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The Effects of Media Exposure on Intentions to Seek Teletherapy in Rural Populations

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THE EFFECTS OF MEDIA EXPOSURE ON INTENTIONS TO SEEK TELETHERAPY IN RURAL POPULATIONS

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Psychotherapy has been shown to effectively reduce the impact of mental illness on a variety of individual and societal variables. Despite this, the number of people who seek psychotherapy is relatively low. Treatment utilization is especially low in rural areas where practical and psychological factors dissuade individuals from seeking help. Teletherapy has been proposed as one method of reducing avoidance of treatment due to stigma because it allows clients to make their treatment more private and eliminates the practical barrier of transportation. Direct to consumer advertising (DTCA) has been used effectively by the pharmaceutical industry to improve attitudes towards medication as a mental health treatment. The purpose of the current study was to evaluate the effect of a brief DTCA manipulation on the intentions to seek treatment (as measured by a modified version of the General Help Seeking Questionnaire) on a sample of 202 college students' coming from rural and non-rural backgrounds. Participants were categorized into either rural or non-rural groups based on the area in which participants had resided the longest. The Self Stigma of Help Seeking (SSOHS) scale was used to measure self-stigma, the Perceived Public Stigma (PPS) scale as used to assess public stigma, and the Attitudes Towards Mental Health Treatment (ATMHT) scale was used to assess general attitudes towards mental health treatment. Intentions to seek treatment were measured using the General Help Seeking Questionnaire. Regression analysis was used to evaluate the relationship between measures of self-stigma, perceived public stigma, and attitudes towards mental health on the intentions to seek mental health treatment. A series of analyses of variances (ANOVA) was used

to assess the impact of 3 levels of DTCA and rurality on intentions to seek mental health treatment in general, and teletherapy specifically. Hypotheses included that stigma would be negatively related to intentions to seek treatment, rural participants would show higher levels of stigma, a brief DTCA intervention could improve intentions to seek treatment, and that rural participants' attitudes towards teletherapy would increase to a greater extent than non-rural participants. Results demonstrated that stigma was generally related to intentions to seek treatment in the predicted manner; however, the results did not demonstrate that participants from rural areas reported higher rates of stigma. Though a brief DTCA intervention failed to have an overall effect on intentions to seek treatment, intentions of rural participants to seek teletherapy were significantly improved compared to non-rural participants. Results suggest that teletherapy may benefit rural populations through increasing privacy more than through addressing stigma or other psychological variables.

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CHAPTER I

INTRODUCTION

The Effectiveness of Psychotherapy

Psychotherapy has been found to be effective in improving lives by reducing the symptoms of mental disorders (Lambert, 2013). Eisen, Ranganathan, Seal, and Spiro (2007) noted that improvements occurred for clients in psychotherapy regardless of the outcome measure used. This finding has been replicated across populations, treatment modalities, and outcome measures.

Despite the general effectiveness of psychotherapy and other treatments, utilization is low. Combined with pharmacotherapy, estimates of treatment utilization for individuals with active mental disorders have ranged between 58% and 26% (Clement et al., 2015). Among all treatment seekers, only about 16% will receive psychotherapy, and 24% will receive any sort of non-specialized talk therapy, such as from a religious leader or social worker (Wang et al., 2005). Referrals to talk therapy vary significantly according to diagnosis. In one study, only 1% of older adults prescribed a benzodiazepine were also referred to talk therapy (Maust, Kales, Wiechers, Blow, & Olfson, 2016). Some diagnoses are treated much more often. Veterans with PTSD who are connected to Veteran Affairs facilities receive psychotherapy up to 27% of the time (Mott, Hundt, Sansgiry, Mignogna, & Cully, 2014). This low psychotherapy utilization may be due to either referral patterns or patient preferences.

Patients' choices to avoid psychotherapy could be due to the their analysis of the perceived costs and benefits. Berk and Parker (2009) suggested that "all effective treatment risks adverse events." This refers to both direct adverse events such as side effects and discomfort, or indirect adverse events such as wasted effort and time. While these internal adverse effects could

explain some of the perceived cost, they may not explain the extraordinarily low treatment utilization rate. Even individuals in extreme distress that can be treated through psychotherapy often do not seek treatment (Deen & Bridges, 2011). Individuals with psychological discomfort will frequently tolerate their symptoms rather than the rigors of treatment. In addition to internal adverse effects, seeking treatment also carries a risk of being identified as a mental health patient. This has been shown to have social consequences and threaten a patient's well-being (Thoits & Link, 2016).

Across most populations, mental health treatment is not widely utilized (Kessler et al., 2005). This has been problematic as psychology is concerned with the mental health of communities as well as individuals. The difference between the number of individuals who would benefit from treatment and those who end up receiving treatment has been labeled the "treatment gap" (Kohn, Saxena, Lavav, & Saraceno, 2004). The treatment gap for psychotherapy has been found to vary according to ethnicity, geography, gender, and other population variables. Kohn et al., (2004) completed a meta-analysis and found the treatment gap varied widely based on what type of mental illness was examined. Individuals who experience psychotic disorders received treatment approximately 77.8% of the time, while only 44.1% of individuals with panic disorder and 21.9% of individuals with alcohol dependence received treatment. This may be because when symptoms are more severe (such as in cases of schizophrenia) affected individuals have difficulty hiding these symptoms from the community. They would also have difficulty with functioning in occupational and interpersonal ways.

There are individual and societal costs when mental illness goes untreated, including both personal and financial costs. Mental illness is consistently listed as one of the most expensive problems in the United States, accounting for an estimated 193.2 billion dollars in lost wages and

other lost opportunities (Insel, 2008). There are other associated costs when mental illness is left untreated, such as increased medical care utilization (Mumford, Schlesinger, Glass, Patrick, & Cuerdon, 1984). Many individuals who seek psychological treatment also have concurrent medical needs. Chiles, Lambert, and Hatch (1999) found that individuals who were in psychotherapy used 25% less medical treatment than a control group in the same study. The authors proposed that this may be because individuals who are psychologically healthier are more able to care for their physical health. Healthier patients in general improves the efficiency of our medical system and is beneficial to both the individual and society. Brimblecombe et al. (2015) found that an outreach program that also provided treatment to young people with mental illness saved society approximately $60,000 over two years per participant due to increased rates of employment and productivity as well as reduced health care costs.

Besides these financial costs, the personal cost of mental illness is substantial although less measurable. Years spent with untreated mental illness produces years of reduced quality of life. Mashiach-Eizenberg, Hasson-Ohayon, Yanos, Lysaker, and Roe (2013) studied the effect of severe mental illness on quality of life while also considering self-esteem, hope, and stigma. They found that all three factors were significantly related to lower quality of life, and that these factors were all significantly lower in individuals with severe mental illness. This research indicates that mental illness threatens many different sources of well-being. Mental illness is also threatening to general well-being in populations who have more limited access to medical care and social support, such as in rural areas.

Rural Populations

Research on rural populations has generally used two techniques to define rurality; based upon self-report combined with the researcher's intuition regarding their location, or based on

the United States Census data (Childs, 2010). Methods that rely on census data are beneficial in that they provide an objective measure to separate participants. Methods that use an intuitive definition (perhaps by recruiting from a very rural town) are beneficial in that they more directly measure the unique values and attitudes of rural communities. As each method has its strength, the literature is inconsistent in the exact definition of a rural participant. In addition, rural areas and the people who live within them are heterogeneous. Although there are many challenges on defining rurality; the common goal is to understand the cultural influence of living in a sparsely populated or isolated area.

Research regarding rural areas also uses a variety of comparison groups. Rural populations are most often compared to either urban or non-rural participants. Comparisons between rural and urban populations sometimes lack internal validity due to the demographic differences between the areas. Rural residents are generally more Caucasian, older, and have slightly lower incomes. In addition, recent trends indicate that rural populations are more likely to be female (which may be due to the aging population) and Hispanic (Housing Assistance Counsel, 2012). An additional problem with this method is that suburban participants are not considered. Many studies also compare rural participants to all other participants who do not fit into a rural category, grouping suburban and urban communities into one non-rural comparison group. This technique has been beneficial in that it isolates unique characteristics of rural areas. These comparisons are also more inclusive and typically more generalizable. A problem with comparing rural to non-rural participants is that the findings often suffered from poor internal validity due to multiple confounding variables such as income and ethnicity. Many of these concerns are addressed by recruiting participants from Universities that recruit from both rural, urban, and suburban areas (Ames et al., 2014). College students tend to be more demographically

homogenous than the general population, which may increase internal validity. As college students generally share the same current geographic location, categorizing these students according to a "home setting" can identify those whose behavior will be influenced by a rural background. This has been beneficial in exploring psychological variables such as stigma, which may be well ingrained into participants' culture.

Mental Health in Rural Populations

Mental health is the fourth most often identified rural health priority in community samples, behind access to quality healthcare, heart disease, and diabetes (Gamm, Stone, & Pittman, 2010). Mental health in rural areas is often framed through the role of social support. Durkheim and Simons (1992) noted that during 1888 in Europe; suicide was more common in urban areas than rural areas and was associated with a lower birth rate. They suggested that the reason for this was due to the protective nature of social support offered by a healthy family system. At the time, families were much larger and divorce rates were much lower in rural areas compared to urban centers. Modern estimates based on the 2010 census data noted that divorce in rural areas is now as common as in urban areas (Tavernise & Gebeloff, 2011). In addition, individuals face several practical challenges when living in rural areas such as economic stagnation, limited employment opportunities, geographic isolation, and frequent dislocation. This increased level of ecological stress has been associated with a greater number of negative mood symptoms in rural areas when compared to non-rural areas (Hoyt, Conger, Valde, & Weihs, 1997). While a controversy exists over whether depression and mental illness has occurred to a greater degree in rural areas (for a review, see Barry, Doherty, Hope, & Sixsmith, 2000), there is now a higher rate of suicide in rural areas than urban areas. The discrepancy is possibly due in part to greater access to firearms, higher rates of substance use, and limited

health providers (Clay, 2014). Singh and Siahpush (2002) found that the gap between completed suicides in rural and urban populations has been increasing since at least 1970 when the data became available. A greater access to firearms likely accounts for some of this difference; however, the authors also propose that this gap in completed suicides is consistent with Durkheim's theory of social support; as individuals in rural areas have been found to be more socially isolated than urban individuals. Geographic isolation could be associated with lower psychological well-being and indicate a greater need for psychotherapy services in rural areas. Letvak (2002) noted that opportunities for social support are less common in rural areas, and that individuals with mental illness in rural areas were at exceptionally high risk for becoming isolated from their community and support systems. Social support has been found to be important to mental health due to its protective influence against fatigue and loneliness (Kwag, Martin, Russell, Franke, & Kohut, 2011). Weber, Puskar, and Ren (2010) found that social support in rural adolescents significantly protected against a wide range of mental illness including Major Depressive Disorder.

