). Rational processes, in addition to being fragile when challenged by emotion, are rarely implemented in actions taken. Generally, people act without dedicated, analytical forethought. At the same time, intuition can be irrational and destructive (Epstein, 2010). Another complicating factor is that the way in which information is framed matters. Information that is high in accessibility in a given situation will bear greater influence over the ultimate decision than will information that is not as accessible. This is true even though the most accessible information may not always be the most relevant to a good decision for a given situation (Kahneman, 2003).

Gigerenzer and Goldstein (1996) acknowledged that heuristics used to guide judgments and behaviors can facilitate complex decisions. A large percentage of decisions are based in habit (Wood & Neal, 2007). Habits, though, can be negative when applied to situations that may be better suited for critical examination, leading to the perpetuation of bad or meaningless habits.

In the case of a meaningless habit, people can spend time engaging mindlessly in habits, even when those habits have a high cost, and habitual behavior may not always be representative of the “better” preference. Furthermore, choices that appear to reflect an individual’s true preference instead may be formed on an arbitrary basis and do not reflect the underlying purpose of a given choice. For many different decisions, people engage in careful decision-making processes that might include considering pros and cons or identifying different attributes that can be compared and contrasted. While systematic consideration can be helpful and improve some decisions, thinking can lead to overthinking. People may attempt to consider all attributes present in a situation and end up prioritizing attributes that are not genuinely valued by the person. For some situations, a systematic decomposition of present attributes is not always possible, such as when considering an emotion elicited by a situation or collection of attributes (e.g., the impact of seeing the Mona Lisa in person) versus analysis of components that have objective standards (e.g., the style of brush stroke used to create the Mona Lisa). Often, individuals are concerned more with the decision they can justify to themselves and to others rather than the one that might be more beneficial for them in that moment (Ariely & Norton, 2010). Attempting to consider each detail of each available option may lead to paralyzing indecision (Fourville & Soman, 2005) or diminished satisfaction with the final decision (Iyengar & Lepper, 1999).

It also is possible that people make decisions based upon information that is attributed to one system (i.e., rational beliefs) but in fact originated from the other system (i.e., affect). For instance, Andrade and Ariely (2009) discovered that previous affective experiences impacted subsequent decisions. The impact of an emotional state endures beyond the original experience of the emotional state and transcends the original situation such that it is impactful to decisions for which it would be considered incidental. Furthermore, people often will misattribute these

effects to their pre-existing beliefs or preferences such that future decisions which evoke similar beliefs will resolve in a similar way.

Another example of unnoticed influence is explained by Ariely (2010) as relativity. People have no internal measure of an object's value. Thus, relativity is the tendency to compare things with one another, particularly things that are easily comparable. In this way, people tend to ignore any other thing that is not easily compared. For example, if a person is offered the opportunity to travel to Rome (option A) or to Paris (option B) with all expenses paid in either case, then which city is selected is often left to pure chance dependent upon the person. When a person is offered the opportunity to travel to Rome with all expenses paid (option A), travel to Paris with all expenses paid (option B), and travel to Paris with all expenses paid with the exception of morning coffee (option B-), then relativity suggests that the individual is more likely to select Paris with all expenses paid (option B) even over the option of traveling to Rome with all expenses paid (option A). The presence of two easily comparable options, options B and B-, means that the option that is not as easily compared to the other two (option A) will be selected less frequently. Yet, people do not understand that the mere presence of this third option is having an effect at all. They simply assume that the selection they make is founded in genuine preferences.

Affective Forecasting

When a person is informed prior to an event that the end result may be perceived as unpleasant, then they are more likely to agree that the event was unpleasant. This agreement is not due to their experience of the event but rather to their expectation of the event before it began (Ariely, 2010). Individuals attempt to make predictions about how situations will make them feel in response. This process is known as affective forecasting and is often founded in

misremembered or insufficient information (Miloyan & Suddendorf, 2015). In general, people are not good at predicting how future situations will make them feel (Hoerger, Chapman, Epstein, & Duberstein, 2012; Hoerger, Quirk, Chapman, & Duberstein, 2012; Meyvis, Ratner, & Levav, 2010). People's predictions tend to overestimate the intensity and duration of the predicted emotional reaction (Hoerger et al., 2012). These errors are especially likely to occur in important situations (Hoerger, Quick, Lucas, & Carr, 2010).

Errors in affective forecasting can be corrected, however. Improvements in emotional intelligence enhance an individual's accuracy when making affective forecasts, as can the development of a strengthened memory for emotional responses to past situations (Hoerger et al., 2012). Refinement in accurate recall is dependent upon direct, dedicated intervention to improve the accuracy in recall of past events. In reality, this type of dedicated intervention rarely occurs. When a person experiences an emotional reaction that runs contrary to their affective forecast, rather than learn from the experience and make adjustments, the error is likely to persist in future, related situations (Meyvis, Ratner, & Levav, 2010). Compounding the inherent errors to forecasting, people often do not account for their ability to cope with an emotional response, a phenomenon known as immune neglect (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998), and do not consider the event being forecasted in context with other events that may be occurring simultaneously, a phenomenon known as focalism (Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). All of these errors deepen in complexity when it has been observed that individuals experiencing a dysphoric state tend to over-predict negative emotional reactions, even in response to positive events (Hoerger et al., 2012).

Ariely (2010) posited that people are inherently fearful of loss. When a situation arises that poses the opportunity to lose something, for example something with respect to a current

endowment such as family honor and reputation or beliefs about oneself (Ariely, Hubert, & Wertenbroch, 2005; Aubrey, 1991; Bathje & Pryor, 2011), inherent fear may cause potential losses to be particularly accessible when considering the ultimate decision, in this case of whether or not to engage in mental health treatment. Kahneman (2003) noted that losses that could result from a decision will outweigh any potential future state that could result from taking the risk and being exposed to the loss. Furthermore, people's expectations with respect to emotional reactions to future events play a role in decisions about health-related behaviors (Halpern & Arnold, 2008). When considering the choice of whether or not to engage with mental health treatment, a lack of familiarity with counseling translates to increased negative expectations for treatment (Mori, 2000).

Future Directions

The decision to seek mental health treatment is an important health decision that can be influenced by many factors. These factors include the decision-making style most often employed or preferred by an individual, the influence of competing options that are presented simultaneously to the person selecting the course of care, the uncertainty about what the experience of counseling will be like, and the possible impact of self-stigma as a result of seeking treatment. To date, there is no available literature that seeks to understand how all of these influences combine in a dynamic way to influence the decision-making process of a person who could benefit from treatment and is deciding whether or not to seek it out. In order to develop meaningful interventions that could attempt to address the underutilization of mental health services, the impact and context of these dynamics must be understood. By understanding more about what elements influence the decision to seek treatment, as well as characteristics that may be altered to facilitate the decision-making process, specific and targeted interventions can

begin to be developed that address utilization itself, rather than the competing influences of stigma and the decision-making process.

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Chapter 2

Hope for Treatment: An exploration of stigma, hope, relativity, and the decision to seek mental health treatment

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Abstract

Underutilization of treatment persists despite the growing global impact of depression, particularly on college campuses. While there are many influences on the decision to seek mental health treatment, mental health self-stigma has been identified as a primary factor. There is a paucity of research examining self-stigma in context with other explicit and implicit influences on the decision-making process involved in a potential client's decision about whether or not to seek treatment. Other potentially important influences include distress tolerance, cognitive and psychological flexibility, and hope. In this study, participants sourced from Amazon's Mechanical Turk ($n = 150$) were randomly assigned to one of three study conditions to review and select options for navigating a mental health challenge, as well as report on characteristics such as hope, cognitive and psychological flexibility, distress tolerance, self-stigma, and situational and dispositional forms of rationality and intuition. Self-stigma was observed to have a large and significant association with the decision to seek mental health treatment ($\beta = -.494, p < .001$). Hope, while not directly related to the decision to seek mental health treatment ($\beta = .010, p = .912$), was related to other characteristics, such as cognitive flexibility ($\beta = .433, p < .001$), that did maintain significant relationships with stigma ($\beta = -.402, p = .001$) and facets of distress tolerance. This study reveals hope and cognitive flexibility as potential avenues for intervention that could help to address stigma in both direct and indirect ways and encourage people to seek mental health treatment.

Hope for Treatment: An exploration of stigma, hope, relativity, and the decision to seek mental health treatment

Experiencing a mental health concern can be an isolating and shaming experience (Kranke, Floersch, Townsend, & Munson, 2010). This experience is not limited to people who have been labeled with diagnoses and provided medication, talk therapy, or some combination of the two. In a comprehensive review of college students who were not engaged with mental health services, the American College Health Association (2013) noted that up to 45% of college students had experienced some form of mental health concern within the past year. These students represented a small portion of the global population that struggles with some form of mental health concern. When considering just the mental health challenge of depression, it is estimated that 350 million people are affected worldwide (World Health Organization, 2012). By the year 2030, it is expected that unipolar depression will represent the world's leading cause of disease burden (2008). Students are not alone in the challenges they face with mental health. Students also serve as a representative group for the vast underutilization of mental health treatment services (American College Health Association, 2013; Eisenberg, Hunt, & Speer, 2013; Kim, Cho, Park, & Park, 2015; Wang et al., 2005).

In general, fewer than half of the people who may benefit from mental health services take steps to seek out treatment (Wang et al., 2005). While younger generations may be more likely to seek mental health treatment than their elders (Kim et al., 2015; Mackenzie, Gekowski, & Knox, 2006), fewer than half of the college students who experience mental health challenges utilize treatment services, even when those services are made available on campus (American College Health Association, 2013; Eisenberg et al., 2013). In an attempt to understand the discrepancy between students who struggle with mental health concerns and those who utilize

available treatment resources, Marsh and Wilcoxon (2015) explored the potential for systemic barriers to mental health on a large United States college campus. Findings suggested that the largest systemic barriers to mental health treatment utilization by college students were cost of services, the location of available services, and the level of awareness that treatment resources were available.

Mental Health Stigma

Beyond any systemic barriers found on campus, students also may be challenged by barriers inherent to their family systems and communities of origin. Fischer et al. (2016) explored attitudinal perspectives that can operate as barriers to mental health treatment and identified four primary concerns which included lack of trust and concern for stigma. Lack of trust can be personified through cultural mistrust that can present in the relationship between therapist and client but also extend beyond the therapeutic relationship to mental health treatment overall, or to the larger context of health care (LaVeist, Isaac, & Williams, 2009; Whaley, 2001). Stigma can be born of family perspective. Kranke, Guada, Kranke, and Floersch (2012) noted that family beliefs, cultural beliefs, an emphasis by the family or community on self-reliance, messages from and portrayals by the media, as well as peer perceptions and religious beliefs all can influence the perception of mental health concerns and of mental health treatment. Families and communities may further complicate views of mental health when they exert pressure on their members to conform to common and accepted perspectives. The resulting stigma is a critical reason for the lack of engagement with mental health treatment (Han & Pong, 2015).

Mental health stigma is understood through two primary categories: public stigma and self-stigma (Corrigan, 2004). Public stigma is the way in which society responds to individuals who possess some attribute that is stigmatized. Public stigma is exemplified when a potential

employee discloses a mental health diagnosis to a prospective employer, and the employer deems the potential employee a liability and looks to another candidate, even if the diagnosis disclosed is common, such as well-managed depression. Self-stigma is the internalized psychological impact of public stigma. Self-stigma could be exemplified by the potential employee's view of him- or herself as damaged, unemployable, or less capable (Bathje & Pryor, 2011).

Clement and colleagues (Clement et al., 2015) sought to explain some of the operational mechanisms in the relationship between stigma and mental health treatment. A key component that operates to deter treatment seeking is structural stigma which includes the way in which mental health is portrayed to the general public, as well as laws, policies, and societal norms that disadvantage individuals struggling with mental health concerns. Conceptually, structural stigma transitions to a dissonance in how individuals struggling with mental health concerns prefer to see themselves and how they are stereotyped or believed to be by society at large. Some stereotypes and beliefs include that stigmatized individuals are crazy, weak, dangerous, unreliable, spiritually erring, and lack will power. This dissonance mechanism feeds to an anticipation or experience of labeling, social judgement, shame, and rejection or discrimination. Both the mechanism of dissonance and anticipation, as well as experience, feed to a need or preference for non-disclosure. Some consequences of the need or preference for non-disclosure are that individuals will attempt to mask symptoms or experience an exacerbation in their challenges to open up to a mental health professional. Other, independent elements of structural stigma include the inequity in the availability of mental health resources and societal intolerance translating to remote, hospital-based options for care. The independent structural stigma elements, along with non-disclosure, anticipation, and experience, are conceived as directly impacting treatment seeking behaviors.

Self-stigma is a primary barrier to treatment (Clement et al., 2015; Eisenberg, Downs, Golberstein, & Zivin, 2009; Jennings et al., 2015; Vogel et al., 2017). Despite extensive literature which has been dedicated to understanding stigma (Jennings et al., 2015), it remains a complex construct that is often explored without guiding principles of theory in place (Sickel, Seacat, & Nabros, 2014). While some effort has been undertaken to more clearly understand the way in which different forms of stigma interact with one another to affect the behaviors and decisions of those who struggle with mental health challenges (see Vogel, Bitman, Hammer, & Wade, 2013; Vogel et al., 2013), there is a paucity of research with respect to how mental health stigma (in the case of this study self-stigma) interacts with or impacts the decision-making process for an individual choosing whether or not to seek out mental health treatment.

Decision-Making

Modern theories of decision-making implement a dual-system approach (Kirkpatrick & Epstein, 1992). System 1, also known as Experiential and Intuition, is associated with learning from experience via association, and is characterized as preconscious, fast, automatic, affect-laden and habitual. System 2, also known as Rational and Analytical, is associated with learning through reasoning and logical inference, and is characterized as conscious, slow, effortful, affect-free, and controlled (Epstein, 2010; Kahneman, 2003). Both Systems 1 and 2 are believed to have situations in which one is more functional over the other (Dane, Rockmann, & Pratt, 2012; Dijksterhuis, 2004; Kahneman & Klein, 2009), though previous research has argued that a balanced or integrative approach to decision-making may be best (Dijksterhuis & van Olden, 2006; Krieschok, Black, & McKay, 2009; Sjoberg, 2003). The relationship between System 1 and System 2 is complex, however, and decisions that are believed to be conscious and carefully regulated may in fact be influenced by factors and phenomena outside of conscious awareness.