Psychotherapy has been found to be as effective in rural populations as it is in urban populations (Rost, Fortney, Fischer, & Smith, 2002). Despite individuals in rural areas possibly being at greater risk for mental illness due to social isolation and other factors, there are significant practical and psychological barriers to receiving psychotherapy in this population. Children, who typically require services to a greater degree than adults' due to the increased attention to their development and stricter government regulations, seek psychological services approximately 36% of the time when living in rural areas when there is an identified need (Angold et al., 2002). This study noted that urban children request services significantly more frequently than rural children. While the cause of this differences was not explicitly explored,

other authors have speculated that it is due to practical and psychological barriers. Jackson et al., (2007) conducted a meta-analysis on commonly reported barriers to seeking mental health treatment in rural areas and found that psychological barriers included psychological distress, stoicism, self-efficacy, and stigma.

As rural areas are defined by their sparse population density (Barry et al., 2000), psychological services are more distant from the average potential consumer. Gulliver, Griffiths, and Christensen (2010) found that a lack of accessibility to treatment centers was a principle concern in rural areas regarding barriers to treatment. They found that rural young people often did not seek mental health treatment because they did not believe that the additional time, effort, and cost required to travel was feasible. The practical issue of physically being present at a treatment center is made more difficult by limited public transportation systems and poverty. Public transportation is often the primary means of affordable transportation to receive healthcare. The American Public Transportation Association (2012) noted that only 11% of individuals in rural areas reported having access to public transportation, compared to 33% in small urban areas and 83% in large urban areas. Taken together, rural populations have been found to have greater practical barriers to utilizing mental health treatment.

Another barrier to receiving mental health care in rural areas is the lack of service providers such as psychologists and psychiatrists. Gamm et al. (2010) found that approximately 75% of rural areas lack a psychiatrist, while 95% lack a child psychologist. This means that even if an individual seeks care for mental health, they are unlikely to see a mental health specialist. While depression and other mental illness can be efficiently treated by general practitioners, Susman (1995) found that many primary care providers underdiagnose mental disorders to avoid

negative reactions in their patients. It is possible that specialized mental health care may be preferable to identify mental health needs and to ensure appropriate care.

Judd et al. (2006) identified four sociodemographic factors that have consistently been found to predict whether rural populations will seek mental health treatment. These factors work separately from other practical factors and include gender (being female), being alone/widowed/divorced, age (being younger) and meeting full criteria for a mental disorder. These factors are generally associated with a greater level of distress and/or motivation to seek treatment. Practical and sociodemographic factors are not the only reason that individuals do not seek psychotherapy, as psychological variables are also important.

Rural populations are defined by the physical location of where they live and/or by their culture. The emotional and cognitive attachment to this location has been described as a sense of place. Sense of place has been associated with higher self-esteem, meaning, and belonging (Scannell & Gifford, 2016). Participant's attachment towards their residence was not related to negative characteristics such as social disorder and crime (Tester, Ruel, Anderson, & Reitzes, 2011). It is unclear to what extent the cognitive and emotional attachment to a geographic area will influence their attitudes towards mental health treatment.

Variables That Influence Help Seeking

Need assessments throughout the world have demonstrated that attitudes and beliefs that exist in rural areas are major barriers to individuals receiving appropriate mental health treatment. One study of rural participants in Ireland found lower levels of mental health awareness, lower levels of confidence in dealing with mental health issues, more negative attitudes towards mental health treatment, and greater levels of perceived stigma in rural populations compared with their non-rural counterparts (Barry et al., 2000). Differences between

urban and rural populations were largest in men under the age of 40. Women demonstrated less stigma and negative attitudes, as well as more awareness of mental health issues. Overall; 27% of respondents stated that they would be hesitant to consult any health professional regarding symptoms of depression or another mental health problem. This hesitation was due to the perceived risk of being identified as someone who needs mental health treatment.

Rural values such as stoicism are often cited as barriers to mental health treatment. While stoicism has been found to generally influence urban and rural participants in a similar manner and to a similar degree (Rughani, Deane, & Wilson, 2011), other rural values have not been explored. Rural values are often described as agrarian, and can also include self-reliance, coping and suffering in silence, the definition of health as an ability to work, reliance on informal support rather than on professionals, and greater responsibility for one's health problems (Judd et al., 2006). As these values are difficulty to measure, the individuality of rural areas has been emphasized in recent literature. Rural areas have different relationships with nearby urban centers, heterogeneous populations, and unique cultures that have been emphasized in recent literature (Lichter & Brown, 2011). This may suggest that measuring the cultural components of each study's sample in terms of their attitudes towards mental health treatment is more effective than assuming a certain profile that generalizes across rural areas.

The risk of being identified as a mental health patient is especially relevant in rural areas as there is an inherent lack of privacy in small towns (Barry et al., 2000). Because of the smaller population, members of a rural community typically know and can readily identify each other quickly. When treatment settings are in easily visible areas consumers of mental health treatment may be identified by their mere presence at a facility. Crawford and Brown (2002) interviewed potential consumers in a rural area, one of whom noted that they would rather have their pickup

seen in front of a brothel than a mental health facility. This statement illustrates that transportation to a center for mental health treatment and maintaining anonymity are risks to consumers. The risk of being labeled as mentally ill can negatively impact patients' sense of identity as well as their community ties. Two additional factors that have been shown to create anxiety about mental health treatment are stigma and mental health literacy.

Mental Health Literacy

One very common definition of mental health literacy is, "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997). Some rural communities have been found to lack adequate knowledge about several aspects of mental illness including; preventing mental illness, recognizing mental illness as it develops, knowing resources that are available, basic support that can be provided, and self-care to improve mental health (Jorm, 2012). Deen and Bridges (2011) found that treatment avoidance may be particularly strong in males. One factor that may explain this is a lack of mental health literacy. In this study, participants who were male identified a vignette as "depression" only 35% of the time, compared to females who correctly identified the vignette 68% of the time. This lower rate of mental health literacy may be indicative of either less knowledge about mental illness or of the greater psychological barrier in males to identifying symptoms as a "problem".

Popular media supplies a large amount of incorrect information about mental illness. One straightforward example would be the depiction of individuals with schizophrenia in film. Fictional characters who are said to be psychotic are sometimes portrayed as prone to violence and even homicide (Owen, 2012). Individuals with schizophrenia are also shown to be almost exclusively Caucasian, generally violent, and attributed their symptoms mostly to traumatic events. Inaccuracy is not limited to cinema. Ray and Hinnant (2009) found that magazine

coverage of ADHD became increasingly positive between 1985 and 2008; however, there was still an overemphasis on the danger associated with both the condition and its treatment. Misleading information regarding mental illness is also spread through the way current events are often reported upon. McGinty, Webster, and Barry (2013) found that participants perceived people with mental illness as more dangerous and wanted greater cultural distance from them after the participants were presented with a news story describing a mass shooting which emphasized the mental illness of the shooter. They propose that coverage of these stories is often seen as an opportunity to advance gun control legislation, and note that this can have an additional effect of promoting the stigma of mental illness.

Academic debates can also oversimplify the utility of diagnosis. There is a strong tradition of debate between those who advance a medical model of mental health and those who believe it is harmful. The most cited critic of psychiatric diagnoses has been Rosenhan (1973) for his demonstration of dehumanizing conditions in psychiatric hospitals. These discussions can be useful in that they require justification for the ethical boundaries of mental health treatment and work to balance freedom and beneficence. These same conversations can become harmful when overgeneralized and hyperbolized (see Szasz, 2010). The combined effect of oversimplified academic conversations and damaging media portrayals of mental illness makes ongoing educational programs necessary.

Educational outreach programs in Australia have been found to effectively decrease some of the treatment avoidance that was caused by misinformation in the general population (Judd et al., 2006). In the United States, the National Alliance on Mental Illness (NAMI) engages in community events to raise awareness through a dedicated week, month, various charitable engagement, and targeted trainings (NAMI, 2016). When specific programs are evaluated, they

are found to increase mental health literacy and decrease the subjective burden of family members as well as generalized distress (Mercado et al., 2016). Even after these programs have been fully implemented; however, mental health treatment seeking is still low. Part of this may be because educating adults is not as effective as educating youth. A meta-analysis by Corrigan, Morris, Michaels, Rafacz, and Rusch (2012) found that educational programs were much more effective for adolescents than adults. This same analysis found that adults responded best to interventions that increased face-to-face contact between themselves and those who had sought mental health treatment. This study provided support for the multi-pronged approach of NAMI which includes both education and community engagement. Nevertheless, even with these programs the problem of poor treatment utilization persists, and stigma remains a significant barrier to treatment.

Stigma and Help Seeking

Stigma is a discrediting construct that places a label of being incomplete, tainted, or discounted onto a human being (Goffman, 1963). Stigma has also been described as a flaw of individual personality which indicates that a person is weak willed and immoral. A population may use a "stigma theory" to explain why someone deserves negative treatment. This theory is generally based on the belief that the world is just and a person's situation is a direct result of their morality. A stigma theory of mental illness may include ideas about the person being in full control of their symptoms, trying to get attention, or being weak and dependent. Some have proposed that the neurobiological model of mental illness and addiction has largely overtaken a morally based model. The US Department of Health and Human Services (1999) suggest that a medical model of mental illness should reduce stigma in communities. Pescosolido, Martin, Lang, & Olafsdottir (2008) instead found that stigma of mental illness persists despite an

increase in the popularity of the neurobiological model. While attitudes towards treatment services did improve with a belief in the neurobiological model, community isolation of stigmatized individuals increased. This implies that negative beliefs regarding mental illness may persist despite a belief in the neurobiological model of psychology.

The modified labeling theory (MLT) developed by Link, Cullen, Struening, Shrout, and Dohrenwend (1989) describes how stigma is associated with a variety of negative outcomes in mental health clients' social lives, occupations, and well-being. These authors propose that before entering treatment, individuals develop a schema of what it means to be a mental patient. This schema includes negative ideas about personality and temperament. Also within this schema is a set of beliefs about how others should and will treat someone who has been labeled as mentally ill. These beliefs can be activated when the possibility of mental health treatment is encountered. This schema may be a threat to the person's identity, which will cause them anxiety. This anxiety has been found to motivate avoidant coping strategies such as secrecy, withdrawal, and diminished interactions with the community. Individuals who have a strong sense of stigma are less likely to seek help as they avoid mental health professionals. The modified labeling theory is considered an individual component of broader theory including a Framework Integrating Normative Influences on Stigma (FINIS). The FINIS proposes that most governmental policies that target stigma fail because of a lack of permanent social networks (Pescosolido et al., 2008). Instead, normative influences are a persistent force which may exert a negative influence on attitudes towards mental health treatment.

The MLT proposes a four-step model of stigma which includes the following; labeling, associating negative attributes, separating "us" from "them," and status loss or discrimination (Link & Phelan, 2001). Labeling, the first step of the MLT, is a process by which individuals

who have sought mental health treatment are cognitively assigned to a group of "others". Individuals are often labeled after cues are noticed by other members in the community. Cues are social messages that are observed by a community of an individual who may be seeking mental health treatment or who experiences mental illness. These cues can include symptoms, social skills deficits, appearances, or presence at a mental health treatment center. They can also include information gained through social networks such as gossip. Cues can be very apparent in some disorders; such as responding to hallucinations in schizophrenia, or can be relatively difficult to recognize such as apathy in depression. The limited privacy experienced in rural areas means that consumers of mental health treatment are much more likely to have cues observed by members of the community who can identify them.

When labeled as a stigmatized individual the second step in the MLT, attribution, occurs. This is when negative beliefs that have existed in a community become attributed to an individual. These negative stereotypes are difficult to challenge because they are considered common knowledge by popular culture. Stereotypes are defined as the knowledge structures that a public has about a social group (Krueger, 1996). Stereotypes are not necessarily accurate, but are a quick means of making judgements about people. Commonly held stereotypes about people with mental illness include that they are violent, incompetent, and could fix their symptoms if they so desired. These stereotypes can come from many sources including conflict with cultural values, fictional media, and news media (Chan, 2016). As the group is described in negative terms with clearly delineated boundaries, these stigmatized individuals often become separated from the dominant culture.

The third step in the MLT theory is separation. Individuals who are labeled as mentally ill and have a series of negative beliefs attributed to them are then seen as much more separate from

the general community. These individuals are separated using an “us” or “them” dichotomy. The dominant culture is one that values self-sufficiency and does not “need” mental health treatment. This in-group is attributed with positive characteristics such as being strong and independent. When separated from the dominant culture, individuals may lose status, esteem, or opportunities and face discrimination (Link & Phelan, 2001).

The fourth step of the model is discrimination. This can occur when knowledge of negative stereotypes is combined with a negative emotional reaction, and influences how a stigmatized person is treated. Discriminatory behavior includes avoidance, aggression, and generally reducing the amount of social support and opportunity available to an individual.

The negative effects of stigma have been demonstrated experimentally. Sibicky and Dovidio (1986) demonstrated that individuals who believe a social partner is seeking psychotherapy or counseling treatment will behave with less openness, react more negatively, and generally create a negative perception about the other person. In this same study, participants who were labeled as receiving counseling responded to their partner with more hostility. This demonstrates the self-fulfilling prophecy that can harm potential mental health patients. The authors propose that individuals who are labeled as attempting to seek mental health treatment will encounter more negative social interactions and be influenced to socialize in a more hostile manner. More recently, discrimination in the job market has been demonstrated experimentally. Hipes, Lucas, Phelan, and White (2016) sent fictitious job applications to companies either describing time taken between occupations for treatment of mental illness or due to physical injury. This research found that there were significantly fewer callbacks for individuals who had sought mental health treatment than those who reported a physical injury.

The negative effects of stigma proposed in the MLT model (Link et al., 1989) have also been demonstrated in non-experimental settings. It has been observed that stigma decreases the number of social opportunities available to individuals with mental illness by reducing their access to housing, lucrative occupations, and fair treatment by law enforcement (Watson, Ottati, Corrigan, & Heyrman, 2005). Individuals who show symptoms of serious mental illness are more likely to be arrested and spend more time incarcerated than those who are not (Teplin, 1984). These effects may not be directly related to treatment; however, in a variety of peripheral ways they reduce access to appropriate care. Druss, Bradford, Rosenheck, Radford, and Krumholz (2000) found that people identified with comorbid psychiatric disorders were less likely to be referred for an effective and necessary cardiovascular surgery compared to other people with equivalent medical conditions. The authors hypothesized that this is because the process of stigma reduces that social opportunity and ability for individuals with mental disorder to advocate for, be informed of, and find appropriate treatment.

Angermeyer, Beck, Dietrich, and Holzinger (2004) found that individuals who have been newly identified as mentally ill expected to experience stigma in their community. Participants in this study that had been diagnosed with Major Depressive Disorder or Schizophrenia reported that they expected to encounter stigma in their community at some point, even if they had not experienced any at that point. This expectation suggests that participants had an internalized stigma theory which threatened their self-esteem and identity. Specifically, individuals expected that access to work and social opportunities would be limited because of their identification as being mentally ill. When participants did face discrimination, the authors demonstrated that negative interpersonal interactions were the most common type of discrimination experienced. They also noted that individuals living in rural communities expected more stigma than their

urban counterparts; however, rural participants did not report more discrimination events than urban participants. This supports the idea that people have an existing negative cognitive schema regarding mental illness which causes harm to identity and self-esteem. It also suggests that there are different types of stigma.

Previous research on stigma has indicated that greater specificity is needed in defining the exact construct to be measured. Stigma's effects been categorized into three main constructs; public stigma, perceived public stigma, and personal stigma (Corrigan, 2004). Public stigma is the set of negative beliefs, attitudes, and conceptions about mental illness held by the general population. Public stigma is the cause of discrimination (Larson & Corrigan, 2010). Perceived public stigma, a more commonly studied construct, involves the amount of stigma that a participant perceives someone seeking mental health treatment would experience. When the beliefs about mental illness and treatment are associated with oneself in a negative way, this is known as self-stigma. Self-stigma in individuals who may benefit from mental health treatment occurs when individuals internalize negative beliefs about mental illness. Self-stigma has been shown to reduce self-efficacy, lowers occupational functioning, and increases mental health hospitalizations (Evans-Lacko, Brohan, Majtabai, & Thornicroft, 2011). The relationship between public stigma and self-stigma may be unidirectional. Vogel, Bitman, Hammer, and Wade (2013) have found that public stigma is predictive of future self-stigma while self-stigma is not predictive of future public stigma.

Diversity Factors and Stigma

Studies that have compared stigma across populations show that it exists to a higher degree in student participants who are male, younger, Asian, international, more religious, or from a family with low socioeconomic status (Eisenberg, Downs, Golberstein, & Zivin, 2009). Brown et

al. (2010) found that for a large (410 participants) population of African American and Caucasian participants, public stigma was negatively associated with help seeking behaviors and attitudes for only the white participants. In addition, the authors also found that self-stigma mediated the relationship between overall attitudes toward treatment and perceived public stigma in only the white participants. While each of these variables may have separate effects on treatment seeking behavior, it is possible that internalized stigma reduces treatment seeking differently for Caucasian participants. These findings indicate that careful identification of a study's population is necessary in understanding the problem of avoiding treatment due to stigma, as well as designing programs or treatments to address the problem. Brown et al. (2010) also found an interaction effect between stigma and self-esteem on treatment attitudes, suggested suggesting that self-esteem may confound the relationship. Furthermore, African-American participants in their study were possibly more adept at handling and coping with perceived public stigma, as they may have previous experience with stigma based on ethnicity. The finding that stigma has greater negative effects on well-being for Caucasian participants than African-American participants has generalized to other types of stigma including that of sexual orientation (David & Knight, 2008). This could be because populations that have already experienced one type of stigma have learned coping skills and effective strategies that became helpful when taking on a second stigmatized identity. This concept has been described as stigma competence, but has not been effectively described empirically (David & Knight, 2008).

Another population that has received some research attention regarding stigma of mental illness is rural Native American rural individuals who experience drug, alcohol, or mental health problems. This population also uses mental health resources at a lower rate than their Caucasian counterparts (Duran et al., 2005). This study found that approximately 34% of individuals with

mood or anxiety disorders within this population sought mental health treatment. A significant correlate of treatment avoidance in Native American participants was found to be the perception of discrimination caused by stigma. This also led to greater utilization of non-specialized mental health treatment options such as general practitioners and informal sources of support.

Gender also has an influence on stigma and help-seeking behaviors. Women seek mental health treatment significantly more in rural areas across developmental stages (Sears, 2004). In addition, Masculine norms are strongly associated with negative attitudes towards mental health treatment (Mahalik et al., 2013). Using structured equation modeling, Hammer, Vogel, and Heimerdinger-Edwards (2013) found that negative self-stigma was associated with less utilization of mental health services. They also found that conformity to masculine norms was associated with negative self-stigma.

Stigma in Rural Areas

Rural areas are those that are associated with low population density. The United States Census Bureau (2016) defines rural as those areas (or individuals living within those areas) that are outside of urban centers and urban clusters. The literature of psychology in rural areas uses a variety of definitions that are intended to reflect the importance of a rural mindset. This mindset is thought to stress independence, family, conservatism and other agrarian values (Childs, 2010).

Stigma has been suggested to be a greater barrier to treatment in rural areas than in urban or suburban areas (Angermeyer et al., 2004). One possibility for this difference is that the cultural focus on masculinity and social cohesion is conducive to greater stigma. Agrarian values of self-sufficiency that are central to rural identity and are often somewhat contradictory to those commonly associated with psychotherapy such as seeking social support and getting help (Judd et al., 2006). Masculine norms are particularly important and commonly endorsed in rural areas.

When rurality is considered, the correlation between masculine norms and negative self-stigma was twice as strong in rural than urban participants (Campbell, Mayerfeld, & Finney, 2006). As masculine norms are associated with both high stigma and low treatment utility, rural males with high identification of masculine norms were suggested to be particularly at risk for an avoidance response to their own mental illness or need for mental health treatment. Another possible reason that stigma may be a greater barrier to treatment in rural areas is that there is reduced privacy in rural areas.

Using existing data from 37 different states, Pederson et al. (2013) identified the characteristics of rural adults with mental health concerns who were most likely to perceive stigma of mental illness. These authors found that individuals who perceived more stigma were more likely to be unemployed seeking work or not working and not seeking work, military veterans, have deferred medical care, were less likely to have a health care provider, and were less likely to feel emotionally supported. This same study found that rural adults perceived a greater amount of mental health stigma than their urban counterparts, however this difference was not statistically tested (54% vs 50%). The relatively small difference between rural and non-rural participants in this study may have been due to the broad measure which was pulled from a much larger database. Stigma was either coded as being perceived or not based on the response to two questions. This measure could have been more relevantly labeled as an awareness of the possibility of stigma.

Stigma Related Treatment Avoidance

It is a common misconception that individuals with mental health or substance abuse concerns are heavy users of services. Bray et al. (2005) analyzed treatment utilization for individuals enrolled in a government sponsored insurance program, and found that most mental

health patients used counseling or psychotherapy minimally and for short durations. This pattern was also apparent for individuals with private insurance. Bray et al. (2005) attributes this misconception to the "clinician's illusion," the idea that a small minority of long term clients often dominate health workers time and skew the perception of an average client. This suggests that a recovery model of mental health treatment effectively describes the course of most mental illness. The recovery model describes a course of treatment in which individuals who have mental health concerns can seek treatment and return to a previous or comparable level of functioning. Although overutilization of services is a problem, underutilization is more common. Patients tend to drop out of both psychotherapy or pharmacotherapy before the recommended course of treatment is complete.

Using a two-stage sampling design, Sirey et al., (2001) explored how stigma prevents patients' ability to adhere to the recommended amount of treatment. These authors found that non-adherence to anti-depressant medication was significantly related to participant report of perceived stigma. This suggests that individuals who believe their communities hold more negative views towards mental illness are more motivated to avoid being identified as a consumer of mental health treatment.