Kahneman and Klein (2009) noted that individuals skilled at making decisions are often unaware of the specific cues that guide their process. Epstein (2010) pointed out that Intuition processes can impact Rational processes without the deciding person noticing such an influence. People making decisions tend to rely on highly accessible information about a situation, regardless of whether or not that information is the most relevant to the determination of a good decision for the situation (Kahneman, 2003). A large number of decisions are rooted in habit, even if the reinforced habit is unhelpful or irrelevant to the situation. By contrast, when critical thought is applied, an individual is often choosing the decision which is justifiable rather than the one that is correct for a faced dilemma, or, in an attempt to consider as much information as possible, the individual is unable to decide, or experiences diminished satisfaction with the ultimate decision (Ariely & Norton, 2010).

Ariely (2010) highlighted the importance of relativity, a phenomenon that reflects the number and characteristics of options presented for a given situation. Because people tend to base decisions in highly accessible information, when two options of three presented resemble one another (i.e., A and A-), then the decision will most frequently side with the better of the two related options (i.e., A), while the outlying option is excluded from the decision process almost entirely. This is true even if the decision between two disparate options (i.e., A and B) resulted in an event split in decision frequency when the third option (i.e., A-) was not included. Noted, too, was the importance of the potential for loss as a result of a decision.

An individual is anticipating a loss, such as the loss of self-concept (Clement et al., 2015) or family status (Flaskerud, 1986) as a result of mental health treatment, may have their decision-making process further complicated by symptoms of depression and anxiety, which are significantly related to levels of self-stigma (Grant, Bruce, & Batterham, 2016). Furthermore,

individuals' perceptions of events can be determined by their expectations for the events rather than by their actual experience of the events (Ariely, 2010). Hoerger, Chapman, Epstein, and Duberstein (2012) noted that people often allow for their expectations about emotional reactions to future events guide critical decisions, such as those about health care. An individual's decision to seek treatment may be one in which potential losses, in combination with anticipated emotional reactions to the therapeutic process, influence the decision more than any possible positive outcomes for treatment (see Kahneman, 2003). As supported by Dockery and colleagues (2015), a lack of familiarity with counseling leads to negative expectations for mental health treatment (Mori, 2000). This could culminate in the decision to delay or avoid mental health treatment rather than engage for fear of anticipated distress, loss, or self-stigma that could result from engaging with treatment.

Influence of Malleable Characteristics

Distress tolerance. Broadly, there two forms of distress tolerance: perceived and behavioral. Perceived distress tolerance is an individual's ability to endure unwanted emotion states, while behavioral distress tolerance refers to the individual's ability to experience unwanted internal states elicited by stressors (Leyro, Zvolensky, & Bernstein, 2010). Within each domain of distress tolerance, there operate five operationalizations of distress *intolerance*: uncertainty, ambiguity, frustration, negative emotional states, and physical sensations. Buhr and Dugas (2002) reported intolerance of uncertainty (IU) as a tendency to react through emotions, thoughts, or behavior in response to situations that are not clearly defined with respect to expectation or process. MacDonald, Pawluk, Koerner, and Goodwill (2015) extended this by clarifying that the uncertainty that triggers such a reaction is in relation to future events. Leyro and colleagues (2010) reported a link between IU and Generalized Anxiety Disorder. Defined as

an inability to tolerate complicated, foreign, or vague situations or stimuli (Furnham & Ribchester, 1995), intolerance of ambiguity (IA) is related to behavioral rigidity (Leyro et al., 2010) and is centered on events in the present rather than in the future (MacDonald et al., 2015). Intolerance of frustration (Zvolensky, Vujanovic, Bernstein, & Leyro, 2010), intolerance of negative emotion (Simons & Gaher, 2005), and intolerance of physical sensation (Schmidt, Richey, & Fitzpatrick, 2009) relate to the inability to withstand aggravation, such as when a goal is obstructed, the inability to withstand internal distress, and the inability to navigate physical discomfort, respectively.

Lower levels of distress tolerance lead people to engage in avoidance, while higher levels of distress tolerance are thought to lead to more adaptive behaviors (Zvolensky et al., 2010). Importantly, IU is a significant predictor of psychological distress within undergraduate college students (Lally & Cantillon, 2014). The Ellsberg Paradox shows, however, that people tend to prefer certain, or known, probabilities of success over uncertain, or ambiguous, probabilities (Viscusi & Chesson, 1999). Dugas, Buhr, and Ladouceur (2004) reported that individuals high in distress intolerance, particularly IU, are likely to prefer known negative outcomes to uncertain outcomes. A potential protective factor against distress intolerance is psychological mindedness, which enables people to integrate multiple pieces of information in order to generate insight about their present concerns and situations (Beitel, Ferrer, & Cecero, 2004).

Flexibility. One method by which people integrate multiple pieces of information to formulate an adaptive response is flexibility. Cognitive flexibility is one form of flexibility, which refers to the ability to transition cognitive set, thought, or attention to perceive, process, or respond to situations in varying ways (Eslinger & Grattam, 1993). These varied responses could include the generation of multiple ideas, switching between different types of knowledge, and

restraining habitual response in favor of alternatives demanded by shifting environmental attributes (Rende, 2000). Cognitive flexibility often is split into two dynamics: spontaneous flexibility and reactive flexibility (Eslinger & Grattam, 1993). Spontaneous flexibility is known as the ability to generate diverse ideas, consider alternative responses to a situation, and alter plans. Two types of spontaneous flexibility include ideational fluency and semantic flexibility (Getzels & Jackson, 1962). Ideational fluency is the ability to generate a large quantity of ideas, while semantic flexibility refers to the ability to generate diverse ideas with respect to variety, quantity, and relevance to a given situation.

Reactive flexibility, defined as an ability to shift cognition or behavior to suit dynamic tasks or situational demands, can be further dissolved to intradimensional and extradimensional shifts (Slamecka, 1968). Intradimensional shifts occur when the task relevant characteristics of a situation or of stimuli do not change. An example of this might be when an individual follows a recipe and measures different types of ingredients. While the ingredients change, as do the amounts needed, the act of measuring remains constant. Extradimensional shifts occur when previously irrelevant characteristics of a situation become relevant and demand a conceptual change in how a situation or object within the situation is handled. An example of this might be when the individual following a recipe needs to transition from measuring a broth to chopping carrots to place in the pan with the broth (Rende, 2000). Downes, Roberts, Sahakian, Evenden, Morris, and Robbins (1989) noted that intradimensional shifts are easier to achieve than are extradimensional shifts regardless of cognitive capacity or functioning. Another example of extradimensional shift may be an individual's need to engage with mental health treatment services when encountering a period of heightened distress or a depressive episode, rather than continuing in habitual behavior. Rather than make this adaptive decision, many people may

respond with behavioral rigidity and avoidance in periods of limited flexibility exacerbated by elevated distress (Silberstein, Tirch, Leahy, & MicGinn, 2012; Stevens, 1993/1994; Yakhnich & Ben-Zur, 2008).

Psychological flexibility is second form of flexibility that can be related to adaptive responses and acceptance (Silberstein et al., 2012; Whiting, Deane, Simpson, McLeod, & Ciarrochi, 2015; Yakhnich & Ben-Zur, 2008). Psychological flexibility is comprised of six core processes that are represented through a hexagon, known as the hexiflex. These six processes are categorized into two domains: behavior change processes and mindfulness processes. Behavior change processes include contact with the present moment, acceptance, and values. Mindfulness processes include defusion, self-as-context, and committed action (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Lower levels of psychological flexibility, also known as inflexibility, often are linked with experiential avoidance, which represents active attempts to alter internal and external experiences that translate to unwanted and difficult thoughts and emotions (Whiting et al., 2015). There are a number of mental health concerns that generate higher levels of inflexibility.

Whiting et al. (2015) noted that, conceptually, psychological flexibility and cognitive flexibility demonstrate considerable overlap. Preliminary evidence suggests that neurological functioning captured and linked with both forms of flexibility demonstrate significant similarity. Furthermore, when cognitive flexibility is reduced to a form interpretable by self-report instruments, the instruments demonstrate considerable overlap. Low levels of either form of flexibility portend challenges with mental health and reduced efficacy of mental health treatment; furthermore, behavior change is central to each construct. The extent to which the two forms of flexibility represent identical or overlapping constructs deserves attention. Provided

significant relationships between flexibility and elements of distress tolerance (such as tolerance for ambiguity; Silberstein et al., 2012; Yakhnich & Ben-Zur, 2008), it may be an important factor in how individuals consider the option to pursue mental health treatment. Flexibility also is represented in Snyder's (2002; Snyder, Harris, Anderson, Holeran, Irving, Sigmon, Yoshinobu, Gibb, Langelle, & Harney, 1991) cognitive theory of Hope.

Hope. Seligman and Csikszentmihalyi (2000) challenged psychologists to turn their focus to engendering more meaningful and productive lives and cultivating strengths as a way to prevent mental health concerns and understand the nature of characteristics that offer some buffer against the development of mental health challenges. One construct that offers a buffer against mental health challenges is hope. While many different conceptualizations of hope have long existed in medicine and other fields and in both emotional and cognitive contexts (Lopez, Snyder, & Pedrotti, 2003), hope or hope theory, as it came to be defined by Snyder and colleagues (Snyder et al., 1991) was, at its core, a way of thinking (Snyder, 2002). Hope was, and is, a belief in one's ability to generate and follow pathways to an identified goal. Hope also was, and is, a way to cultivate well-being and drive emotions (Snyder, Rand, & Sigmon, 2002). Hope, in this form, is understood through three primary components: goals, pathways thinking, and agency thinking.

Snyder (2002) detailed the nature of goals within hope theory noting that this component of hope is founded in the premise that human behavior is goal directed. There can be two main types of goals. The first type of goal is one in which something is intended to be attained for the first time, maintained after initial attainment, or extended beyond the success of attainment. The second type of goal is one in which negative outcomes are deterred or prevented before fully developing. Pathways thinking represents the generation of different routes by which to attain the

identified goal (Lopez et al., 2003). Due to this ability to generate multiple alternative routes to goal achievement, particularly when some impediment is encountered, high-hope individuals are labeled as flexible thinkers (Snyder, 2002). More than an ability to employ flexibility to goal driven action, pathways thinking also accounts for the confidence one has in their initially identified route, particularly in individuals who are identified as high in hope. Because of this increased confidence, high-hope individuals, as compared to low-hope individuals, tend to display more decisiveness in their actions and chosen approaches to goal pursuit. Agency thinking is the motivational aspect of hope theory (Lopez et al., 2003). This aspect is comprised of self-referential thinking that represents one's belief in their ability to begin utilizing and continue utilizing a chosen pathway (Snyder, 2002). Agency thinking is identified as the component of hope theory that allows for people to switch to alternative pathways when the initial route to goal achievement is impeded in some way. Importantly, agency thinking is the means by which people see themselves as active agents of change.

Hope theory has been linked to multiple benefits across several disciplines (Snyder, 2000; 2002). In education, level of hope has been linked to academic performance. High-hope athletes tend to perform better than their low-hope counterparts. High levels of hope have also been indicated in improved adaptability and psychological well-being. While psychological adjustment is likely a powerful component of any buffering effect hope might have, prevention is not always possible, thus Snyder (2000) pointed to evidence that hope might be a way to foster treatment adherence and facilitate psychotherapeutic change. It also was noted that the full potential of hope within the context of psychotherapy is yet to be understood (Snyder, 2000; 2002). Lopez (2013) further highlighted the impact of hope within multiple areas of society at large and in a range of age levels. Both Snyder (2002) and Lopez (2013) emphasized the

importance of cultivating hope. Given hope's relationship to flexible thinking (Snyder, 2002) and the preliminary discoveries in the relationship between flexibility and distress tolerance (Silberstein et al., 2012; Yakhnich & Ben-Zur, 2008), hope could be a critical point of intervention by which to engender increased flexibility, improved distress tolerance, and higher rates of treatment engagement by individuals with the greatest potential to benefit from mental health treatment.

Present Study

In addition to questions about the way in which self-stigma interacts with the decision-making process about engaging with, delaying, or avoiding mental health treatment, there is a dearth of research into the way in which distress tolerance can be functional within the process and experience of psychotherapy (Leyro et al., 2010; Zvolensky et al., 2010). Zvolensky and colleagues noted that the relationship between distress tolerance and acceptance also is unclear but warrants dedicated exploration. Furthermore, the way in which a positive psychological construct, such as hope, can influence the decision to seek treatment while providing a buffer against the presence of self-stigma is unclear; though given hope's relationship to treatment process and outcome (Snyder, 2000), it deserves investigation as a potentially critical component and opportunity for intervention to engage individuals in treatment who may need it the most.

This study seeks to explore whether or not relativity, as described by Ariely (2010), is a primary influence over an individual's decision to seek mental health treatment. Is it possible that malleable characteristics such as self-stigma, hope, and distress intolerance will override the influence of the relativity phenomenon? While there is a building body of literature exploring the intolerance of uncertainty and ambiguity as primary influences on the decision-making process, perhaps other facets of distress intolerance merit equal attention. Will the characterization of

people high in hope as flexible thinkers (Snyder, 2002) translate to an observable influence of hope on flexibility constructs such as psychological flexibility and cognitive flexibility? How much would a person's utilization of intuitive or rational processes depend upon their general disposition for utilization of either process and to what degree are other situational factors such as stigma or hope responsible for situational implementation? Is the decision to seek mental health treatment a decision best suited for intuition or analysis? Perhaps, as has been suggested by previous research, the best decisional approach is a balance of contribution by both intuition and rational processes (see Dijksterhuis & van Olden, 2006; Krieschok, Black, & McKay, 2009; Sjoberg, 2003).

Method

Participants

To be included in the study, participants were required to be at least 18-years-old, enrolled at a university or college in the United States, and living on their college or university campus. In total, 962 participants accessed the study link posted to Amazon's Mechanical Turk (mTurk). Of those individuals, 363 responded to at least one item but did not complete the survey or did not submit their completion code to the mTurk system. Another 299 individuals were screened out by the three screening items included at the beginning of the survey. To confirm that respondents were living on their campus in the United States, the geolocations of respondents were verified via the geolocation assigned to responses in Qualtrics. Of those who completed the survey and submitted their link to mTurk, 140 were not located in the United States and were subsequently excluded from the study. Random responding (e.g., responding "1" to every item or alternating between the top two options throughout the survey) led to the exclusion of 10 additional participants.

The final sample was comprised of 150 respondents (see Table 1). The majority of the sample identified as male ($n = 91$, 60.7%) and 0.7% of the sample identified as Non-Binary. With respect to racial identity, 68% of the sample identified as White/Caucasian with 16 individuals identifying as Asian American, 18 as African American, 11 as Latino/Latina/Latinx, two as Native American, and one identifying as “Other” and declining to specify. The majority of participants ($n = 120$, 80%) were enrolled at their college or university full-time. Only 10 respondents were Freshmen, the bulk of participants ($n = 115$, 76.6%) were Juniors, Seniors, or Graduate Students. Also notable is that 31.3% of the sample was employed full-time, while 17.3% were unemployed, and 51.3% held part-time work. A total of 69 individuals (46%) identified as first-generation students.

Pursuant to standards outlined by MacCallum, Browne, and Sugawara (1996), a power analysis was performed with the assistance of online software “Computing Power and Minimum Sample Size for RMSEA” made available through quantpsy.org (Preacher & Coffman, 2006). This software was used to generate code that was then executed through the open-source statistical software RStudio. When considering the model to be estimated ($df = 49$), results demonstrated that the minimum sample size needed to assess model fit, when RMSEA null $\leq .05$ and RMSEA alternative $\geq .08$; $\alpha = 0.05$; and desired power ($1 - \beta$) is .80, is 216.41 participants.

Materials

Demographics Questionnaire and Vignette. All participants were tasked with completing a demographics questionnaire (see Appendix A). The questionnaire included topics such as age, year in school, student status, worker status, relationship status, first-generation status, racial identity, gender identity, whether or not the participant has previously engaged in treatment with a qualified mental health professional (QMHP), whether or not the interaction

with the QMHP was helpful, whether or not the participant is currently engaged in treatment with a QMHP, and whether or not the participant finds their current interactions with a QMHP helpful. Not all of these characteristics are incorporated in the analysis for this study.

All participants were then exposed to a standardized vignette (see Appendix B). Hughes and Huby (2004) noted that vignettes can be appropriate for social science provided the validity of the vignette implemented and the purpose and context in which it is being utilized. Vignettes have been demonstrated as effective tools for inducing affective states (Zhang, Yu, & Barrett, 2014) and exploring a participant's thought process relative to elements of a specific situation (Evans et al., 2015).

The vignette used in this study was designed in accordance with standards outlined by Evans and colleagues (2015) and which characterized a person actively struggling with symptoms of depression. Following the vignette, participants were encouraged to imagine themselves in the position of the individual described in the vignette, with the vignette available for reference should participants wish to re-read it. Participants were then, dependent upon study condition, asked to select from no options, two options (active engagement with avoidance strategies that require no monetary investment versus active engagement with a qualified mental health professional that requires no monetary investment), or three options (the same two options stated previously and active engagement with a family member or friend, requiring no monetary investment). In all instances participants were asked to rate how likely they would be to engage with a QMHP using a Likert-type scale ranging from 1 (not at all likely) to 7 (extremely likely).

In order to establish the validity of the vignette, it was reviewed by seven Psychologists in university counseling center, private practice, academic appointment, and VA medical center settings. All reviews agreed that the vignette was an accurate depiction of a person with

depression and believe that the average person would recognize the struggle in the vignette as depression. The implementation of the vignette was mostly successful with 89% of mTurk respondents recognizing the person described in the vignette as depressed.

Rational Experiential Inventory-Revised (REI). The REI and the REI-Revised, referred to as the REI, were measures created by Pacini and Epstein (1999) that provided a metric for an individual's characteristic utilization, or disposition, of System 1 and System 2 when making decisions. The revised measure consists of 40 Likert-type items scored on a scale from 1 (Definitely not true of myself) to 5 (Definitely true of myself) and is freely available for use in instruction and research. Example items include "I try to avoid situations that require thinking in depth about something," and "I have a logical mind." The REI demonstrated exceptional internal reliability with a total score reliability of .90 for the Rational Scale and .87 for the Experiential Scale. Each subscale consisted of two 10-item scales. Rational was broken into Rational Ability and Rational Engagement. Experiential Ability and Experiential Engagement comprised the Experiential scale. Support for construct validity was garnered with analysis indicating an orthogonal, two-factor structure as the most appropriate for the given items. Each subscale demonstrated unique predictive validity to other constructs such as personality as conceptualized through the Big Five model. Evidence also was observed in support of discriminant validity.

In this study, the two-factor, orthogonal structure was not replicated ($\chi^2(740) = 1629.654$, $p < .001$, CFI = .640, TLI = .621, RMSEA = .090 (.084 - .095), SRMR = .145). Even after extensive modifications to account for covariance between items on the same subscales, the model displayed questionable fit ($\chi^2(728) = 1411.026$, $p < .001$, CFI = .724, TLI = .704, RMSEA = .079 (.073 - .085), SRMR = .141). The subscales of the REI displayed excellent internal

reliability, consistent with the developmental literature, with the Rational scale estimated at .93 and the Experiential scale estimated at .88.

Situation-Specific Thinking Style (SSTS). In an effort to develop a version of the REI that could be specific to any given situation rather than dispositional in nature, Novak and Hoffman (2009) created the SSTS. From an initial item-pool of 53-items, 10-items for a Rational scale and 10-items for an Experiential scale were chosen through factor analysis. The final form of the SSTS is a 20-item scale scored on a 5-point Likert-type scale and is available for use in research. Example items include “I reasoned things out carefully,” and “I trusted my hunches.” One 10-item subscale measures System 1 thinking (situational intuition) and has demonstrated strong internal reliability across two studies ($\alpha = .89$ and $\alpha = .90$), and a second 10-item subscale measures System 2 thinking (situational rationality) and also has demonstrated good internal consistency ($\alpha = .90$ and $\alpha = .92$). Construct validity was observed through the acceptable fit of the theorized two-factor structure. Convergent validity was demonstrated in strong correlations between each of the sub-scales and tasks known to be associated with either rational or intuitive processes. The measure is believed to be an acceptable assessment for observing an individual’s decision-making process for specific situations.

In the present study, the two-factor solution was deemed appropriate and initially displayed adequate fit ($\chi^2(170) = 307.099, p < .001, CFI = .901, TLI = .890, RMSEA = .073$ (.062 - .085), SRMR = .091). Two modifications were implemented to account for the covariance shared displayed in items six and 10, as well as items 17 and 18. With one modification to each of the subscales, the two-factor solution rendered improved yet still adequate fit ($\chi^2(168) = 281.716, p < .001, CFI = .918, TLI = .907, RMSEA = .067$ (.055 - .079),

SRMR = .090). The internal structure of the instrument was observed to be excellent with the System 1 subscale estimated at .93 and the System 2 subscale estimated at .92.

Self-Stigma of Seeking Help Scale (SSOSHS). This measure determines the degree to which an individual would stigmatize him or herself as a result of seeking help with mental health concerns (Wade, & Haake, 2006). Ten Likert-type items scored on a range from 1 (strongly disagree) to 3 (agree and disagree equally) to 5 (strongly agree) compose the SSOSHS, and higher scores indicate a higher level of self-stigma. Example items include “I would feel inadequate if I went to a therapist for psychological help,” and “I would feel worse about myself if I could not solve my own problems.” This instrument is free for use in instruction and research. The instrument has demonstrated strong internal reliability with an estimate of .91. Additional support for reliability was observed in a test-retest estimate of .72 when the measure was administered again two months after initial administration. Some evidence for criterion validity also was provided with a significant negative correlation between the SSOSHS and another measure that indicated the participants’ willingness to engage in treatment seeking behaviors.

The single-factor solution for the SSOSHS was, at first, unacceptable ($\chi^2(35) = 132.247$, $p < .001$, CFI = .751, TLI = .679, RMSEA = .136 (.115 - .158), SRMR = .114). Several modifications were explored resulting in the modeling of covariance between item two and items five and nine, between items one and three, between item nine and items five and 10, and between item seven and items nine, four, and five. The resulting model displayed good fit ($\chi^2(27) = 45.833$, $p = .013$, CFI = .952, TLI = .920, RMSEA = .068 (.036 - .098), SRMR = .071). An estimate of Cronbach’s Alpha indicated that the SSOSHS is reliable ($\alpha = .84$).

Adult Hope Scale (AHS). The AHS was designed to indicate an individual’s level of

hope (Snyder et al., 1991) and is free for use in instruction and research. The instrument is comprised of 12 Likert-type items scored on an eight-point scale including the anchors 1(definitely false) and 8 (definitely true). Two, four-item subscales explore pathways thinking and agency thinking. The final four-items are distractor items. Example items include “I can think of many ways to get out of a jam,” “My past experiences have prepared me well for my future,” and “I am easily downed in an argument.” Internal reliability for the AHS is good with estimates ranging from .74 to .84. Test-retest reliability for the total score is .80 or higher (Lopez et al., 2003). Extensive utilization of the AHS has gathered support for predictive, convergent, and discriminant validity (Lopez et al., 2003; Snyder, 2002).

In this study, internal reliability of each of the subscales was good with pathways thinking and agency thinking both estimated at .85. The total score for the scale displayed excellent internal reliability ($\alpha = .91$). An examination of the factor structure yielded perfect fit when the model accounted for the presence of two subscales influenced by a higher-order factor of hope ($\chi^2(12) = 11.713, p = .469, CFI = 1.000, TLI = 1.002, RMSEA = .000 (.000 - .071), SRMR = .022$).

Distress Intolerance Five Factor-Short (DIS). Pursuant to a more comprehensive conceptualization of distress outlined in Zvolensky and colleagues (2010), Bardeen, Fergus, and Orcutt (2013) conducted a hierarchical analysis of some of the most widely used measures for the five components of distress. In an effort to make a more parsimonious measure, Bebane, Flowe, and Maltby (2015) conducted exploratory factor analysis on five measures, consisting of over 100 items, to generate this measure of 20 Likert-type items scored on a seven-point scale from 1 (strongly agree) to 7 (strongly disagree) where higher scores indicate higher levels of distress tolerance. This instrument is free for use in instruction and research. Example items

include “Uncertainty makes me vulnerable, unhappy, or sad,” “I can’t bear it if other people stand in the way of what I want,” “It is more fun to tackle a complicated problem than to solve a simple one,” “I have a high pain tolerance,” and “I am ashamed of myself when I feel distressed or upset.” While internal reliability estimates were regarded as fair ($\alpha = .68-.83$) for the individual subscales, the bi-factor structure indicated through factor analysis make it a valuable tool for research on the proposed five factor model of distress (Zvolensky et al., 2010).

In this present study, the scoring of the subscales of the DIS was reversed such that higher scores indicated greater levels of distress intolerance. A five-factor measurement structure initially displayed poor fit ($\chi^2(160) = 326.588, p < .001, CFI = .830, TLI = .798, RMSEA = .083 (.072 - .095), SRMR = .107$). A total of six modifications were implemented to account for covariance between item 12 and items nine and 11, between items 13 and 14, between items 15 and 16, between items three and four, and between items five and six. The resulting model displayed adequate fit ($\chi^2(154) = 240.915, p < .001, CFI = .911, TLI = .890, RMSEA = .061 (.047 - .075), SRMR = .081$). The internal reliability of the subscales ranged from .42 to .89. The most unreliable subscales were the intolerance of physical discomfort ($\alpha = .42$) and the intolerance of ambiguity ($\alpha = .60$).

Cognitive Flexibility Inventory (CFI). This measure was designed to examine characteristics of cognitive flexibility that are considered essential for engaging in adaptive thinking over pre-existing, maladaptive thoughts (Dennis & Vander Wal, 2010). The measure consists of 20 Likert-type items scored on a 7-point scale with anchors at each interval including 1 (strongly disagree) and 7 (strongly agree) and was used in this study with permission of the original authors. Two subscales were indicated by exploratory factor analysis including a 13-item scale labeled alternatives and a seven-item scale labeled control. Example items include “I

like to look at difficult situations from many different angles,” and “I feel I have no power to change things in difficult situations.” Internal reliability estimates for each of the two subscales are strong with alternatives and control estimated at .91 and .86 respectively and an estimate of .90 for the combined total score. Some evidence has been accumulated for construct validity and convergent validity. Notably, with respect to convergent validity, the CFI correlated significantly with another established measure of cognitive flexibility, but displayed limited correlation, as did other self-report measures, with frequently used neuropsychological assessments of cognitive flexibility (Johnco, Wuthrich, & Rapee, 2014). Burgess and colleagues (2006) noted, however, that the commonly used neuropsychological assessments were derived purely from the construct and may not be the most accurate representation of the construct. Thus, a self-report measure was deemed an appropriate alternative.

A higher-order factor structure was best fit for this instrument as observed in this study. Initially, however, it displayed poor fit ($\chi^2(168) = 344.233, p < .001, CFI = .866, TLI = .848, RMSEA = .084 (.072 - .095), SRMR = .118$). Covariance modifications were modeled between item four and items 15 and 2, between item 16 and items 5 and 18, and between item 14 and items 18 and 20. The resulting model displayed adequate fit ($\chi^2(162) = 274.160, p < .001, CFI = .915, TLI = .900, RMSEA = .068 (.056 - .080), SRMR = .122$). In addition to factor structure, internal reliability was estimated. The alternatives subscale ($\alpha = .93$) and the total score ($\alpha = .92$) each demonstrated excellent internal reliability, while the control subscale demonstrated good internal reliability ($\alpha = .89$).