Corrigan (2004) proposed that stigma causes treatment avoidance in two ways. The first is that self-stigma reduces an individual's self-esteem when they approach the possibility of treatment for mental illness. The second is that public stigma reduces the number of social and occupational opportunities an individual has because of discrimination. Both outcomes cause anxiety in the potential patient, and they are more likely to avoid the situation altogether.

Mental health stigma has occurred as a broad, categorical set of negative beliefs and attitudes as well as a specific set of beliefs directed at certain diagnoses. One example of this is

how the general population displays attitudes about individuals who experience psychotic symptoms that are more negative than those about people with mood or anxiety disorders (Weiner, Perry, & Magnusson, 1988). It is possible that this greater amount of public stigma may be partially responsible for the lower rate of treatment adherence and utilization for individuals who have been diagnosed with psychotic disorders (Fenton, Blyler, & Heinssen, 1997). Other possibilities for this difference could be a difference in resources available to individuals with psychotic disorders, limited awareness of the condition, and limited effective treatments (Evensen et al., 2016).

Generally, controlled studies have shown that self-stigma and public stigma are negatively correlated to seeking mental health treatment. Individuals who perceive more public stigma of mental illness were found to be less likely to seek care for themselves (Cooper, Corrigan, & Watson, 2003). In addition, individuals with more stigma related beliefs were less likely to stay in treatment for the recommended course of treatment. Sirey et al. (2001) found that individuals who perceived that there was a greater amount of stigma were less likely to adhere to a regime of antidepressant medication over three months. The authors proposed that the discomfort caused by stigma caused an increase in attrition.

Brown et al. (2010) used regression analysis to determine the source of attitudes towards treatment. In a sample of 449 African American and Caucasian adults, the researchers found that perceived public stigma negatively impacted treatment-related attitudes and behaviors to a smaller degree than self-stigma. This study indicates that individually held beliefs about people with mental disorders may be an effective psychological factor to be targeted for intervention. This may also explain why self-stigma specifically has been shown to be negatively related to measures of help seeking (Corrigan & Watson, 2002).

One of the most commonly observed reactions to stigma is avoidance of harm by hiding any affiliation with the stigmatized identity (Corrigan et al., 2014). This is particularly common in the case of mental illness stigma as some individuals can hide psychological discomfort and symptoms (Lauber, Nordt, Falcato, & Rossler, 2003). The motivation to avoid being labeled as mentally ill is an impediment to effective treatment seeking behaviors. Many interventions that could possibly reduce the amount of stigma or the impact of stigma have been explored in both rural and non-rural populations.

Increasing Treatment Utilization

Crawford and Brown (2002) has noted that interventions to increase treatment utilization which leave the social network of a consumer intact may be much more beneficial than those that threaten the social network by introducing stigma or a "patient" label. Crawford and Brown (2002) found that community mental health workers are aware and active in reducing their "footprint" upon the community by being subtle about their services. Precautions such as creating treatment centers with hidden parking lots, hiding badges on professionals who do at-home work, and dressing in informal clothing to hide a professional identity are common efforts towards reducing visibility. In addition, consumers are often actively engaged in reducing the stigma associated with mental illness. Estroff, Penn, and Toporek (2004) conducted a summary study of community led efforts to reduce stigma, and found that patients were intricately involved in a majority. Over 117 programs were included in this study, with several being reviewed as "exemplary" in effectiveness. A paradigm shift towards encouraging and supplementing outreach behavior may create a more effective way to empower patients.

Many methods of increasing mental health treatment seeking behaviors have been proposed in rural areas. The effectiveness of each of these techniques depends in part on the

pathway of how it addresses avoidance of treatment due to stigma. If the greater saliency of stigma in rural areas is primarily due to decreased privacy, then interventions that make psychotherapy more private should be effective in improving help-seeking intentions. If instead cultural factors that devalue seeking help and promote stoicism are a central reason for the greater saliency of stigma in rural areas, then interventions aimed at outreach should be effective in improving help-seeking attitudes. As stigma is expected to be greater in rural areas, methods that reduce stigma may increase treatment utilization most in these areas.

Corrigan et al. (2016) have proposed three categories of strategies that are designed to reduce stigma; protest, education, and contact. Protest acts are often labeled as anti-stigma efforts, and involve identifying, calling out, and generally influencing the media and society to change harmful messages (Rüsch, Angermeyer, & Corrigan, 2005). Protest has been shown to be effective in reducing stigmatizing beliefs in most situation. Protests may also cause a "rebound effect" in the target audience and increase vocal public stigma.

Education has shown to be effective as well; however, the effects do not seem to be long lasting (Corrigan et al., 2012). The purpose of educational interventions is to increase mental health literacy. Deen and Bridges (2011) have found that, specifically in rural areas, higher mental health literacy is a significant predictor of willingness to seek counseling from a religious leader. This may occur in an informal manner, in that mental health literacy is very high in rural clergy in predominantly African American churches. Hammer et al. (2014) found that education level was negatively related to self-stigma in rural men. This suggests that increasing the knowledge base about both cultural norms and the effectiveness of mental health treatment will decrease stigma related treatment avoidance. One moderating variable between stigma and treatment seeking is a belief in the effectiveness of mental health treatment. In sample of

children, individuals who believed that psychotherapy could be effective showed attitudes that were less avoidant than those who believed it was not effective. In contrast, participants were more avoidant of treatment if they believed that it could not reduce symptoms or bring symptom relief (Meltzer et al., 2003). The study concluded that that one way to reduce treatment avoidance may be to educate a population about treatment.

A promising area of research is developing techniques based on the category of contact, which is when the community has close proximal living or work environments to individuals with mental illness (Corrigan & Watson, 2002). More positive attitudes occur when there is greater contact between populations because incorrect assumptions related to a negative schema of mental illness can be tested and rejected. The purpose of contact interventions is to decrease stigma. Experimentally, techniques which use a contact strategy are associated with lower levels of stigma in participants, however there is evidence that the effect may be due to a participant selection bias (Pinfold et al., 2003). In the study by Pinfold et al. (2003), it is possible that participants who already had lower levels of stigma self-selected to be in a program that required more regular contact with individuals with mental illness. One difficulty of programs that they increase contact is that they may cause pity rather than parity. Pity can also be harmful and reinforce stigma as it advances the belief that people who are mentally ill are inferior or outside of the normative group. The literature on outreach often mentions the influence of family culture and beliefs. Leaf, Bruce, & Tischler (1986) found that study participants with mental illness were less likely to seek treatment if their perception of family member's negative beliefs was high. If the family members' reactions were negative, they were less likely to seek treatment. Interventions which increase contact between those who have sought mental health treatment and family members could decrease these negative beliefs. It is possible that outreach which seeks to

educate family members and other close relatives and society overall may be effective as a manner of increasing treatment seeking and adherence.

Teletherapy

Service providers who contact their consumers through the telephone or internet may be bypassing many of the concerns that rural consumers hold about privacy. This has been demonstrated to be a feasible option by research that shows it may be as effective as in-person psychotherapy. Hassija and Grey (2011) have found that teletherapy for PTSD in women who have suffered from domestic violence had reduced symptoms and yielded positive outcomes. This is crucial, as Openshaw et al., (2012) have proposed that a significant predictor of help seeking consists of satisfaction with the mental health services. It is possible that a positive experience with teletherapy could transition into later follow up sessions with another effective mental health treatment, or may be effective in and of itself. This study by Openshaw et al. (2012) completed teletherapy with 17 women in a rural area and found that the participants were satisfied with the treatment that they received. Several other studies have found that teletherapy has effectively reduced the psychiatric and psychological symptoms of rural populations with a wide variety of challenges including depression associated with HIV (Ransom et al., 2008). Other technologies have been used to provide services to people who are not physically in a clinician's office. Internet Based Cognitive Behavioral Therapy (ICBT) has also been shown to be an effective and subtle adjunct to traditional psychotherapy (Roper, 2009).

While there have been several proposed methods of increasing mental health service use, it is not clear how they would be comparatively received by rural patients. While the literature has suggested several different potential pathways towards reducing stigma related treatment avoidance, they have not been directly compared in terms of community preference. Studies

have shown that communities and patients should not be conceptualized as passive recipients of services. This may rob these populations of the self-efficacy and confidence and can exacerbate stigma. While certain methods of addressing stigma may be generally effective, it is also possible that they impact treatment seeking behaviors differently in rural and non-rural populations.

Direct to Consumer Advertising

One way to combine an educational and contact related techniques for increasing service utility is direct to consumer advertising (DTCA). Pharmaceutical companies are extremely active users of DTCA and have spent more than $5 billion on DTCA using television advertisement as of 2016 (Robins, 2016). While spending on television has generally leveled off in recent years, the number of internet based DTC advertisements has continued to rise from 30,295 original pieces in 2014 (Sullivan, Aikin, & Chung-Davies, 2016). The increase in spending suggests that DTCA has been effective in increasing the use of pharmaceuticals. It is unclear what effect these messages have on the use of other types of mental health treatment and cultural attitudes towards mental health.

Although a causal link between increased pharmaceutical use for mental health treatment and an increase in DTCA is difficult to establish, correlational evidence suggests that they are related (Timko & Herbert, 2007). Estimates have shown that some forms of DTCA of pharmaceuticals have been extremely effective for the companies, with a 5:1 return on investment (Gebhart, 2009). The stated goal of DTCA is to educate the public, about both a condition that can be treated and a treatment that is effective. Proponents suggest that DTCA is effective in helping consumers identify health concerns and disorders that may be addressed. They also propose that DTCA provides knowledge about effective treatment that would otherwise be unavailable to a consumer audience (Ventola, 2011). Proponents also state that

DTCA effectively increases the amount and quality of patient dialogue with treatment providers by creating more informed consumers of healthcare. Some proponents suggest that the increased visibility of some disorders through DTCA will decrease the associated stigma of that condition, and therefore increase overall treatment utilization.

Critics state that DTCA of pharmaceuticals generally misinforms patients (Frosch, Krueger, Hornik, Cronholm, & Barg, 2007). They propose that this occurs because the goal of advertising is to put forth a specific treatment (medication), to the detriment to other treatments such as psychotherapy. These critics suggested that DTCA has led to increased healthcare costs in general due to wasted appointment time on discussion of medications that have not demonstrated additional benefit compared to existing treatments. They also suggested that this advertisement has led to the fabrication of many conditions to create a medication market. Critics also call attention to the Food and Drug Administration's relatively relaxed regulations regarding DTCA, and its limited ability to oversee this activity (Connors, 2009).