Acceptance and Action Questionnaire-II (AAQ-II). The AAQ-II was created by Bond and colleagues (Bond et al., 2011) as a measure of psychological inflexibility. The measure consists of 10 Likert-type items scored on a scale from 1 (never true) to 7 (always true) and is

free for use in instruction and research. Higher scores on the AAQ-II indicate a higher level of psychological inflexibility. Example items include “I’m afraid of my feelings,” and “I am in control of my life.” The internal reliability estimate is indicative of strong internal structure ($\alpha=.84$) with a test-retest evidence bolstering this indication with an estimate of .81 over a three-month timespan and .79 over a period of one year. The AAQ-II was designed to be an update of the first iteration of the Acceptance and Action Questionnaire (AAQ). Correlation between the two ($r = .97$) indicated that the AAQ-II is measuring the same construct as the AAQ. Evidence also was provided for both convergent and discriminant validity.

For the purposes of this study, the items were reverse scored such that higher scores indicated higher levels of psychological flexibility. As observed in this study, the single-factor solution for the AAQ-II displayed adequate fit ($\chi^2(35) = 79.482, p < .001, CFI = .909, TLI = .884, RMSEA = .073 (.062 - .085), SRMR = .091$). One modification was implemented to account for the residual covariance between item one and item six. The resulting model displayed good fit ($\chi^2(34) = 66.466, p = .001, CFI = .934, TLI = .912, RMSEA = .080 (.054 - .105), SRMR = .056$). Additionally, the instrument exhibited good internal reliability with a Chronbach’s Alpha estimate of .89.

Design

The present study was a quasi-experimental study. The dependent variable was the likelihood a person will engage with a qualified mental health professional. While one independent variable was manipulated (the number and type of options explicitly presented to the participant following the vignette) the other independent variables (hope; System 1 and System 2 utilization, dispositional (REI) and situation specific (SSTS); self-stigma; psychological flexibility; cognitive flexibility; and the five facets of distress intolerance) were

not manipulated and were represented by scores of their associated instruments. The study examined the following hypotheses:

H1: The phenomenon of relativity will not be replicated in this study when options to engage with treatment (A, A-, and B) are presented for selection via role induction using a standardized vignette.

H2: A respondent's likelihood of engaging with mental health treatment (MHT), will significantly decrease as options for response to a mental health concern increase.

H3: All five dimensions of distress intolerance, as represented by scores on each of the five subscales of the Distress Intolerance Scale, will have a significantly negative relationship with a participant's likelihood of engaging with MHT.

H4: IU and IA will be characterized by a significant negative relationship to likelihood of engagement with MHT, above and beyond the combined effects of the other three dimensions of distress intolerance.

H5: Self-stigma, as represented by scores on the Self-Stigma of Seeking Help Scale, will influence situational observations of System 1 and System 2, as represented by subscale scores on the Situation-Specific Thinking Style scale, and a respondent's likelihood of engaging with MHT in a significantly negative way.

H6: Hope, as represented by a respondent's score of the Adult Hope Scale, will operate as a preventative factor against self-stigma, as evidenced by a significantly negative relationship.

H7: Hope will engender flexibility by holding a significantly positive relationship with both psychological flexibility, as represented by scores on the Acceptance and Action

Questionnaire-II, and cognitive flexibility, as represented by scores on the Cognitive Flexibility Inventory.

H8: Hope will encourage the balanced utilization of both System 1 and System 2 processes in the decision to seek MHT, as evidenced by a significantly positive relationship with situational observations of Systems 1 and 2.

H9: Hope will hold a significantly positive relationship with a respondent's likelihood of engaging with MHT.

H10: The decision to engage with MHT, as represented through a respondent's rated likelihood of engaging with MHT, will be one in which a balanced decision-making process is engaged, as evidenced by the lack of a significant difference in the relationships between situational observations of System 1 and situational observations of System 2 and the decision to engage with MHT.

H11: Observations of situational System 1 and situational System 2 will be influenced significantly more by self-stigma and Hope than by dispositional observations of Systems 1 and 2, as measured by scores on the two subscales of the Rational-Experiential Inventory.

H12: Psychological flexibility and cognitive flexibility will be characterized by significantly negative relationships with all five facets of distress intolerance.

H13: Psychological flexibility and cognitive flexibility will be representative of some larger construct of flexibility as evidenced by a non-significant difference in each construct's relationship with distress intolerance.

Procedure

After obtaining IRB approval, participants were recruited utilizing the online data

sourcing service mTurk. The mTurk service has demonstrated its ability to render samples that are commensurate to the population of the United States with respect to demographic characteristics (Huff & Tingley, 2015). It also has been found to be a source of reliable data (Buhrmester, Kwang, & Gosling, 2011) and can operate as a viable alternative to general university and college research participant pools (Behrend, Sharek, & Meade, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Through mTurk, participants were directed to a digital version of the study's information statement, study materials, and a debriefing statement all hosted on the online survey platform Qualtrics. Prior to beginning the survey, three items were presented to the prospective participant: certification of being 18-years-old or older, student status (not a student, part-time student, full-time student), and on-campus residence at a university or college in the United States. If any of these three criteria are not met (i.e., the prospective participant is younger than 18-years-old, not a student, or not living on the campus of their university or college), then the prospective participant was directed to a debriefing screen thanking them for their interest in the study and providing them a code for reimbursement per the study protocol.

If a prospective participant met the inclusion criteria, they were randomly assigned to one of the three study conditions and directed to the Demographics Questionnaire and the vignette. Participants were then randomly assigned to one of the three conditions (no options from which to choose, two options from which to choose, or three options from which to choose) wherein they were asked to re-read the standardized vignette and complete the option selection task appropriate to their condition, while imagining that they are in the position of the individual described in the vignette. All participants were then asked their likelihood of engaging with a QMHP. The vignette and related items were followed with the SSTS, SSOSHS, AHS, CFI, AAQ-II, and the REI.

Upon completion of all tasks, all participants were directed to a debrief message reminding the participant that he or she was not the individual depicted in the vignette. While the vignette was not expected to incur undue stress, a link to the website for the National Suicide Prevention Lifeline, as well as provider locator tools available through the APAPO and Psychology Today, and an emergency room locator were provided. Participants were then thanked for their time and provided with a code to submit for payment through mTurk. All participants were compensated for their time through mTurk from a pool of funds supplied by the Principal Investigator with unqualified participants receiving \$0.01 and qualified participants receiving \$1.00 with a bonus of up to \$0.30 dependent upon participant performance on randomly dispersed attention checks.

Planned Analyses

All analyses requiring the implementation of simulated generalized linear modeling through defined parameters within structural equation modeling, as well as structural equation modeling were done using the statistics package lavaan (Rosseel, 2012) through the open-sourced software R on the platform RStudio. All other analyses, including demographic analysis, were completed utilizing the software SPSS, version 24. Before advanced analyses began, each of the three conditions were analyzed to ensure that none of the three groupings differed significantly with respect to age, gender identity, racial identity, student status, work status, and past and current engagement with a QMHP. For continuous variables, analysis of variance (ANOVA) was conducted to see if group means differed across the three conditions. For categorical variables, chi-square distribution tests was run to determine if frequency endorsement differed across the three conditions. Once all groups were established as equal, each of the 13 hypotheses were explored.

H1 required a chi-square test in order to determine if frequency endorsement of actively engaging with a QMHP significantly differs between the condition in which two options are presented as compared with the option in which three options are presented. H1 was to be supported if this test was non-significant, indicating that frequency does not differ between the two observations. H2 was explored using ANOVA to see if the group means for likelihood of seeking mental health treatment differed significantly. This hypothesis would have been partially supported if the overall main effect was significant, indicating a significant difference in means across groups. Post-hoc testing, using Scheffe's procedure, would have been implemented to observe the specific trend in mean differences across groups. H2 would have been fully supported if each addition of options significantly decreases the mean for engaging with a QMHP over the previous iteration.

H3, H5, H6, H7, H8, H9, and H12 all relied upon examination of standardized beta-weights derived using structural equation modeling to determine the degree of support available. H3 would have been supported if standardized beta-weights between all five facets of the distress intolerance scale and the likelihood of actively engaging a QMHP are significantly negative. H5 would have been fully supported if a significantly negative standardized beta-weight were observed in the relationship between stigma and the likelihood of actively engaging a QMHP, as well as stigma and situational rationality. The observation of a significantly negative standardized beta-weight between hope and self-stigma would have offered full support for H6. A significantly positive standardized beta-weight between hope and psychological flexibility, between hope and cognitive flexibility, between hope and both situational intuition and situational rationality, and between hope and the likelihood of actively engaging with a QMHP would have provided full support for H7, H8, and H9 respectively. H12 would have been fully

supported if both psychological flexibility and cognitive flexibility were characterized by significantly negative standardized beta-weights with all five facets of distress intolerance.

H4, H10, H11, and H13 all required the simulation of generalized linear modeling through parameter definitions established in the structural equation modeling analysis done in lavaan. H4 would have been supported if the combined effect of uncertainty and ambiguity facets of distress intolerance on the likelihood to actively engage with a QMHP is significantly greater than the combined effect of the remaining three facets of distress intolerance on the likelihood to actively engage with a QMHP. H10 would have been supported if no statistically significant difference had been observed in the contrast of the relationship of situational intuition and situational rationality on the likelihood to actively engage with a QMHP. If the combined effect of hope and stigma on situational intuition and the situational rationality had been significantly larger than the effects of the respective dispositional intuition and dispositional rationality, then H11 would have been supported. Finally, if the effects of psychological flexibility and cognitive flexibility on the five facets of distress intolerance were not statistically different from one another, then H13 would have been supported.

Results

Conditions and Vignette

To examine the equivalence of conditions, demographic characteristics were examined for significant differences including age, gender identity, racial identity, enrollment status, year-standing in school, employment status, past engagement with a QMHP, and current engagement with a QMHP. To perform these analyses, variables that were nominal, such as gender identity and racial identity, were recoded to binary and examined for differences across groups using one-way ANOVA. Forty-nine participants had been randomly assigned to condition one, 49

participants had been randomly assigned to condition two, and 52 participants had been randomly assigned to condition three. The mean ages for each condition were 24.12 (4.21), 23.90 (4.72), and 23.67 (3.63) respectively. Age did not significantly differ across conditions, $F(2, 147) = .144, p = .866$. The three conditions were comprised of a majority of White/Caucasian participants with each condition containing 26.5%, 32.7%, and 36.5% participants with a Non-White racial identity, respectively. These proportions did not significantly differ across conditions, $F(2, 147) = .581, p = .561$. With respect to gender identity, while one condition did contain a participant who identified as Non-Binary, no conditions were significantly different from one another, $F(2, 146) = .369, p = .692$. The majority of participants in each condition were enrolled in their college or university full-time (79.6%, 81.6%, 78.9%; $F(2, 147) = .064, p = .938$) and either a Junior or Senior in standing (76.2%, 71.8%, 66.7%; $F(2, 120) = .461, p = .632$). A total of 27 participants reported their standing as Graduate Student. No one condition possessed a significant proportion of these individuals, $F(2, 147) = .347, p = .708$. Across conditions, 89.9%, 75.5%, and 82.7% of participants were employed at least part-time, $F(2, 147) = 1.751, p = .177$. While all three conditions contained participants who had engaged in previous treatment with a QMHP and/or were presently engaged in treatment with a QMHP, the distribution of these individuals did not significantly differ across conditions, $F(2, 147) = 1.464, p = .235$ and $F(2, 147) = 1.563, p = .213$.

While none of the conditions differed significantly with respect to the examined demographic characteristics, the groups did differ significantly with respect to the impact of the vignette. The main effect of whether or not the subject of the vignette (Jordan) was depressed was significant across groups, $F(2, 146) = 3.374, p = .037$. Post-hoc testing was conducted to determine the most significant difference between the groups. Due to the limited sample size of

the conditions, with two conditions containing fewer than 50 participants, and unequal variance among conditions as evidenced by Levene's test, $F(2, 146) = 14.762, p < .001$, a Dunnett T3 test was performed. The resulting pair-wise comparisons revealed that 16.2% ($p = .044$) fewer participants in the second condition considered Jordan to be depressed as compared to participants in condition one. While a difference of 10.8% existed between participants in condition two as compared with participants in condition three, this difference, like the difference between condition one and condition three ($p = .630$), was non-significant ($p = .348$). For those participants who did consider Jordan to be depressed, the rated severity of that depression was not significantly different across conditions, $F(2, 129) = 2.238, p = .111$.

Model Creation

Path analysis was implemented to address Hypothesis three through Hypothesis 13. To properly evaluate these possibilities, a path model based upon *a priori* assumptions of construct relationships was created, which incorporated all of the observed variables in the study. The decision to seek mental health treatment was represented by an individual's self-reported likelihood of engaging with a QMHP. Hope was modeled to predict self-stigma, situation specific utilization of intuition, situation specific utilization of rationality, cognitive flexibility, psychological flexibility, and an individual's decision to seek mental health treatment as indicated by their reported likelihood of engaging with a QMHP. Self-stigma was modeled as a predictor of situation specific utilization of intuition, situation specific utilization of rationality, and the decision to seek mental health treatment. Both cognitive flexibility and psychological flexibility were modeled to predict each of the five facets of distress intolerance, which were modeled as predictors of the decision to seek mental health treatment. Situation specific rationality and situation specific intuition were modeled to predict the decision to seek mental

health treatment and were predicted by associated dispositional measures of rationality and intuition in addition to the aforementioned predictors.

A priori determinants of model fit were selected per standards reviewed by Brown (2015), Hooper, Coughlan, and Mullen (2008), and Hu and Bentler (1999). SRMR and χ^2 were evaluated as determinants of absolute fit. RMSEA was evaluated as a determinant of parsimony correction. Comparative fit was examined with CFI. Perfect fit of a model would be recognized through a non-significant result of the χ^2 test. Excellent model fit would be evidenced by an SRMR below .06, RMSEA below .05, and a CFI equal to or above .960. An SRMR above .06 but below .08 in combination with an RMSEA at or below .08 and/or a CFI equal to or above .950 would evidence good model fit. Acceptable model fit would be indicated by an SRMR below .09 but above .08, RMSEA below 1.0, and a CFI above .900. Poor model fit was defined by fit indices outside of these defined parameters, resulting in the rejection of the model. The initial iteration of the path model to address Hypotheses 3 through 13 displayed poor fit ($\chi^2(49) = 189.547, p < .001, CFI = .783, RMSEA = .138 (.120 - .157), SRMR = .103$). Modification indices were reviewed per the guidelines established by Brown for exploring localized areas of model strain, and those associated with a scaled expected χ^2 change values higher than 3.84 were considered significant for model fit improvement. Modifications below this threshold were not implemented. Modifications to predictive relationships were considered in context of conceptual and theoretical information and literature. When models were nested, change in $\chi^2 (\Delta 2LL)$ was tested for significance using an ANOVA proxy.