Because of the large quantity of messages coming from the pharmaceutical industry, some authors have proposed that patients are becoming more biased against nonpharmacological mental health treatments (Lacasse, 2005). Gaudiano and Ellenberg (2014) have noted a decrease in psychotherapy use over ten years while mental health needs have increased. They propose that psychotherapy has been in competition with psychiatric medication, and has been unable to compete with the large amount of DTCA for pharmaceuticals. This means that psychotherapy may be underutilized in comparison to pharmacotherapy (Mott, Barrera, Hernandez, Graham, & Teng, 2014). To counteract the underutilization of psychotherapy, some researchers have explored the possibility of DTCA for psychotherapy. Demyan and Anderson (2012) recruited 228 undergraduate students and exposed half of them to a brief public service announcement

(PSA) video presentation conveying positive messages about help seeking and mental health treatment. This intervention was also designed to address concerns specific to college students such as test anxiety. After nine exposures to the intervention, the group that had been exposed to the PSA video demonstrated greater intention to seek counseling in the future, but only if they had sought counseling in the past. Despite these findings, there were some methodological problems with this study. The authors only collected measures of stigma at one point and recorded minimal information regarding participant characteristics. Yousaf and Popat (2014) presented college aged males with a positive conceptual priming considered favorable to mental health treatment. The authors proposed that males would be especially receptive to this task as they have been found to have generally negative views on mental health treatment as well as help seeking in general. This study found that participants did show more positive attitudes compared to a control group, indicating that DTCA messages may increase their effectiveness if they include cues to be open to new experiences. These studies indicate that DTCA for psychotherapy may increase utilization.

While there have been some positive findings, the research on DTCA for psychotherapy and counseling is generally mixed. LaLonde (2013) completed a study in which university students were exposed to an auditory stimulus designed to educate college aged participants about depression as well as encourage various treatment modalities. This study did not find significant improvements in participant's willingness to seek treatment in the future across time compared to the control group. The author proposed that this could have been due to the modality of the stimulus (auditory as opposed to visual), or the specificity of the message (depression). Wong and Chan (2015) also completed a study in which college students were exposed to a "mental health preventative message," which was a visual stimulus. Their

participants showed no change in attitudes toward seeking help after the intervention. Taken together these findings may indicate that media exposure designed to improve attitudes toward help seeking alone may not be enough to change patient behaviors for office based psychotherapy; however, DTCA may still reduce certain barriers to seeking psychotherapy by providing education, increasing openness, or normalizing low levels of stigma.

Stigma and Naloxone

Overdose deaths from drugs (all types) doubled in the United States between 1999 and 2015. This has prompted a movement towards the prescription of opiate overdose prevention services to community members who may be present during an overdose. Naloxone hydrochloride (naloxone) is a narcotic antagonist which is capable of reversing the effects of opiates that can be used to prevent death in the case of an opiate overdose (Akil, Mayer, & Liebeskind, 1976) Between 1996 and 2014, 26,463 overdose reversals were completed using this medication (Wheeler, Jones, Gilbert, & Davidson, 2015). A series of focus groups looking at the perceptions of receiving naloxone from a pharmacy found that most consumers were concerned with the consequences of requesting this medication (Green et al., 2017). The most common consequence was a change in the pharmacist's attitude towards them and potential stigma. This may suggest that community members are unwilling to request naloxone for fear of being identified as addicted to opiates. It is possible that this stigma reduces the number of people who are willing to obtain and use naloxone to reverse an opiate overdose. It is unclear to what extent addressing stigma could increase willingness to have and use naloxone.

Purpose and Hypotheses

As has been discussed, there is a large literature demonstrating the effectiveness of psychotherapy in treating mental illness. Despite this, treatment utilization is low, and even

lower in rural populations. This is especially problematic as is there is some evidence that mental health concerns exist a greater degree in these areas. Several barriers prevent rural populations from seeking treatment, including transportation, lack of specialists, sociodemographic factors, and attitudes towards treatment. Moreover, mental health literacy and stigma of mental illness both affect treatment utilization. Stigma has been addressed through several techniques including those that increase contact between patients and their community, education, and methods that increase privacy. Teletherapy could increase privacy and enable patients to avoid stigma. DTCA has been successfully used to promote pharmacotherapy; however, it is unclear to what degree it can increase teletherapy utilization.

The present study was designed with two purposes. The first purpose was to examine the problem of stigma and intentions to seek mental health treatment in rural and non-rural populations. The relationships between rural identity, self-stigma, public stigma, and intentions to seek mental health treatment were compared in order to understand the importance of each variable in preventing treatment utilization. The second purpose was to explore the effects of DTCA on mental health stigma, help seeking attitudes, and help seeking intentions. Specifically, the effect of targeted DTCA for teletherapy was explored in rural populations to determine whether this was a viable manner to improve treatment utilization.

Primary Hypotheses

The literature regarding the relationship between stigma and treatment seeking is complex due to the multiple ways that stigma is conceptualized as well as inconsistent experimental techniques. For all the primary hypotheses, participants were categorized into rural and non-rural groups based on geography. The first hypothesis was that participant's self-report

of perceived public stigma and self-stigma would be negatively related to their self-reported intention to seek mental health treatment and attitudes towards mental health treatment.

Individuals with rural backgrounds have generally reported a greater level of perceived public stigma as well as self-stigma (Sirey et al., 2001). Rural males have also been shown to have particularly high levels of perceived and self-stigma of mental illness. To further investigate these previous findings, the second hypothesis was that male participants who identify themselves as having a rural background would demonstrate a greater level of both perceived public stigma and self-stigma than their non-rural male counterparts.

DTCA has been shown to be effective in improving treatment utility of pharmacotherapy for mental disorders (Kravitz and Bell, 2013). Additionally, there is evidence that DTCA can improve participant's intentions to seek treatment and attitudes towards psychotherapy (Gallo, Comer, & Barlow, 2013). This has been suggested to occur through improving the knowledge base of both the condition to be treated as well as an awareness of treatment that is available. DTCA is expected to provide knowledge about treatments as well as conditions and reduce stigma by influencing attitudes. A third hypothesis of this study was that participants would report greater intentions to seek mental health treatment of any type after being exposed to DTCA advocating psychotherapy than those in a control group who were exposed to DTCA which provided education regarding depression and mental illness. Rural men were expected to show greater self-stigma than rural women, and these attitudes may have a larger effect on treatment attitudes. Because of this; the effect of DTCA for psychotherapy on attitudes towards mental health treatment was expected to have a larger effect rural men than rural women or non-rural men.

A pilot study completed by Regnier and Roehrich (2015) suggested that rural populations showed less intentions to seek teletherapy than urban participants. This was unexpected given that several practical and psychological treatment avoidance variables could be addressed using teletherapy. To explore this finding, the fourth hypothesis was that rural participants exposed to media advocating teletherapy would show more improved intentions to seek teletherapy than non-rural participants exposed to media advocating teletherapy.

Secondary Hypotheses

Because the present study was principally interested in the cultural impact of a rural background on stigma experience, a variable to measure the importance of geographic background was included. Sense of Place as a construct was proposed to measure the extent to which a person reported a cognitive and emotional relationship with their environment or community (Jorgensen & Stedman, 2001). The Sense of Place scale consisted of three factors; place identity, place attachment, and place dependence. The study sought to explore the relationship between rural identity and sense of place by exploring how SOP related to stigma. As the experience of living in a rural community is expected to increase mental health stigma, it was hypothesized that a higher sense of place will be associated with a higher level of stigma for rural participants, but not for non-rural participants.

Pennsylvania has recently begun to weigh the benefits and costs of providing naloxone to the public and government employees. naloxone is an opioid antagonist and is often used to counteract the effects of heroin or other opiate substances in the case of an overdose. Act 139 of 2014 states that citizens may receive a prescription for naloxone from a physician (Controlled Substance, Drug, Device and Cosmetic Act of 2014). This provision was enacted because friends, family, and community members are often the first individuals on the scene during an

overdose. While the medication is commonly dispersed, it is unclear to what extent relevant community members were willing to seek the training necessary to receive a prescription. It is possible that attending a public training could be perceived as a risk for being identified as a person addicted to opiates or the family member of such. Through risk of identification, it is possible that stigma would have prevented some family and community members from receiving naloxone. It was hypothesized that individuals' willingness to be prescribed naloxone will be negatively related to self-reported stigma.

CHAPTER II

METHOD

The first purpose of the present study was to examine the relationship between stigma and intentions to seek mental health treatment in rural and non-rural populations. The second purpose was to explore the effects of DTCA on mental health stigma, help seeking attitudes, and help seeking intentions. These research questions were addressed through a series of four primary and two secondary hypotheses. The primary hypotheses were designed to determine the effect of rurality and DTCA on various measures of stigma and intentions to seek mental health treatment. The secondary hypotheses were designed to explore how stigma may impact the related issues of sense of place and intentions to use naloxone. A between groups experimental design was used, in which participants were exposed to one of three potential audio stimuli. This study was first approved to the Institutional Review Board of Indiana University of Pennsylvania (IUP) to ensure ethical practice (Log Number 16-030).

Participants

Recruitment

Two hundred and thirty-six participants were recruited from General Psychology courses at a mid-sized University in a rural area of Western Pennsylvania, United States; IUP. To fulfill a requirement of the class, students chose to either participate in research or complete "read and review" assignments in which they summarize scholarly articles. Participants were not offered compensation for participation and could withdraw from the study without negative consequences. Informed consent was provided through a verbal description of the study as well as a written description of their rights as participants. Participants were provided with two copies of a written informed consent document (Appendix A), one to sign and return to receive credit

for participating, and one to keep for their own records. Participant's names were not connected with their responses in any manner in order to ensure anonymity and encourage accurate responding.

Grouping Participants According to Rurality

To explore patient preferences for different types of psychotherapy that were designed to reduce treatment avoidance (such as teletherapy or therapy at a college counseling center), and to clarify the most valid manner of defining rural background in a student sample, a pilot study was completed by Regnier & Roehrich (2015). Thirty-eight participants were recruited in order to determine the technique of categorizing rurality that would correlate most with self-identification as rural or non-rural. They were asked to provide both their permanent address (which was often a University mailing address) as well as their address of longest residence. Several common methods of geographically categorizing rurality were applied to both addresses.

The office of Human Resources and Services defines an area as rural when it does not qualify as urban by having a certain population within a boundary (usually a county). They identify both urbanized areas (having more than 50,000 people) or urban cluster (at least 2,500 people in a designated area) (Health Resources & Services Administration, 2017). The office of Management and Budget (OMB) categorizes counties as either metropolitan (which has an urban area with a population of at least 50,000), micropolitan (which has an area with a population of at least 10,000), or neither which this study considders rural. Participants of the pilot study were categorized as rural if they did not report an address that fell within any of these definitions (United States Census Bureau, 2016).

The Office of Rural Health Policy (ORHP) has argued that both measurements described above are insufficient as they are too broad because they use counties as units of measurement.

The aforementioned office also argued that these systems inaccurately categorize many counties that are primarily rural as urban based on a small population center. This office has used Rural-Urban Commuting Area (RUCA) codes which are based on population, urbanization, and commuting practices to categorize townships as rural or not. The RUCA version 3.10 is based on 2010 census data. The ORHP suggested that areas with RUCA codes of 4 and above be categorized as rural, however they also noted that this may be too stringent of a criterion. The utility of categorizing individuals as "rural" if their RUCA codes were 2 has also been used in areas such as Pennsylvania, where the population density is unusually high when compared to other states (WWAMI Rural Health Research Center, 2015). The Center for Rural Pennsylvania has also used a standard definition of rural which relies on smaller units than counties; however, the center restricts their definitions to Pennsylvania municipalities (Center for Rural Pennsylvania, 2014), which may be inappropriate for a university which recruits students from a national and international pool.