The first modification was the modeling of a predictive relationship between dispositional rationality and cognitive flexibility. Model fit was improved but remained poor ($\chi^2(48) = 152.337, p < .001, CFI = .839, RMSEA = .120 (.102 - .140), SRMR = .095$). The

second modification was to model the residual covariance between psychological flexibility and situational intuition. Despite the significant improvement in model fit ($\Delta-2LL = 18.152, p < .001$), fit remained poor ($\chi^2(47) = 134.478, p < .001$, CFI = .865, RMSEA = .111 (.092 - .131), SRMR = .082). Next, the residual covariance between the physical discomfort facet of distress intolerance and self-stigma was modeled. While model fit was significantly improved ($\Delta-2LL = 11.814, p < .001$), poor model fit was evidenced ($\chi^2(46) = 125.916, p < .001$, CFI = .877, RMSEA = .108 (.088 - .128), SRMR = .082). A residual covariance between cognitive flexibility and situational rationality was then modeled improving model fit significantly ($\Delta-2LL = 4.457, p = .035$). The model still displayed poor fit ($\chi^2(45) = 120.676, p < .001$, CFI = .883, RMSEA = .106 (.086 - .126), SRMR = .081).

The sixth modification modeled a predictive relationship between dispositional rationality and the ambiguity facet of distress intolerance. This model displayed adequate fit ($\chi^2(44) = 101.497, p < .001$, CFI = .911, RMSEA = .093 (.072 - .115), SRMR = .080). Modifications were examined, and meaningful alterations remained. The next model, which accounted for the residual covariance between situational rationality and the uncertainty facet of distress intolerance, showed significant improvement in model fit ($\Delta-2LL = 7.185, p = .007$) and displayed adequate fit ($\chi^2(43) = 95.813, p < .001$, CFI = .919, RMSEA = .090 (.069 - .112), SRMR = .079). Next the residual covariance between situational rationality and the negative emotion facet of distress intolerance was modeled. This significantly improved model fit ($\Delta-2LL = 5.836, p = .016$) and displayed adequate fit ($\chi^2(42) = 90.801, p < .001$, CFI = .925, RMSEA = .088 (.066 - .110), SRMR = .078). A final predictive relationship was modeled between cognitive flexibility and self-stigma. This resulting model evidenced good fit (see Figure 1; $\chi^2(41) = 80.010, p < .001$, CFI = .940, RMSEA = .080 (.056 - .103), SRMR = .069).

Study Hypotheses

H1. It was hypothesized that the decision to seek mental health treatment would not display the phenomenon of relativity. This was explored using a χ^2 test to examine the frequency with which participants endorsed the various courses of action with which they were presented following the presentation of the vignette. In the second study condition, participants were provided a choice between avoidance (“Intentionally engage more with free activities such as working longer hours, exercising more, spending time with friends, or others that are meant to bring pleasure. I know that these activities might provide me with temporary relief and may not offer long-term benefits to my concerns.”) and seeking treatment (“Intentionally engage with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist), free of charge. I know that this activity might provide me with temporary relief and may not offer long-term benefits to my concerns.”).

Predicted disconfirmation of relativity necessitated the selection frequency of each option in the second condition to significantly differ. The result of the χ^2 test was non-significant, $\chi^2(2) = 3.038, p = .219$. In the third condition, a third option was included, which was designed to be a less advantageous version of the option to seek treatment in that the person with whom the participant would engage would not have formal therapy training (“Intentionally engage with a confidante without formal therapy training (i.e., close friend, family member, significant other, religious figure), free of charge. I know that this activity might provide me with temporary relief and may not offer long-term benefits to my concerns.”). Disconfirmation of relativity would have necessitated the frequency of each option to non-significantly differ. The result of the χ^2 test was non-significant, $\chi^2(2) = 3.038, p = .219$. However, there was an observable trend in the data

wherein the residual in avoidance decreased from 1.5 to -4.3 and the residual in seeking treatment increased from -1.5 to 5.7. This hypothesis was thus partially supported.

H2. It was hypothesized that as participants were presented with more options with which to engage, their likelihood of engaging with a QMHP would significantly decline. The first condition contained no stated options, while conditions two and three retained the options stated in the previous hypothesis. To test this, a one-way ANOVA was run to examine the self-reported likelihood of engaging a QMHP across conditions. The main effect across conditions was found to be non-significant, $F(2, 146) = 2.279, p = .106$; however, there was an observed drop-off between the mean of the first condition, $M = 5.25 (1.42)$, and both condition two, $M = 4.55 (1.95)$, and condition three, $M = 4.73 (1.61)$.

To explore this difference, a post hoc contrast was performed to explore the difference between condition one and the combined means of conditions two and three. The t -test performed was done assuming unequal variances as indicated by Levene's test, $F(2, 146) = 3.223, p = .043$. At a critical value of $p = .05$, the resulting t value was significant, $t(112.513) = 2.240, p = .027$; however, this test was not determined *a priori* and was a secondary test of significance in the same analysis, therefore a Bonferroni correction was implemented to avoid Type I error. At the adjusted critical value of $p = .025$, the result of the contrast was non-significant. This hypothesis was not supported.

H3. The third hypothesis expected significantly negative relationships between each facet of distress intolerance and the decisions to seek mental health treatment as represented by a participant's self-reported likelihood of engaging a QMHP. The five facets represented on the Distress Intolerance Scale were uncertainty, ambiguity, frustration, physical discomfort, and negative emotion. To explore this hypothesis, the final path model was referenced and the

standardized beta weights between each of the five facets and the decision to seek mental health treatment were examined. The relationship between the intolerance of uncertainty and the decision to seek mental health treatment was non-significant, $\beta = .066, p = .474$, as was the relationship between the intolerance of ambiguity and the decision to seek mental health treatment, $\beta = -.121, p = .115$. Intolerance of frustration and intolerance of negative emotion also displayed non-significant relationships to seeking mental health treatment, $\beta = -.062, p = .534$; $\beta = .125, p = .280$. The intolerance of physical discomfort displayed a significant small-effect to the decision to seek mental health treatment, $\beta = .175, p = .027$. This hypothesis was not supported.

H4. With the fourth hypothesis, it was expected that the intolerance of uncertainty and the intolerance of ambiguity would each have a significantly negative relationships with the decision to seek mental health treatment defined in the same way as in hypothesis three. It also was expected that these negative relationships would be impactful above and beyond the combined effect of the intolerance of frustration (f), the intolerance of physical discomfort (p), and the intolerance of negative emotion (n). To test this, parameters were defined within the final path model to draw contrasts between standardized beta weights. First, a contrast was drawn between the effect of the intolerance of uncertainty on the decision to seek mental health treatment and the combined effect of f, p, and n on the decision to seek mental health treatment. These effects were not significantly different, $\beta_{diff} = -.172, p = .155$.

Second, a contrast was drawn between the effect of the intolerance of ambiguity on the decision to seek mental health treatment and the combined effect of f, p, and n on the decision to seek mental health treatment. These effects were significantly different, $\beta_{diff} = -.359, p = .001$. This indicated that the combined effect of frustration, physical discomfort, and negative emotion,

$\beta = .238, p = .005$, was more impactful than the effect of ambiguity, $\beta = -.121, p = .115$. The combined effect of the intolerance of uncertainty and the intolerance of ambiguity on the decision to seek mental health treatment also was contrasted with the combined effect of f, p , and n on the decision to seek mental health treatment. These effects were significantly different, $\beta_{diff} = -.293, p = .045$, favoring the combined effect of frustration, physical discomfort, and negative emotion over the combined effect of uncertainty and ambiguity, $\beta = -.055, p = .545$. This hypothesis was not supported.

H5. It was hypothesized that self-stigma would display a significantly negative relationship with situational rationality, situational intuition, and the decision to seek mental health treatment as defined in hypothesis three. To examine this hypothesis, the standardized beta weights from the final path model were referenced. In particular, the standardized beta weights for the relationships of self-stigma to each of the constructs of interest were noted. Self-stigma did not display a significant relationship to either situational rationality, $\beta = -.131, p = .188$, or situational intuition, $\beta = .171, p = .077$. The relationship between self-stigma and the decision to seek mental health treatment was significant, $\beta = -.494, p < .001$. This hypothesis was partially supported.

H6. The sixth hypothesis anticipated a significant negative relationship between hope and self-stigma. To explore this hypothesis, the standardized beta weight for the relationship between hope and self-stigma from the final path model was referenced. Prior to the inclusion of cognitive flexibility as a predictor of self-stigma, the relationship between hope and self-stigma was significant; however, upon inclusion of cognitive flexibility as a predictor of self-stigma in the final model, hope displayed a non-significant negative relationship with self-stigma, $\beta = -.084, p = .480$. This hypothesis was not supported.

H7. The seventh hypothesis predicted a significant positive relationship between hope and both cognitive flexibility and psychological flexibility. Standardized beta weights from the final path model were examined to explore this hypothesis. Hope displayed a significant positive relationship to cognitive flexibility, $\beta = .433, p < .001$, and a significant positive relationship to psychological flexibility, $\beta = .610, p < .001$. This hypothesis was supported.

H8. With the eighth hypothesis, it was expected that hope would display a significantly positive relationship with both situational rationality and situational intuition. The final path model was referenced to evaluate the standardized beta weights for the relationships between hope and situational rationality and hope and situational intuition. The relationship between hope and situational rationality was significantly positive, $\beta = .311, p = .001$. Hope displayed a non-significant negative relationship to situational intuition, $\beta = -.127, p = .192$. This hypothesis was partially supported.

H9. It was hypothesized that hope would display a significantly positive relationship with the decision to seek mental health treatment as defined in hypothesis three. The standardized beta weight for the relationship between hope and the decision to seek mental health treatment from the final path model was referenced. Hope displayed a non-significant positive relationship to the decision to seek mental health treatment, $\beta = .010, p = .912$. This hypothesis was partially supported.

H10. With the tenth hypothesis, it was expected that situational rationality and situational intuition would not significantly differ in their effects on the decision to seek mental health treatment as defined in hypothesis three. The final path model was referenced to test this hypothesis. A contrast was drawn with the standardized beta weight for the relationship between situational rationality and the decision to seek mental health treatment and with the standardized

beta weight for the relationship between situational intuition and the decision to seek mental health treatment. The difference between these relationships was non-significant, $\beta_{diff} = .070, p = .430$. It should be noted that neither the relationship between situational rationality and the decision to seek mental health treatment, $\beta = .097, p = .252$, nor the relationship between situational intuition and the decision to seek mental health treatment, $\beta = .027, p = .730$, was significant. This hypothesis was partially supported.

H11. It was hypothesized that situational rationality and situational intuition would be significantly more influenced by the combined effects of hope and self-stigma than by dispositional rationality or dispositional intuition respectively. To test this hypothesis, the standardized beta weights in the final path model were referenced. Using these beta weights, a contrast was first drawn between the combined effect of hope and self-stigma on situational rationality and the effect of dispositional rationality on situational rationality. The relationship between these effects was non-significant, $\beta_{diff} = .012, p = .936$. Next, a contrast was drawn between the combined effect of hope and self-stigma on situational intuition and the effect of dispositional intuition on situational intuition. The relationship between these effects was non-significant, $\beta_{diff} = -.460, p = .082$. It should be noted that situational rationality and situational intuition were both significantly impacted by their associated dispositional domains, $\beta = .168, p = .028$; $\beta = .505, p < .001$. While dispositional intuition was the only significant predictor of situational intuition, both hope, $\beta = .311, p < .001$, and dispositional rationality, $\beta = .168, p = .028$ contributed to situational rationality and not at significantly different rates, $\beta_{diff} = .143, p = .167$. This hypothesis was not supported.

H12. In hypothesis twelve, it was predicted that both psychological flexibility and cognitive flexibility would display significantly negative relationships to each of the five facets

of distress intolerance. Standardized beta weights from the final path model were analyzed to explore these relationships. Psychological flexibility displayed a significant negative relationship with the intolerance of uncertainty, $\beta = -.534, p < .001$, intolerance of frustration, $\beta = -.628, p < .001$, intolerance of physical discomfort, $\beta = -.312, p = .015$, and intolerance of negative emotion, $\beta = -.705, p < .001$. Unexpectedly, psychological flexibility displayed a significant positive relationship with the intolerance of ambiguity, $\beta = .366, p < .001$. Cognitive flexibility displayed a significantly negative relationship with the intolerance of ambiguity, $\beta = -.265, p = .011$, and a significantly positive relationship with the intolerance of frustration, $\beta = .184, p = .048$. Significant relationships were not found between cognitive flexibility and the intolerance of uncertainty, $\beta = -.113, p = .202$, the intolerance of physical discomfort, $\beta = -.052, p = .628$, or the intolerance of negative emotion, $\beta = -.009, p = .895$. This hypothesis was partially supported.

H13. In the thirteenth and final hypothesis, it was predicted that psychological flexibility and cognitive flexibility would not significantly differ in their relationships to each of the five facets of distress intolerance. To explore this hypothesis, the associated standardized beta weights from the final path model were referenced. Contrasts were drawn between the standardized beta weight for psychological flexibility and the standardized beta weight for cognitive flexibility with respect to the intolerance of uncertainty, $\beta_{diff} = -.421, p = .001$, the intolerance of ambiguity, $\beta_{diff} = .630, p < .001$, the intolerance of frustration, $\beta_{diff} = -.812, p < .001$, the intolerance of physical discomfort, $\beta_{diff} = -.260, p = .135$, and the intolerance of negative emotion, $\beta_{diff} = -.696, p < .001$. In all of the significant contrasts, psychological flexibility was a more significant predictor than was cognitive flexibility. This hypothesis was partially supported.

Mediations

Self-Stigma. In the final path model, possible mediations existed between self-stigma and the decision to seek mental health treatment via situational rationality and situational intuition. Parameters were defined within the final path model to allow for the evaluation of these relationships. The overall indirect effect of self-stigma on the decision to seek mental health treatment was non-significant, $\beta = -.008, p = .676$. Despite the non-significance of the overall indirect effect, the total mediation effect of self-stigma on the decision to seek mental health treatment was significant, $\beta = -.503, p < .001$. In an attempt to explore this mediation further, each mediator was individually examined.

The indirect effect of self-stigma on the decision to seek mental health treatment was not significantly mediated by situational rationality, as evidenced by a non-significant indirect effect, $\beta = -.013, p = .447$. Despite the non-significance of the indirect effect, the total mediation effect of self-stigma on the decision to seek mental health treatment via situational rationality was significant, $\beta = -.507, p < .001$. The indirect effect of self-stigma on the decision to seek mental health treatment was not significantly mediated by situational intuition, $\beta = .005, p = .735$. The total effect of self-stigma on the decision to seek mental health treatment as mediated by situational intuition, however, was significant, $\beta = -.490, p < .001$. Provided the results of the exploration of the role of each mediator, the significance found with respect to the total effects indicated the magnitude and significance of the relationship between self-stigma and the decision to seek mental health treatment, $\beta = -.494, p < .001$, rather than the significant effect of intuition or rationality as mediators. It is worth noting that self-stigma explained 27% of the variance in the decision to seek mental health treatment, $r^2 = .270$.

Hope. Several possible mediations presented in the final model for the relationship between hope and the decision to seek mental health treatment. Possible mediators included

situational rationality, situational intuition, and self-stigma. Defined parameters within the final model allowed for the exploration of these relationships. Overall, the total effect of the relationship of hope to the decision to seek mental health treatment was non-significant, $\beta = .078$, $p = .463$. Overall, the total indirect effect of hope on the decision to seek mental health treatment as mediated by situational rationality, situational intuition, and self-stigma was non-significant, $\beta = .068$, $p = .311$. Exploration of the indirect effect per each individual mediator yielded no significant results with respect to situational rationality, $\beta = .030$, $p = .286$, situational intuition, $\beta = -.003$, $p = .731$, or self-stigma, $\beta = .486$, $p = .041$. In combination with a non-significant direct effect between hope and the decision to seek mental health treatment, $\beta = .010$, $p = .912$, none of the indirect effects yielded significant total effects, $\beta = .040$, $p = .625$; $\beta = .007$, $p = .943$; $\beta = .051$, $p = .642$.

The final path model also contained possible mediations between hope and situational rationality, situational intuition, and self-stigma. Defined parameters within the final model allowed for the exploration of these relationships. The total effect of hope on situational intuition as mediated by self-stigma was non-significant, $\beta = -.141$, $p = .145$. Upon exploration of the indirect effect of hope on situational intuition via self-stigma, $\beta = -.014$, $p = .482$, it was determined that self-stigma was not a significant mediator of the relationship between hope and situational intuition. The total effect of hope on situational rationality as mediated by self-stigma, however, was significant, $\beta = .322$, $p = .001$. This significant total effect was present despite a non-significant indirect effect of hope on situational rationality as mediated by self-stigma, $\beta = .011$, $p = .485$. Similar to what was found in self-stigma, the significance of the direct effect of hope on situational rationality as mediated by self-stigma is due to the significance and magnitude of the relationship between hope and situational rationality, rather than the mediating

effect of self-stigma. It should be noted that hope explained 22% of the variance in situational rationality ($r^2 = .220$). The modeling of cognitive flexibility as a predictor of self-stigma created a mediation between hope and self-stigma via cognitive flexibility. The total effect of this relationship was significant, $\beta = -.258, p = .006$, as was the indirect effect, $\beta = -.174, p = .002$. The results of these analyses, in combination with a significant reduction in the relationship between hope and self-stigma upon the inclusion of cognitive flexibility into the final model, indicated that cognitive flexibility is a full mediator of the relationship between hope and self-stigma.

Discussion

Though many of the hypotheses of this study were not supported, each provided information critical to understanding the interplay of self-stigma, hope, and the decision to seek mental health treatment. Beyond the confines of this study, information illuminated by the findings suggests important findings for current theory and past research. Some inferences can be made about the practical application of the dynamics studied, as well as provide guidance and suggestions for future research with respect to theoretical assertions and the way in which the constructs within this study could be observed in the future. This study, like any other, is not without its weaknesses and still evidences insights that could help to shape the way in which self-stigma and the decision to seek mental health treatment is addressed in theory and in practice. Before the primary findings of the study can be addressed, however, three significant model modifications to predictive relationships need to be contextualized.

Relationship Justifications

The first predictive relationship was dispositional rationality as a predictor of cognitive flexibility. To contextualize this relationship as more than an artifact of the data, the core

elements of each construct are examined. Rationality is an effortful cognitive process centered around careful, controlled, cognitive analysis (Ariely & Norton, 2010; Epstein, 2003; Kahneman, 2003). Per the items of the Rational-Experiential Inventory, the primary measure to quantify the rational and experiential (intuitive) dynamics of Cognitive-Experiential Self-Theory, rationality can manifest as a preference for complex situations and critical thought and evaluation of complex problems (Pacini & Epstein, 1999). Cognitive flexibility refers to the ability to transition cognitive set, thought, or attention in order to perceive, process, or respond to situations in different ways (Eslinger & Grattam, 1993). As reflected in the items of the Cognitive Flexibility Inventory, it manifests as the perception of being in control, considering multiple perspectives, solving difficult problems, and careful, systematic consideration of information and alternative decisions (Dennis & Vander Wal, 2010). Additionally, cognitive flexibility has been observed as a critical component in the decision-making process, having an impact in the dynamic between rationality and intuition (Laureiro-Martinez & Brusoni, 2018). Provided these elements of theory and research, the modeled relationship represents a quantitative test of theory rooted in conceptual similarities and the demonstrated integral dynamic among these characteristics.

A second predictive relationship was modeled that held dispositional rationality as a predictor of the intolerance of ambiguity. Again, referencing the Rational-Experiential Inventory, the primary measure to quantify the rational and experiential (intuitive) dynamics of Cognitive-Experiential Self-Theory, rationality is characterized by a preference for complex situations, critical and systematic thought, abstract thought, learning new ways of thinking, and intellectual challenges (Pacini & Epstein, 1999). Relatedly, intolerance of ambiguity is recognized as an inability to tolerate complicated (i.e., making complex decisions or needing to implement

thorough and systematic thought), foreign (i.e., learning a new way of thinking), or vague (i.e., the necessity of information abstraction) situations (Furnham & Ribchester, 1995). Provided the way in which the characteristics are defined and conceptualized, the modeled relationship represents a theory-based, quantitative test of the relationship between the two constructs.

The final predictive relationship factored into the model was the influence of cognitive flexibility on self-stigma. As stated previously, cognitive flexibility is the way in which people can shift their thought process or attention to understand, process, or respond to a variety of situations (Eslinger & Grattam, 1993). Individuals with lower levels of cognitive flexibility tend to respond in more rigid and less adaptive ways to problematic beliefs and behaviors (Silberstein, et al., 2012; Yakhnich & Ben-Zur, 2008). Furthermore, individuals with greater cognitive flexibility are more likely to appraise a situation as a growth opportunity rather than a threat or loss, particularly when these situations are complex or unpredictable (Yakhnich & Ben-Zur, 2008). Self-stigma is the internalization of public-stigma of mental health wherein individuals begin to experience a negative impact on their self-concept and image as a result of their beliefs about mental health concerns. According to the items on the Self-Stigma of Seeking Help Scale, self-stigma manifests as a feeling of inadequacy, inferiority, and feeling worse about oneself. This resulting diminished self-concept would meet the conditions for a loss appraisal (see Folkman & Lazarus, 1985). Cognitive flexibility has demonstrated its importance in allowing for the recognition and integration of alternative information into the decision-making process (Laureiro-Martinez & Brusoni, 2018), as well as the appraisal of a situation as a growth opportunity rather than a threat or a loss. Perhaps it can allow people to refocus away from their attention on their diminished self-concept as a result of facing mental health challenges or seeking mental health treatment to the potential for growth and recovery as a result of seeking

help, as they consider the decision to seek mental health treatment. Provided these links, the modeled relationship offers a theory-based, quantitative analysis of the relationships among these critical characteristics.

Primary Findings

The decision to seek mental health treatment. The first hypothesis predicted that the phenomenon of relativity as described by Ariely (2010) would not be replicated. In condition two of the present study, the choice to engage in pleasurable activities free of charge without the promise of immediate or long-term improvement (A_1 ; avoid) was juxtaposed with an equivalent choice to engage with a qualified mental health professional free of charge without the promise of immediate or long-term improvement (B_1 ; engage mental health treatment). If relativity were expressed in this dynamic, it would be expected that the rate at which the two options were endorsed would not significantly differ from one another, as when given the choice between an all-expenses paid trip to Rome (A_2) or an all-expenses paid trip to Paris (B_2), each is selected at an equal rate. In condition two of the study, consistent with relativity, the option to avoid (A_1) was endorsed at an equivalent rate to the choice to engage mental health treatment (B_1).

Condition three presented three options to further test the potential impact of relativity. The options from the second study condition were retained. An additional option allowed participants to choose to engage with a trusted confidante, without formal mental health training, free of charge without the promise of immediate or long-term improvement (B_{1-}). This option was the equivalent of introducing an all-expenses paid trip to Paris with the exception of breakfast. (B_{2-}). Relativity would predict a significant disparity between the decision to engage with mental health treatment and the decision to avoid as the decision comparison would primarily be made between the two most closely related items, B_1 and B_{1-} . Thus, despite some

evidence for relativity, the phenomenon was not fully observed. This could mean that the decision to engage with mental health treatment is free from relativity. In this particular decision, more information is taken into account than that which is immediately relevant to the decision and its anticipated outcomes; however, provided the observed shift in levels of option endorsement between condition two and condition three, this is a supposition which warrants further investigation before more definitive conclusions can be drawn.

Related to the results of the first hypothesis, the second hypothesis predicted that as people are provided with more options other than treatment with a qualified mental health professional, they would become less likely to engage in mental health treatment. As this hypothesis was not supported, it may indicate that the treatment of mental health disorders is viewed as acceptable, somewhat independent of mental health stigma (Pescosolido et al., 2010). People may choose to avoid engagement with qualified mental health professionals so as to avoid the self-stigma which may accompany such a decision, and the average person may be more open to the idea of treatment as an option should they find themselves in a place where they deem it necessary. Furthermore, the non-significant finding may provide support for Golberstein, Eisenberg, and Gollust (2008) in that attitudes toward seeking treatment are not necessarily predictive of treatment seeking behaviors. The result of this hypothesis, particularly as it relates to the observed trend that was tested post hoc wherein participants provided with no options appeared to rate themselves at a higher likelihood of engaging with mental health treatment as compared to those who were provided options, necessitates further study.

The eighth study hypothesis was partially supported. It was expected that hope would foster a balanced approach to decision making. Instead, it was found that hope was critical in generating a rational perspective in the decision-making process. Thus, the more hopeful a

person is, the more they will attempt to engage in a systematic, rule-based, comprehensive review of all options present in a decision. This increased utilization of rational processes could complicate a person's ability to make an effective decision for him or herself (Ariely & Norton, 2010; Dijksterhuis & van Olden, 2006). This complication could be exacerbated by the fact that hope does not act as a counter-weight in positively influencing intuitive processes. This lends support for the label of hope as a cognitive theory (Snyder, 2002).

While hope may increase a rational perspective within the dynamic of a decision-making event, it does not necessarily certify that the perspective will be applied to a decision in a significant way. The tenth hypothesis expected that the decision to seek mental health treatment would benefit from a balanced utilization of rational and intuitive processes. The partial support found for this hypothesis indicates that, while rational and intuitive processes equally contribute to the decision to seek mental health treatment, these contributions are not the primary influence on such a decision. Thus, the decision to seek mental health treatment could be an adaptive decision, however, it is likely one born of necessity and urgent need (Frank & Frank, 1993) rather than one derived through education and engagement around the various dynamics of the decision's implications and impacts.

Other possible sources of influence on the decision-making process, as examined by the eleventh hypothesis, include a person's long-standing tendency to use rational or intuitive processes, as well as the combined influence of hope and self-stigma. It was found that the most important observed contributor to the use of rationality or intuition, as it relates to the decision to seek mental health treatment, is an individual's long-standing utilization of rationality or intuition. For instance, if an individual has always used rational processes throughout his or her life when faced with any decision, then that behavior is more likely to encourage his or her use

of rationality in a decision-making event centered around seeking mental health treatment. Similarly, a person's life-long utilization of intuition is the greatest observed predictor of intuition with respect to the decision to seek mental health treatment. These influences appear to transcend the influence of situation specific information such as mental health self-stigma. This diminished influence of decision relevant information on the decision-making process is in contrast with what has been observed in other decision-making events (Ariely, 2010; Kahneman, 2003) and consistent with the assertion that past behavior is the best predictor of future behavior (Ouellette & Wood, 1998).

Hope and self-stigma. The anticipated influence of hope on the decision to seek mental health treatment is most directly addressed in hypothesis nine. This hypothesis was not supported. It was expected that hope would significantly increase a person's likelihood of seeking mental health treatment. This is not what was observed, at least not as a direct relationship. Instead, while it is possible that a person's level of hope would provide a small amount of encouragement for the person to seek mental health treatment, this relationship cannot be stated with confidence. Ultimately the relationship displayed in this study is not meaningful. Additionally, this relationship is not better explained by any mediating factor such as self-stigma, rationality, or intuition. An important direct association with the decision to seek mental health treatment is self-stigma.

The fifth study hypothesis explored the relationship of self-stigma both on the decision to seek mental health treatment as well as the rational and intuitive decision-making processes utilized to arrive at such a conclusion. This hypothesis only garnered partial support. Self-stigma did not display a meaningful relationship to either rational or intuitive processes in the decision to seek mental health treatment. As with hope, there was no significant mediating relationship

with rationality or intuition. There does exist a significant relationship between a person's internalized mental health stigma and their decision to seek mental health treatment. This relationship might seem intuitive, as it is consistent with previous research (Eisenberg et al., 2009; Vogel et al., 2017). Noteworthy, however, is not that the relationship exists but rather the magnitude of the relationship that exists. Self-stigma alone explains just over a quarter of a person's rationale behind their decision to seek mental health treatment.