Participants in the pilot study were categorized as either rural or not-rural based on four criteria; the OMB definition, the Office of Human Resources and Services definition, using RUCA codes with a cutoff of 2, and using RUCA codes with a cutoff of 4. Each definition was then correlated with the participant's self-identification as either having a rural background or non-rural background. Table 1 shows the resulting correlation coefficients between various geographic strategies of categorizing rurality and self-identification of rurality. The geographic categorization which was most strongly associated with self-identification of rural background was using a RUCA cutoff score of four and above to categorize a participant as rural. Within this definition, the strongest agreement was when participants were asked for address of longest residence instead of their permanent address. This indicates that using a RUCA code of 4 and

above as a cutoff for a rural area may best capture elements of both geographic origin and psychological identification, and was used for the sample recruited for this study.

Table 1

Correlations of Different Definitions of Rural With Self-Identification in the Pilot Study

	Correlation Coefficient with Self-Identified Rurality* (Significance)	
	Permanent Address	**Address of Longest Residence**
RUCA score of 2 or greater indicating rural	.52 ($p < .01$)	.60 ($p < .01$)
RUCA score of 4 or greater indicating rural	.52 ($p < .01$)	.68 ($p < .01$)
Human Resources and Services Definition	.56 ($p < .01$)	.60 ($p < .01$)
Office of Management and Budget	.44 ($p < .01$)	.34 ($p < .01$)

Note. Correlation Coefficients are listed as Pearson's R.

Sample Characteristics

The present sample was asked for their address of longest residence as previously discussed. When coding physical addresses into census tracts, addresses were corrected for spelling. Sixteen participants responded with an answer that was insufficient to determine which census tract they had lived in, but was sufficient to estimate an appropriate postal code. For these participants, a postal code was used to estimate a RUCA value. In addition, three participants provided addresses for which no information could be obtained, and were not included in analysis. When asked for their gender, one participant replied "other." As there were not additional participants in this category to make meaningful comparisons, they were removed from further analysis. Due to an error in data collection, some participants were not directed to

complete all the surveys. Thirty participants were excluded from analysis because they did not complete the research protocol. In total, 236 participants were recruited for the current study, and 34 cases were removed from analysis leaving 202 participants. The correlation between self-identification with rural background and geographic rurality based on a cutoff RUCA value of 4.0 was statistically significant in this sample ($r = 0.34$, $p < .001$).

The 202 participants were mostly 19 years old (Mean = 19.39, SD = 2.82) and Caucasian (80.2%). The remainder of the participants were Black or African American (14.4%), Hispanic or Latino (1.5%), Native American (0.5%), Asian or Pacific Islander (0.5%), and other (3%). One hundred and four (51.2%) men and 98 (48.3%) women took part in the study. Participants were also mostly freshman (73.3%) and only 2 participants were international students (1%). International students were kept in the dataset as they reported clearly urban backgrounds.

In the present sample, 63 of the participants stated that they came from a rural background (31.2%), 33 stated that they came from an urban background (16.3%), and 106 stated that they came from a suburban background (52.5%). Three categories were used for comparisons when self-report was used as the independent variable (rural, suburban, and urban), while two categories were used when geographic rural was used as an independent variable (rural and non-rural). When asked to identify the geographic location of the address they had spent most their life at, 38 participants listed rural addresses (18.8%) while 164 reported non-rural addresses (81.2%). Descriptive data for the current sample is listed in Table 2.

Table 2

Sample Demographic Information

Variable	Category	Count (percentage)
Status	Included	202 (85.6%)
	Excluded	34 (14.4%)
Gender	Men	104 (51.2%)
	Women	98 (48.3%)
Age range	18	55 (27.2%)
	19	100 (49.5%)
	20	25 (12.4%)
	21	12 (5.9%)
	22	4 (2.0%)
	23	3 (1.5%)
	24+	3 (1.5%)
Ethnicity	Caucasian	162 (80.2%)
	Black or African American	29 (14.4%)
	Hispanic or Latino	3 (1.5%)
	Native American	1 (0.5%)
	Asian or Pacific Islander	1 (0.5%)
	Other	6 (3.0%)
Self-reported Origin	Suburban	106 (52.5%)
	Urban	33 (16.3%)
	Rural	63 (31.2%)
Origin of Address	Non-rural	164 (81.2%)
	Rural	38 (18.8%)

Note. n = 202

Measures

Demographic Information

Participants were asked to respond to a series of questions (Appendix B) about their background within the Qualtrics survey software. This information included age, sex, ethnicity, parent's yearly income, class ranking, international student status, background (rural, urban, or suburban), and current area of study (major). In addition, students were asked to list the address of their longest residence, and were asked whether they consider themselves from a rural, urban (metro), or suburban background. As previous experience with mental health treatment has found

to moderate the effect of DTCA on attitudes towards mental health treatment (Demyan & Anderson, 2012), a question asking whether they or a family member has ever sought counseling or psychotherapy was included. If they respond affirmatively, participants were directed to additional questions asking them whether it was "helpful." An identical question was asked regarding past experience with pharmacotherapy.

Social Stigma of Seeking Help

To measure self-stigma, the Self-Stigma of Seeking Help (SSOSH) scale, created by Vogel, Wade, and Haake (2006), was used without modification (Appendix C). It uses a 5-point Likert type scale which asks participants to indicate to what extent they agree with each statement in order to calculate a total score. Examples of 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." Many items were reverse scored to account for response bias. The internal consistency of this measure has been estimated to be .89, while the test-retest reliability over two weeks is .72 (Vogel et al., 2006). Within the present study, internal reliability was sufficient (Cronbach's α = .83). Validity of the SSOSH scale has been established in that it uniquely predicts attitudes towards mental health treatment (r = -0.65) as well as intentions to seek mental health treatment (r = - 0.37) (Vogel, Wade, & Hackler, 2007). In addition, the SSOSH scale has been shown to have predictive validity as it significantly differentiated between participants who had sought treatment in the proceeding 2 months and those who had not (Vogel et al., 2006).

Perceived Public Stigma

The degree to which participants perceive negative attitudes towards psychological treatment was assessed using a modified version of the Discrimination-Devaluation Scale (DDS)

(Appendix D) originally created by Link and Phelan (2001), and later modified by Eisenberg et al. (2009) to be relevant to studying mental health. This measure consists of 12 statements about the respondents perceived public attitude towards mental health and its treatment and results in a total score. Examples of directly coded items include "Most people would willingly accept someone who has received mental health treatment as a close friend," while negatively coded items include questions such as "most people believe that a person who has received mental health treatment is just as intelligent as the average person." Internal reliability has been found to be good (Cronbach's $\alpha = .89$), while validity was established through positive correlations between self-stigma and an independent rating of how marginalized a participant may be (Link, 1987). Within the present study, internal reliability was sufficient (Cronbach's $\alpha = .80$).

Attitudes Toward Mental Health Treatment

The Attitudes Toward Mental Health Treatment Scale (ATMHT) (Appendix E) is version of the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH) (Fischer & Farina, 1995) modified to reflect more modern and diversely used language (Brown et al., 2010). Although the ATSPPH has been used in a large variety of contexts, the modified version was proposed to reflect the fact that professional mental health providers are not just psychologists and psychiatrists, and is worded in a manner that is attentive to cultural groups outside of Caucasian college students by using phrases such as "In my community". The ATMHT uses a four point Likert type scale to assess the construct of an individual's attitudes towards professional mental health treatment and is compiled to create a total score. Items include statements such as, "In my community, people take care of their emotional problems on their own; they don't seek professional mental health services," and "I feel confident that I could find a therapist who is understanding and respectful of my culture." Internal reliability has been found

to be adequate (Cronbach's α = 0.75), while validity was established by demonstrating that the relationship between ATMHT and public stigma was mediated by internalized stigma (Brown et al., 2010). Within the present study, internal reliability was sufficient (Cronbach's α = .81).

General Help Seeking Questionnaire

The General Help Seeking Questionnaire (GHSQ) was used (Appendix F) to measure help seeking attitudes in participants through brief vignettes. The vignettes all depict situations in which a third party is experiencing clinically significant distress and may benefit from mental health treatment. After the participants read these vignettes, they were asked how likely they would be to seek help from various sources if in the described situation. The GHSQ measures help seeking intentions instead of attitudes, which is possibly a more related measure to actual help seeking behavior (Wilson, Deane, Ciarrochi, & Rickwood, 2007). The GHSQ has been shown to have adequate reliability with a Cronbach's alpha of .85 and a test-retest reliability of .92 (Wilson, Deane, Ciarrochi, & Rickwood, 2005). Within the present study, internal reliability was very good (Cronbach's α = .96). Wilson et al. (2005) also found that the GHSQ was valid for a sample of Australian high school students in that it predicted help seeking behavior from a wide variety of sources. The GHSQ was originally developed in a Canadian sample and has been extensively modified in research to better capture the help seeking behavior in United States populations. It has also been modified based on the specific types of treatment available and to match colloquial language (Ryan, Shochet, & Stallman, 2010). The GHSQ yields a total score by summing up intentions to seek all types of treatment, and a score for each type of intervention.

This study used a modified version of the GHSQ in which three primary changes were made. The GHSQ is commonly modified to reflect the language of the area as well as the type of treatment that is being studied. The GHSQ was modified for language and content to better

reflect the language of Indiana, Pennsylvania. The options for different options for sources of support were replaced with different methods of receiving professional mental health treatment. The alternative options included interventions assumed to reduce mental health stigma-related treatment avoidance and included; a self-help group like AA, a teletherapy service, a university counseling center services, medication through a general practitioner, and an internet based Cognitive Behavioral Therapy program. Additionally; a new vignette depicting someone with a family member experiencing opiate medication addiction was added to the GHSQ, with one option for treatment or support being "A training that would allow you to administer medication which would reverse the effects of a heroin overdose."

Sense of Place

To assess the degree to which participants cognitively and emotionally connect with their geographic identity (rural or non-rural), the Sense of Place (SOP) Scale (Appendix G) developed by Jorgensen and Stedman (2001) was used. The SOP is a 12-item scale that measures three factors; place identity, place attachment, and place dependence. The scale was originally developed to measure how connected people were to their lakefront properties, but has been modified to measure rural participant's identification with their community (Lee, Kang, & Reisinger, 2010). Items are summed to create three subscales (place attachment, place dependence, and place identity) and an overall scale score. Only the pooled score was used for the present study, as only this total score has been validated as a measure that can influence well-being (Chang et al., 2015). The overall internal reliability of the measure was high (Cronbach's $\alpha = 0.85$), and validity has been established by demonstrating higher scores in individuals who have resided longer in a location and obtained a legal resident status (Gallina & Williams, 2015). Within the present study, internal reliability was good (Cronbach's $\alpha = .86$).

Table 3

Descriptive Data for the Complete Sample

	Before DTCA Manipulation			After DTCA Manipulation		
Measure	N	Mean (*SD*)	Range (low, high)	N	Mean (SD)	Range (low, high)
PPS	181	49.71 (*11.23*)	22, 84	-	-	-
SSOSH	159	33.91 (*9.56*)	10, 58	-	-	-
ATMHT	181	86.36 (*15.46*)	49, 123	180	88.18 (*16.18*)	49, 135
GHSQ Teletherapy	180	32.17 (*10.58*)	8, 56	186	35.18 (*12.34*)	8, 56
GHSQ Office	192	41.08 (*10.09*)	8, 56	192	41.93 (*10.74*)	8, 56
GHSQ Total	157	236.69 (*59.19*)	56, 383	167	251.78 (*67.11*)	56, 392
Sense of Place	191	653.30 (*234.52*)	100, 1113	-	-	-

Note. Empty cells indicate that the measure was administered only once. PPS = Perceived Public Stigma; SSOSH = Self-Stigma of Seeking Help; ATMHT = Attitudes Towards Mental Health Treatment; GHSQ = General Help Seeking Questionnaire.

Audio Stimuli

Three audio clips were used in the present study. The control audio clip was 1 minute 28 seconds long and was developed based on a previous study of the experimental effects on the effects of DTCA on college counseling utility (LaLonde, 2013). This script (Appendix H) was originally developed through an analysis of currently used DTCA in the market. It includes information regarding symptoms for Major Depressive Disorder, a message intended to normalize the symptoms, and the statement that it is "treatable." The second audio stimulus was 1 minute 42 seconds long and consisted of the control stimulus with an addition of a brief statement advocating psychological treatment in general. The third audio stimulus was 1 minute

52 seconds long and consisted of a brief statement advocating teletherapy specifically. The audio stimulus advocating teletherapy made specific mention of confidentiality and privacy benefits, as found in Appendix H.

Procedure

Participants signed up to participate in the study through IUP's research participation system platform; SONA. Participants were directed to arrive at a computer laboratory on IUP's campus during a set time. Up to 15 participants were run at one time. When participants arrived, they were greeted and asked to supply the research assistant with their IUP e-mail address to distribute the survey to them. Then the researcher read the informed consent and provided each participant with two paper copies. They were instructed to complete one copy out and return it to receive participation credit, and save one for their own records. Participants were also reminded of the importance of the research project that they were participating in and encouraged to fully attend to the questions. They were also informed that the total time for participating in the study was approximately 45 minutes. Following informed consent, all participants were e-mailed a link which they followed to begin the study.

All measures and stimuli were integrated into Qualtrics, an interactive computerized survey instrument. Qualtrics and all other Qualtrics products or service names are registered trademarks of Qualtrics, (Provo, UT) USA. http://www.qualtrics.com.

All survey measures, including demographic information, were presented one per viewing screen. Prompts encouraged participants to complete missed or excluded questions before continuing with the survey. Participants were first prompted to complete a demographic questionnaire. Following this survey, participants completed measures designed to assess self-stigma, perceived public stigma, attitudes towards seeking mental health treatment, sense of

place, and intentions to seek mental health treatment in a set order. Participants were then directed to a YouTube video of an audio stimulus with a blank visual screen. The YouTube video then prompted participants to place headphones on themselves that were provided at the computers to hear the DTCA.

Participants were assigned to one of three separate conditions on an alternating schedule, a quasi-random method that does not systematically confound group characteristics. The three conditions were an audio stimulus of a description of depression, DTCA advocating psychotherapy, and DTCA advocating teletherapy. Participants listened to the audio stimulus using headphones provided to them at the computer station. Following the completion of the audio clip, participants were directed to return to the Qualtrics system and repeated the ATMHT Scale and the GHSQ.

Following the completion of all measures, participants were provided a printed debriefing form (Appendix I) that included an explanation of the purpose of the study, references for pertinent journal articles of interest, and a list of mental health treatment centers both on and off campus in case students felt or realized the need for services. Participants were then thanked for their participation.

Statistical Analyses

The data were analyzed to determine whether imputation was necessary. Within the dataset, 0% of participants completed every question asked, which was expected given the tiered method in which demographic information was asked. When measured across participants, only 6.73% of variables included completed data. Despite this, 96.2% of overall values were complete. A visual analysis of missing value patterns indicated that data was missing in a random manner and so imputation was attempted. Imputation using a regression method made no

difference in the statistical analyses used to test hypotheses, and therefore that data is not reported.

Primary Hypotheses

The first hypothesis was that participants reported level of attitudes towards mental health treatment, perceived public stigma, and self-stigma would be negatively predictive of their intention to seek treatment in the future. This was analyzed using linear regression. Significant prediction of total intention to seek treatment (as measured by the total score for the GHSQ scale) by self-stigma, perceived public stigma, and attitudes towards mental health treatment was hypothesized.

The second hypothesis was that participants who identify themselves as having a rural background would demonstrate a greater level of both perceived public and self-stigma compared to non-rural participants. Additionally, it was hypothesized that men would report higher rates of stigma than women, and rural men would report the highest level of stigma. The analysis of the independent variables of gender and rurality on the dependent variable of perceived public stigma (using the Discrimination Devaluation Index) was completed through a 2 x 2 Analysis of Variance (ANOVA). A main effect of rurality was hypothesized, in that rural participants would have higher rates of perceived-public (as measured by the PPS) and self-stigma (as measured by the SSOHS), and an interaction effect was also hypothesized which would be driven by rural men reporting the higher levels of both perceived public and self-stigma than non-rural men or rural women.

An analysis of the overall effect of the DTCA manipulation was completed in order to determine whether the manipulation had an effect. A mixed 2 x 3 ANOVA was completed in which the between subjects independent variable was DTCA manipulation and the within

subjects independent variable was time. The dependent variable was intentions to seek treatment overall (as measured by GHSQ), and intentions to seek teletherapy (as measured by GHSQ). The independent variables were time (before and after the manipulation) and the three different DTCA stimuli. It was hypothesized that intentions to seek treatment overall would increase in the two non-control groups, while intentions to seek teletherapy specifically would increase in the group which heard a targeted DTCA message.

The third hypothesis was that following DTCA exposure that included messages regarding psychotherapy and teletherapy, rural men would show a greater increase in intentions to seek mental health treatment than non-rural men and women from both groups. The analysis of the independent variables of DTCA exposure, gender, and geographic rurality on the dependent variable of intentions to seek mental health treatment was analyzed using a mixed 2 x 2 x 2 ANOVA. The within-subjects factor of this model was time, with pre-manipulation GHSQ and post-manipulation GHSQ as the two levels. Rurality and gender were the two between subjects variables.

The fourth hypothesis was that rural participants exposed to media advocating teletherapy would show more improved intentions to seek teletherapy treatment compared to non-rural participants. This was analyzed using factorial analysis of a mixed 2 (rural background) x 2 (time) x 3 (DTCA manipulation) ANOVA with the between subjects' independent variables of rural background and DTCA manipulation. The within-subjects factor of time was also included in the analysis of the dependent variable of intentions to seek teletherapy. The two levels of the within subjects factor were intentions to seek teletherapy before the manipulation and intentions to seek teletherapy after the manipulation. The dependent variable for this manipulation was intentions to seek teletherapy as measured by the GHSQ. Other statistical analyses were

considered for the hypothesis, but were rejected due to a lack of fit to the data. An analysis of covariance (ANCOVA) was considered but rejected due to the violation of the assumption of homogeneity of regression slopes [$F(2, 175) = 4.38$, $p = .01$].

Secondary Hypotheses

The first exploratory hypothesis was that an analysis of sense of place as measured by the SOP scale, would have a significant association with stigma as measured by both the SSOHS and the PPS. This was tested using a series of Pearson's R Correlations. It was expected that self-stigma and SOP would be significantly positively correlated.

The second exploratory hypothesis was that willingness to be prescribed Naloxone, as measured by the sub-scale of the GHSQ, would be negatively related to stigma. Analysis consisted of a series of Person's R correlation. A new vignette depicting someone with a family member experiencing opiate medication addiction was added to the GHSQ, with one option for treatment or support being "A training that would allow you to administer medication which would reverse the effects of a heroin overdose."

CHAPTER III

RESULTS

Demographic Analyses

Rural communities have fundamentally different demographic characteristics than non-rural communities (The Center for Rural Pennsylvania, 2014). An analysis of the effect of rurality on various demographic variables was completed to determine to what degree rural participants differ from non-rural participants in the present sample. A series of chi-square analyses were conducted to determine whether there was a significant difference in ethnicity or parental income between rural and non-rural participants. When rurality was measured geographically using a RUCA cutoff score of 4.0, there was no significant difference between ethnicity and rurality [$\chi(5) = 7.25$, $p = .20$). An additional Chi-squared test was completed for the analysis of RUCA code and ethnicity, which was not statistically significant ($\chi(35) – 28.74$, $p = .76$). There was no difference in parental annual income between geographically defined rural and non-rural participants [$\chi(4) = 8.31$, $p = .081$].

Demographic information was also explored by self-reported rurality as measured on the demographic form (Appendix B). When categorized by self-report, participants either endorsed a rural, urban, or suburban background. The chi-squared analysis of the relationship between ethnicity and self-identified rurality was significant [$\chi(10) = 26.75$, $p = .003$]. This was principally due to a much greater number of individuals who stated they came from urban backgrounds also identifying as Hispanic or Latino (6.1%) or black or African American (36.4%), when compared to those who stated they came from rural (9.5% identified as black or African American, 1.6% identified as other) or suburban backgrounds (0.9% identified as Hispanic, 10.4% identified as black or African American, 0.9% identified as Native American,

and 2.8% identified as other). The chi-squared analysis of self-identified rurality on parental annual income was significant [$\chi(8) = 15.59$, $p = .05$]. This pattern is primarily due to participants who identified as having suburban backgrounds having higher incomes than participants who stated they came from rural or urban backgrounds. Participants who stated that they came from suburban backgrounds reported that that they came from households that made more than $101,000 annually more often (38.7%) than rural (19.0%) or urban (24.3%) participants.

Exploratory correlational analysis was completed to determine whether parental income was related to other demographic variables including intentions to seek treatment (overall and different types of treatment), sense of place, self-stigma of help seeking, perceived public stigma, and attitudes towards mental health. A summary of correlations is listed in Table 3. Analysis of the relationship between parental income and perceived public stigma was significant ($r = .15$, $p = .05$), indicating that participants from more wealthy backgrounds believed their communities held more negative attitudes towards mental health treatment. Sense of Place was also significantly related to parental income ($r = .17$, $p = .02$), indicating that higher income is associated with a greater sense of place.