Addressed by hypothesis 6 is whether or not hope could offer some preventative factor against self-stigma. The relationship between hope and self-stigma is not meaningful. In combination with the relationship between hope and cognitive flexibility and the relationship between cognitive flexibility and self-stigma, however, hope has a much more important role to play. It was determined that the relationship between hope and self-stigma was fully explained by cognitive flexibility. Cognitive flexibility is the mechanism through which hope operates to reduce the intensity of self-stigma a person experiences. Increased hope is associated with increased cognitive flexibility, which relates to the ability to consider alternative perspectives and integrate new information (Laureiro-Martinez & Brusoni, 2018). This ability to see information from an alternative perspective may then decrease the rigid response of appraising an opportunity for growth as a threat, or in the case of self-stigma, as a loss (MacDonald et al., 2015; Yakhnich & Ben-Zur, 2008).

Distress intolerance and flexibility. The third hypothesis explored the assertion that a person's intolerance of distress would dissuade them from engaging in mental health treatment. This assertion was dependent upon the observation that people do not accurately predict their reactions to and experiences in situations, even with the benefit of past related experience (Meyvis et al., 2010). Thus, when faced with the options to engage with therapy, particularly if

the situation is recognized as uncertain or ambiguous (Yakhnich & Ben-Zur, 2008), an individual who does not tolerate those circumstances well would be less likely to engage in that situation. This hypothesis was not supported. While a person's intolerance of complicated, vague, or foreign stimuli (ambiguity; Furnham & Ribchester, 1995) or their intolerance of being aggravated or prevented from accomplishing their goals (frustration; Leyro et al., 2010) could discourage them from engaging in mental health treatment to some degree, these are not observed to be meaningful or likely influences in the decision.

Unexpectedly, an individual's inability to tolerate the prospect of future situations that are uncertain (uncertainty; Buhr & Dugas, 2002), as well as an individual's inability to tolerate internal or emotional distress (negative emotion; Simons & Gaher, 2005), could encourage engagement with mental health treatment. These influences, much like the influences of the intolerance of ambiguity and the intolerance of frustration, were not observed to be a meaningful or likely influence. What is, initially, most surprising is the encouragement to seek mental health treatment demonstrated by the intolerance of experiencing physical discomfort or pain (physical discomfort; Schmidt et al., 2009). Upon further reflection, mental health symptoms can manifest with physical symptoms. With respect to depression, this is most commonly observed through fatigue and the loss of appetite (American Psychiatric Association (APA), 2013; Wittenborn & Buhler, 1979). Therefore, if a person is not able to withstand physical discomfort, then it stands to reason that the experience of such would encourage them to seek treatment. Provided this, it is unsurprising that the influence of uncertainty, the influence of ambiguity, and the combined influence of uncertainty and ambiguity were not more important than the combined influence of physical discomfort, negative emotion, and frustration with respect to the decision to seek mental health treatment, as was examined in the fourth hypothesis.

It was predicted in the twelfth hypothesis that both cognitive flexibility and psychological flexibility would display negative relationships with each facet of distress intolerance, as greater flexibility is associated with more adaptive responses (Silberstein et al., 2012; Yakhnich & Ben-Zur, 2008). Upon examination, this hypothesis is only partially supported. Psychological flexibility does have a universal impact on an individual's ability to tolerate distress. As a person's psychological flexibility is fostered, the individual can better tolerate uncertainty, frustration, physical discomfort, and negative emotions. Noteworthy is that, as a person increases his or her psychological flexibility, he or she may be decreasing their ability to tolerate ambiguity. Cognitive flexibility by contrast had only two meaningful relationships with distress tolerance. Specifically, more cognitive flexibility was associated with an individual's ability to tolerate ambiguity. This relationship is observed again in a person's ability to tolerate frustration. This time, cognitive flexibility dictates a significant decrease in a person's ability to tolerate being aggravated or hindered in their goal pursuits, while psychological flexibility better equips a person to tolerate such an experience.

In order to better understand cognitive flexibility and psychological flexibility as related but separate characteristics of the same overarching influence (Whiting et al., 2015), each of their relationships with distress intolerance were examined by the thirteenth hypothesis. In each dynamic of distress intolerance, psychological flexibility displayed a larger influence than did cognitive flexibility. This was true of each dynamic except for the tolerance of physical discomfort wherein the ability to consider alternative perspectives held the same degree of influence as the ability to engage mindfulness and engage change behaviors. While the hypothesis that both iterations of flexibility are part of an overarching construct of flexibility may not have been supported per the parameters of this study, it can be reasonably concluded

that by increasing cognitive flexibility and psychological flexibility, a person would, in general, increase their ability to tolerate distress.

Influence over cognitive flexibility and psychological flexibility was addressed in hypothesis seven. As hope increases for people, so too does their ability to see themselves as having some degree of control over a situation and to think of alternative perspectives for a given situation or decision (cognitive flexibility), as well as their ability to engage in behavior change and mindfulness (psychological flexibility). Both cognitive flexibility and psychological flexibility deal with thought processes, and so it may be expected that a cognitive characteristic, such as hope, would increase the prevalence of two other cognitive dynamics. In so doing, a person's ability to make adaptive decisions and engage in less avoidance may be increased (Whiting et al., 2015; Yakhnich & Ben-Zur, 2008).

Implications for Existing Theory

While inconclusive in the present study, the influence or lack of influence by relativity has important implications for research, both with respect to relativity and to how people decide to pursue or avoid mental health treatment. If relativity ultimately is not replicated, then it would alter the understanding of how unconscious influences impact the decision-making process. Importantly, it would provide support for the notion that a person will often choose to engage a known negative outcome rather than engage an uncertain alternative (see Dugas, Buhr, & Ladouceur, 2004). This influence of a known negative outcome would seemingly be independent of the influence of the way in which a decision is framed. If relativity eventually is observed, it would emphasize the importance of how decisions are framed (see Ariely, 2010), particularly the decision to seek mental health treatment. Another potential implication, under the parameters of the current design, is the implication for access to services.

The partial observation of relativity was under the condition that treatment with a QMHP was free of charge in order to remain commensurate with engaging in a trusted confidante, such as a friend, and engaging in pleasurable activities. Research has shown that people are more inclined to make decision that will allow them to avoid loss (Ariely et al., 2005; Viscusi & Chesson, 1999). Without the guarantee that mental health treatment can be helpful, the associated cost for services could be appraised as a threat, depending upon the prospective client's situation. If financial resources were expended under this threat appraisal and no discernable benefit is had from treatment, the subsequent decision to engage with mental health treatment could be appraised as loss.

Another inconclusive dynamic of this study concerns the potential decrease in the likelihood of seeking mental health treatment when the decision is made more complicated through the introduction of various options with which to engage. If a significant different in self-reported likelihood were observed, then it potentially indicates the decision to seek mental health treatment as one that benefits more from intuitive processes than from rational processes. This differential benefit would be consistent with existing literature, which suggests that intuitive processes may be more adept at handling complex decisions than are rational processes (Dane et al., 2012, Dijksterhuis, 2004; Dijksterhuis & van Olden, 2006). By engaging intuitive processes rather than carefully controlled rational narratives, people may be able to move from basing their decision on a narrative about what a person like them would do to considering more their need for treatment and their ultimate well-being, not unlike the difference between wanting and liking (Winkielman & Berridge, 2003).

Another possible implication for current theory and research is that the decision to seek mental health treatment may not function in the same way as other decisions individuals may

make throughout their lives. Framing of a decision is critical to the outcome (Ariely, 2010) and situation relevant information is generally what is explored in the decision-making process because of its availability (Kahneman, 2003). In this study, information directly relevant to seeking mental health treatment (mental health self-stigma) held no significant influence over the utilization of situational rationality or situational intuition. Instead, situational rationality and situational intuition were more informed by dispositional rationality and dispositional intuition.

Perhaps this observation is due to the context of the decision being made. Initial understandings derived from the study design implicated the topic of the decision to be the act of seeking mental health treatment. In this case, referenced information could reasonably include a person's attitude toward mental health and themselves in context of mental health. Upon review, it instead is possible that the decision was framed around some aspect of a person's internal self-concept or identity; therefore, in an attempt to remain consistent with their identities, participants chose to engage in behavior that was most like them and referenced material, consciously or otherwise, regarding their dispositional context.

Consistent with previous literature is the significance of self-stigma on the outcome of the decision to engage with mental health treatment. Other studies have suggested, and this study supports, the idea that a significant portion of the decision to avoid treatment is due to the internalization of stigma about mental health and seeking help for mental health concerns (Eisenberg et al., 2009; Vogel et al., 2013; Vogel et al., 2017). Perhaps this fact is what has led to the significant increase in the access of primary care or general physical health services as the first point of contact in treatment for depression (Bishop et al., 2016; Wang et al. 2006). Perhaps an individual's intolerance of physical discomfort leads them to seek mental health treatment

through a primary care setting as an appropriate venue for physical symptoms or as a less stigmatized setting for mental health concerns that have been somaticized (APA, 2013).

Both cognitive flexibility and psychological flexibility have been observed as being negatively impacted by the presence and intensity of mental health symptoms (Whiting et al., 2015). The present study demonstrated that hope may be a way by which both characteristics could be engendered as a way of counteracting the effects of mental health challenges.

Furthermore, Whiting and colleagues suggested that both cognitive flexibility and psychological flexibility, due to their conceptual overlap, could be facets of a higher-order factor of general flexibility. The present study, while not fully supporting this consideration as the study parameters were defined, did evidence a relationship between cognitive flexibility and psychological flexibility.

Implications for Practice and Future Research

Practice. The findings of this study have implications that transcend the understanding of current research and theoretical literature. For example, both cognitive flexibility and psychological flexibility can be significantly encumbered by mental health symptoms (Whiting, et al., 2015). The ability of hope to foster cognitive flexibility and psychological flexibility reinforces the call issued by Snyder (2002) to foster hope in those who seek treatment. By investing therapeutic intervention into the development of hope, clinicians may help to develop other characteristics critical to making adaptive decisions and engaging in behavioral change in their clients.

This indirect influence on cognitive flexibility and psychological flexibility may inadvertently deter treatment. Assume an individual's intolerance of physical discomfort spurred the decision to seek mental health treatment. An increase, particularly in psychological

flexibility, was related to an increased tolerance in physical discomfort. If the factors that contribute to the initiation of treatment are the same as those that sustain treatment engagement, then increasing a person's psychological flexibility by way of hope may lead to premature termination from services. To monitor for such an impact, careful examination of the therapeutic process and its effectiveness should be considered (Duncan, 2014).

At the same time, fostering cognitive flexibility could be an effective way to counter the effect of self-stigma on the decision to seek mental health treatment. Self-stigma was observed to have an impact nearly seven times greater than that of the intolerance of physical discomfort. Thus, if the factors that initiate treatment are the same that sustain treatment, clinicians could invest time in fostering cognitive flexibility either through the generation of hope or through cognitive-behavioral approaches (Dennis & Vander Wal, 2010). The findings also suggest that hope and cognitive flexibility could be meaningful targets for community intervention outside of the therapy office. By designing interventions to target self-stigma through the cultivation of meaningful and encouraging characteristics, more people who could benefit from treatment may choose to seek it out.

Research. The influence of relativity on the decision to seek mental health treatment deserves further study. A clearer understanding of this phenomenon in larger samples representative of college and other populations could have meaningful implications for the way in which mental health challenges and treatment are represented, discussed, covered, and encouraged. Beyond relativity, more research is needed to explore the impact of including additional options to the decision event. As has been indicated in past literature (Dijksterhuis & van Olden, 2006) the greater the degree to which a person consciously deliberates over their options, the greater their chance for lessened satisfaction. Research could examine observed

behavior to engage or avoid mental health treatment, and then note a person's satisfaction with his or her decision relative to the process she or he engaged to reach the decision.

If, as Dijksterhuis and van Olden (2006) suggest, a balance in rational and intuitive processes is the ideal for making complex decisions, then a counterweight to the effect of hope should be sought out. At this time, hope is observed as a strong influence of rational processes but not intuitive processes. In order to maintain a balance in process utilization, another trait could be identified to create a more well-rounded intervention program to facilitate the decision-making process. Furthermore, the relationship between hope and cognitive flexibility should be verified through replication in both related and disparate samples and settings. A relationship of that magnitude and with its implications deserves a deeper understanding than can be offered by the present study.

Finally, the final model utilized in this study should be replicated in an independent sample. In particular, if the post hoc predictive relationships were validated in a separate sample and/or setting, this would offer support for the generalizability of the modifications observed in the present study, with respect to the significant relationship between hope, cognitive flexibility, and self-stigma. In addition to replicating the relationships in a new sample and/or setting, other validated and reliable measures of these constructs should be utilized to explore whether or not these relationships are limited to the iterations of these constructs as defined by the measures used in this study or if the relationships transcend to the larger psychological constructs. It also would be important to note the differential functioning of the implemented model in context of participants' characteristics such as previous and current experiences with mental health treatment, gender-identity, as well as the nature of their selected course of action (i.e., avoidance, engaging a confidant, engaging a QMHP).

Study Limitations

As with any other study, there are limitations which limit the degree to which the current findings can be generalized. One such limitation is related to the sample utilized for study. While Amazon's Mechanical Turk service has been reviewed as a viable alternative to samples collected through university research pools (Behrend et al., 2011), there is no way to verify the veracity of respondents claims to meet the inclusion criteria. Another challenge specific to this sample is its size. Some critical observations narrowly missed classification of significance. It is possible that the sample did not provide adequate power to detect all of the meaningful effects and relationships within the broader analysis.

Another challenge present in this study is that of construct validity with respect to the instruments used. This was best observed in the model fit statistics for each of the measures implemented. In some cases, the dimensionality the measures were purported to display were not achievable without substantial modifications which are not part of the theoretical literature on the given constructs. Some instruments also presented threats to internal validity due to the limited reliability of some of subscales utilized in the study. With limited reliability, it is possible that two participants with the same dispositions could display significantly different results on the same items and subsequent subscale score.

Other challenges were design specific. These include the decision to use participant self-reported likelihood of engaging with a qualified mental health professional as a proxy for the decision to seek mental health treatment. In order to move observations beyond participant attitudes toward mental health treatment, a more definitive representation of the decision to engage in treatment could be utilized. While this study has the potential of implementing such an outcome through the decisions made by participants in study condition two and study condition

three, the exclusion of condition one would further decrease an already limited sample size by an additional 49 participants. Relatedly, the study could benefit from focusing on observed behavior. Rather than asking participants about their anticipated actions or likelihoods, framing the investigation around the participant's self-reported present engagement with therapy could provide a more robust and authentic representation of how the general population might experience and resolve the process of choosing to seek mental health treatment.

Summary

Mental health services are severely underutilized in the United States, and college campuses are no exception to this trend. There are a number of influences on a person's decision to seek out mental health treatment. One critical influence is that of mental health self-stigma. Self-stigma decreases the likelihood that a person will choose to seek mental health treatment. As such, it serves as a critical juncture for intervention. An avenue of influence that could be directly targeted by interventions is hope.

Hope demonstrates a significant influence over related constructs that can facilitate adaptive coping and less avoidance. In its relationship to cognitive flexibility specifically, hope can serve as a meaningful point of intervention to challenge self-stigma in an indirect manner. The relationship between cognitive flexibility and self-stigma is significant enough to warrant further study and to be considered as another critical opportunity for intervention.

More research is needed to obtain a more comprehensive understanding about the role of framing, information relevance, and option comparison within a decision about mental health treatment. Important is that further research and exploration seek to replicate the identified relationships within independent samples and in populations other than college students. Verification of these relationships, as well as continued exploration around the decision to seek

mental health treatment, could offer new perspectives about the way in which mental health professionals and society at large engage in a conversation and interaction about mental health challenges and mental health services. It is possible that, with dedicated exploration and intervention, people can be encouraged to seek out the treatment that may help them most in their time of need; that they can have hope for treatment.

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Appendix A

Directions: Please consider each of the following questions and indicate the answer that is most true for you.

- | | |
|---|--|
| <p>1. How many years old are you?</p> <hr/> | <p><input type="checkbox"/> Heterosexual <input type="checkbox"/> Bisexual
<input type="checkbox"/> Gay <input type="checkbox"/> Lesbian
<input type="checkbox"/> Asexual <input type="checkbox"/> Other</p> |
| <p>2. With what gender identity do you most identify?</p> <p><input type="checkbox"/> Male <input type="checkbox"/> Female
<input type="checkbox"/> Non-Binary <input type="checkbox"/> Other</p> | <p>8. If you selected "Other" in the previous question, please specify.</p> <hr/> |
| <p>3. If you selected "Other" in the previous question, please specify.</p> <hr/> | <p>9. What year in school are you?</p> <p><input type="checkbox"/> Freshman <input type="checkbox"/> Sophomore
<input type="checkbox"/> Junior <input type="checkbox"/> Senior
<input type="checkbox"/> Graduate Student</p> |
| <p>4. With what racial/ethnic identity do you most identify?</p> <p><input type="checkbox"/> Asian American <input type="checkbox"/> African American/Black
<input type="checkbox"/> Latino/Latina/Latinx <input type="checkbox"/> Native American
<input type="checkbox"/> White/Caucasian <input type="checkbox"/> Other</p> | <p>10. What is your enrollment status?</p> <p><input type="checkbox"/> Part-Time <input type="checkbox"/> Full-Time</p> |
| <p>5. If you selected "Other" in the previous question, please specify:</p> <hr/> | <p>11. Are you a first-generation (neither your mother or father earned a college degree) student?</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes</p> |
| <p>6. What is your relationship status?</p> <p><input type="checkbox"/> Single <input type="checkbox"/> Dating <input type="checkbox"/> In a Committed Relationship
<input type="checkbox"/> Engaged <input type="checkbox"/> Partnered <input type="checkbox"/> Married
<input type="checkbox"/> Separated <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed</p> | <p>12. What is your employment status?</p> <p><input type="checkbox"/> Retired/Disabled <input type="checkbox"/> Unemployed
<input type="checkbox"/> Part-Time <input type="checkbox"/> Full-Time</p> |
| <p>7. With what sexual orientation do you most identify?</p> | <p>13. Have you in your past attended therapy sessions with a qualified mental health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist)?</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes</p> |

14. If you answered yes on the previous question, please mark the line to indicate how helpful you found this experience/these experiences?

Very Unhelpful Neutral Very helpful

15. If you answered yes on item 13, please mark the line to indicate your overall impression of this experience/these experiences?

17. If you answered yes in the previous question, please mark the line to indicate how helpful you find this experience/these experiences?

Very Unhelpful Neutral Very helpful

Negative Neutral Positive

16. Are you now attending sessions with a qualified mental health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist)?

No Yes

18. If you answered yes in the previous question, please mark the line to indicate your overall impression of this experience/these experiences?

Negative Neutral Positive

Appendix B

Directions: Please take a moment to read the following passage.

Jordan has not been feeling normal over the last three months. Jordan has begun to feel sad more days than not and has been increasingly short-tempered with friends and family. Jordan no longer engages with things that had been sources of stress relief, comfort, or excitement. Lately, Jordan's sleep has not been as restful despite lasting for up to 14-hours in a single day. Some of Jordan's responsibilities have begun to slip as a result of the increase in sleep, and Jordan no longer eats more than one meal per day. Having tried everything people have suggested, and noticing the increasingly limited relief provided by staying busy with work and trying to spend more time with friends, Jordan is not sure what else to do. Jordan is beginning to feel hopeless that the current circumstances will never change. Jordan has always had self-doubts, but the self-doubt has become harsh self-criticism as a result of all of these present challenges.

1. Would you consider Jordan to be depressed? Please mark the box which corresponds to your impression.

- Yes, Jordan is depressed.
- No, Jordan is not depressed.

2. If yes, please indicate how severe you consider Jordan's depression?

not at all severe							extremely severe
1	2	3	4	5	6	7	

Direction: Please take some time to imagine that you are in Jordan's position.

Condition 1:

3. How likely are you to actively engage in treatment with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist)? Please circle the number corresponding to your answer on the continuum below.

not at all likely							extremely likely
1	2	3	4	5	6	7	

Condition 2:

3. How might you choose to respond to the situation in which you find yourself? Please mark the box next to the course of action you want to take.

- Intentionally engage more with free activities such as working longer hours, exercising more, spending time with friends, or activities that bring pleasure. I know that these activities might provide me with temporary relief and may not offer long-term benefits to my concerns.
- Intentionally engage with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist), free of charge. I know that this activity might provide me with temporary relief and may not offer long-term benefits to my concerns.

4. Given your decision, how likely are you to actively engage in treatment with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist)? Please circle the number corresponding to your answer on the continuum below.

not at all likely							extremely likely
1	2	3	4	5	6		7

Condition 3:

3. How might you choose to respond to the situation in which you find yourself? Please mark the box next to the course of action you want to take.

- Intentionally engage more with free activities such as working longer hours, exercising more, spending time with friends, or activities that bring pleasure. I know that these activities might provide me with temporary relief and may not offer long-term benefits to my concerns.
- Intentionally engage with a confidante without formal therapy training (i.e., close friend, family member, significant other, religious figure), free of charge. I know that this activity might provide me with temporary relief and may not offer long-term benefits to my concerns.
- Intentionally engage with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist), free of charge. I know that this activity might provide me with temporary relief and may not offer long-term benefits to my concerns.

4. Given your decision, how likely are you to actively engage in treatment with a qualified mental-health professional (i.e., counselor, social worker, psychologist, psychiatrist, therapist)? Please circle the number corresponding to your answer on the continuum below.

not at all likely							extremely likely
1	2	3	4	5	6		7

Table 1

Demographics of sample across conditions

Characteristic	Study Conditions											
	Condition 1			Condition 2			Condition 3			Total		
	<i>n</i>	%	<i>M (SD)</i>	<i>n</i>	%	<i>M (SD)</i>	<i>n</i>	%	<i>M (SD)</i>	<i>n</i>	%	<i>M (SD)</i>
Gender												
Male	32	65.3		30	61.2		29	55.8		91	60.7	
Female	12	34.7		19	38.8		22	42.3		58	38.7	
Non-Binary	0	0		0	0		1	1.9		1	0.7	
Total	49	100.0		49	100.0		52	100.0		150	100.0	
Ethnicity												
Asian American	3	6.1		7	14.3		6	11.5		16	10.7	
African American	7	14.3		4	8.2		7	13.5		18	12.	
Latino/Latina/Latinx	2	4.1		4	8.2		5	9.6		11	7.3	
Native American	0	0		1	2.0		1	1.9		2	1.3	
White/Caucasian	36	73.5		33	67.3		33	63.5		102	68.0	
Other	1	2		0	0		0	0		1	0.7	
Total	49	100.0		49.0	100.0		52	100.0		150	100.0	
Status												
Part-Time	10	20.4		9	18.4		11	21.2		30	20.0	
Full-Time	39	79.6		40	81.6		41	78.8		120	80.0	
Total	49	100.0		49	100.0		52	100.0		150	100.0	
Year												
Freshman	3	6.1		2	4.1		5	9.6		10	6.7	
Sophomore	7	14.3		9	18.4		9	17.3		25	16.7	
Junior	14	28.6		9	18.4		12	23.1		35	23.3	
Senior	18	36.7		19	38.8		16	30.8		53	35.3	
Graduate Student	7	14.3		10	20.4		10	19.2		27	18.0	
Total	49	100.0		49	100.0		52	100.0		150	100.0	
Age												
	49		24.12 (4.21)	49		23.90 (4.72)	52		23.67 (3.63)	150		23.89 (4.18)

Note. *M* = mean, *SD* = standard deviation, *n* = total number of participants

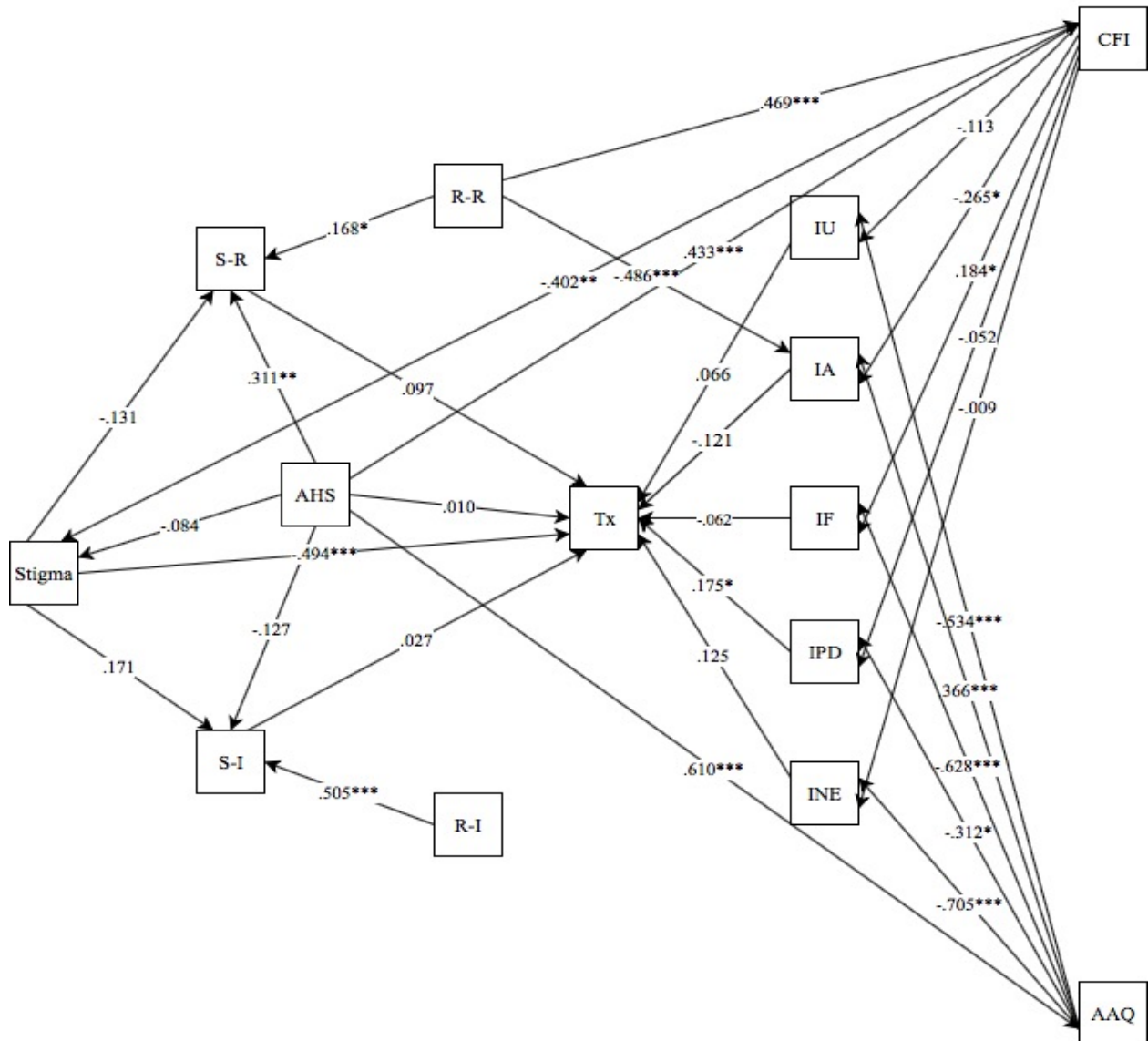


Figure 1. Final path model for the study wherein Stigma = total score SSOSHS, S-I = score of intuition subscale SSTS, S-R = score of rational subscale SSTS, R-I = score of intuition subscale REI, R-R = score of rational subscale REI, AHS = total score AHS, CFI = total score CFI, AAQ = total score AAQ-II, Tx = self-reported likelihood of engaging QMHP, IU = score of intolerance of uncertainty subscale, IA = score of intolerance of ambiguity subscale, IF = score of intolerance of frustration subscale, IPD = score of intolerance of physical discomfort subscale, INE = score of intolerance of negative emotion subscale. For clarity, model covariance relationships are not depicted. * = $p < .05$, ** = $p < .01$, *** = $p < .001$.