Table 4

Correlations of Parental Income With Outcome Measures

	Correlation with Parental Income		
	n =	*r* =	*p* =
Self-stigma (SSOHS)	159	-.04	.63
Perceived Public Stigma (PPS)	181	.15	.05*
Attitudes Towards Mental Health Treatment (ATMHT)	181	-.04	.58
Intention to seek treatment (GHSQ)	157	.11	.16
Sense of Place (SOP)	191	.17	.02*

Note. *Finding is significant at $p < .05$.

Experience with Mental Health Treatment

Studies on DTCA have found that intentions to seek treatment can be influenced by previous experience to mental health treatment. Participants were asked a series of 3 questions regarding their exposure to psychotherapy, diagnosis, or psychiatric medication. Descriptive statistics of participant's previous experiences with mental health treatment were also examined. All analyses of previous experience used geographic rurality as the categorizing variable. There was no significant difference between rural and non-rural participants in the number of participants who had themselves or had a family member seek professional counseling or psychotherapy [$\chi(1) = 1.50$, $p = .26$]. Among those participants who replied that they had received psychotherapy, there was no difference between rural and non-rural participants on whether they found it to be helpful [$\chi(1) = 2.15$, $p = .28$]. There was a significant difference

between rural and non-rural participants when asked if they or an immediate family member had ever received a mental health diagnosis [$\chi(1) = 4.80$, $p = .042$]. A higher proportion of rural participants reported that they themselves, or someone they know, had received a mental health diagnosis (55.3%), compared to non-rural participants (36.0%). Among those participants who replied that they had been diagnosed with a mental illness, there was no significant difference between groups in whether this was seen as helpful [$\chi(1) = .081$, $p = .78$]. Lastly, when participants were asked whether they or an immediate family member had been prescribed a psychiatric medication, rural participants replied yes (63.2%) a significantly greater proportion of the time than non-rural participants (34.1%), [$\chi(1) = 10.86$, $p = .002$]. Among those who replied that they or a family member had been prescribed a psychiatric medication, there was no significant difference in whether participants believed this was helpful, [$\chi(1) = 2.24$, $p = .17$]. Table 4 summarizes how participants reported their previous experience with mental health treatment.

Table 5

Chi-Squared Analysis of Rurality and Previous Experience with Mental Health Treatment

	Rural		Non-Rural		
Question	Yes	No	Yes	No	X^2
Have you or another family member ever sought professional counseling or psychotherapy from a professional?	17	21	56	108	1.39
Did you believe it was helpful?	16	1	44	12	2.08
Have you or an immediate family member ever received a mental health diagnosis such as Depression or Anxiety from a health provider?	21	17	59	105	4.60*
Did you believe it was helpful?	18	3	48	10	0.08
Have you or an immediate family member ever used psychiatric medication such as antidepressants or stimulants?	24	14	56	108	10.55*
Did you believe it was helpful?	15	9	44	12	1.84

Note. $*p < .05$

As previous experience with mental health treatment is thought to be related to attitudes towards mental health and stigma, the relationship between previous experience with mental health treatment and attitudes towards mental health (ATMHT scale), self-stigma (SSOHS scale), perceived public stigma (modified devaluation discrimination index), and intentions to seek different types of treatment as measured by the GHSQ subscales, was explored. A series of one way ANOVAs were completed to explore differences between those who had experience with mental health and those who had not. In addition, analyses were completed between those who had found the experience helpful and those who had not. Individuals who reported experience with psychotherapy reported significantly more positive attitudes towards mental health before the manipulation than those who had not [$F(1, 179) = 4.21$, $p = .04$, $\eta^2 p = .042$].

Among those who had experience with psychotherapy, those that found it helpful reported greater intentions to seek help from psychotherapy at a university counseling center [$F(1, 63) = 3.98$, $p = .05$, $\eta^2 p = .06$] and greater intentions to use self-help materials [$F(1, 63) = 12.39$, $p < .01$, $\eta^2 p = .16$]. Participants who had reported that they had received a psychiatric diagnosis reported significantly lower intentions to solve their problems with "getting up and dealing with it," than those who had not [$F(1, 158) = 5.36$, $p = .02$, $\eta^2 p = .04$], and reported significantly greater perceived public stigma [$F(1, 188) = 5.20$, $p = .02$, $\eta^2 p = .03$]. Among those who had received a diagnosis, those that found it helpful reported significantly more positive attitudes towards mental health treatment [$F(1, 66) = 5.12$, $p = .03$, $\eta^2 p = .07$]. There were no significant differences between individuals who had received psychiatric medication and those who had not received psychiatric medication. Among those who had received medication; those who found it helpful reported significantly more positive attitudes towards mental health treatment [$F(1, 70)$, $= 11.32$, $p < .01$, $\eta^2 p = .12$], and greater intention to seek medication in the future [$F(1, 72) = 6.67$, $p = .01$, $\eta^2 p = .07$).

Hypothesis One: Stigma is Related to Intentions

The first hypothesis, that participants reported level of both perceived public and self-stigma would be negatively related to their intention to seek treatment in the future, was tested using multiple regression analysis. As this hypothesis concerned pre-existing group differences without the effect of DTCA, only measures of help seeking intentions recorded before the manipulation were used for the analyses.

The assumptions for the regression model in which the independent variables of perceived public stigma, self-stigma, and attitudes towards mental health treatment predict intentions to seek treatment overall were met. There was independence of residuals as assessed

by the Durbin-Watson statistic of 2.13. There was linearity of relationship and homoscedasticity as assessed by a visual inspection of a scatterplot of studentized residuals and unstandardized predicted values. There was no evidence of multicollinearity as assessed by tolerance values greater than .1, no leverage values greater than .2, and no values for Cook's distance above 1. The assumption of normality was met as evidenced by a Q-Q plot. The multiple regression model predicted intentions to seek treatment overall [$F(3, 123) = 8.40$, $p < .001$, Adjusted $R^2 = .15$]. Only attitudes towards mental health added significantly to the prediction as shown in Table 5.

Table 6

Summary of the Regression of ATMHT, PPS, and SSOHS on the GHSQ Overall

Variable	*B*	SE_B	β	R^2 *Change*
ATMHT	1.49	.39	.37*	.17***
SSOHS	.30	.60	.05	.00
PPS	.12	.52	.02	.00

Note. $*p < .05$; $** p < .001$; $*** p < .0001$, *B* = Unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient.

The assumptions for the regression model in which the independent variables of perceived public stigma, self-stigma, and attitudes towards mental health treatment predict participant intentions to seek psychotherapy in an office were met. There was independence of residuals as assessed by the Durbin-Watson statistic of 1.69. There was linearity of relationship and homoscedasticity as assessed by a visual inspection of a scatterplot of studentized residuals and unstandardized predicted values. There was no evidence of multicollinearity as assessed by all tolerance values being greater than .1, no leverage values greater than .2, and no values for

Cook's distance above 1. The assumption of normality was met as evidenced by a Q-Q plot. The multiple regression model predicted intentions to seek treatment overall [$F(3, 139) = 23.30$, $p <$ .001, Adjusted $R^2 = .32$. Both self-stigma and attitudes towards mental health significantly predicted intentions to seek psychotherapy in an office as shown in Table 6.

Table 7

Summary of the Regression of ATMHT, PPS, and SSOHS on the GHSQ of Office Psychotherapy

Variable	*B*	SE_B	β	R^2 *Change*
ATMHT	.28	.06	.41**	.30***
SSOHS	.20	.09	.192*	.04**
PPS	.07	.08	.07	.00

Note. $*p < .05$; ** p <.001; *** p < .0001, *B* = Unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient.

The assumptions for the regression model in which the independent variables of perceived public stigma, self-stigma, and attitudes towards mental health treatment predict participant intentions to seek teletherapy in an office were met. There was independence of residuals as assessed by the Durbin-Watson statistic of 1.94. There was linearity of relationship and homoscedasticity as assessed by a visual inspection of a scatterplot of studentized residuals and unstandardized predicted values. There was no evidence of multicollinearity as assessed by all tolerance values being greater than .1, no leverage values greater than .2, and no values for Cook's distance above 1. The assumption of normality was met as evidenced by a Q-Q plot. The multiple regression model predicted intentions to seek treatment overall [$F(3, 138) = 3.37$, $p =$ .02, Adjusted $R^2 = .05$]. None of the independent variables including perceived public stigma,

self-stigma, or attitudes towards mental health treatment were significant predictor variables in the model. A summary of the model statistics is found in Table 7.

Table 8

Summary of the Regression of ATMHT, PPS, and SSOHS on the GHSQ of Teletherapy

Variable	*B*	SE_B	β	R^2 *Change*
ATMHT	.10	.07	.15	.05**
SSOHS	.14	.11	.13	.02
PPS	.04	.09	.04	.00

Note. *$p < .05$; ** $p < .001$; *** $p < .0001$, *B* = Unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient.

Hypothesis one was generally supported in that there was a negative relationship between stigma and intentions to seek mental health treatment. It was not supported in that attitudes towards mental health treatment explained most of the variance and stigma only contributed original predictive ability to intentions to seek psychotherapy in an office.

Hypothesis Two: Rural Males Will Report More Stigma

The second hypothesis stated that rural male participants would demonstrate a greater level of both perceived public stigma and self-stigma than non-rural men and all women. Rurality was determined by geographic categorization.

The analysis of gender and rurality on perceived public stigma (using the Discrimination Devaluation Index) was completed through a 2 x 2 Analysis of Variance (ANOVA). Heterogeneity of variance was established through Levine's test [$F(3, 186) = 1.28$, $p = .28$]. Normality of residuals was established visually. In the analysis of perceived public stigma there

was no main effect of gender [$F(1, 186) = 2.69$, $p = .10$], main effect of rurality [$F(1, 186) = .08$, $p = .78$], or interaction effect [$F(1, 186) = .01$, $p = .95$].

The analysis of gender and geographic rurality on attitudes towards mental health treatment (as measured by the ATMHT scale) was completed using a separate 2 x 2 ANOVA. In this model, heterogeneity of variance was established through Levene's test, which was not significant [$F(3, 177) = .87$, $p = .46$], while normality of residuals was established visually. There was no effect of rurality [$F(1, 177) = .30$, $p = .58$], and a significant main effect of gender [$F(1, 177) = 6.82$, $p = .01$, $\eta^2 p = .04$]. There was no interaction effect between rurality and gender [$F(1, 177) = .82$, $p = ..37$]. Women demonstrated more positive attitudes towards mental health treatment (ATMHT; $\mu = 89.47$, $SD = 1.53$) than men ($\mu = 83.55$, $SD = 1.65$).

The analysis of gender and geographic rurality on self-stigma (as measured by the SSOHS) was completed using a 2 x 2 ANOVA. The analysis of normalcy of residuals using Shapiro-Wilk test was not significant [$F(159) = .990$, $p = .30$], while Levene's test was used to determine homogeneity of variance and was significant [$F(3, 155) = 4.92$, $p = .003$]. A regression analysis was run to determine whether using a non-parametric test would change the results. As there were no significant findings regardless of the method used, analysis was completed using the planned ANOVA format. there was no main effect of gender [$F(1, 155) = 0.03$, $p = 0.86$], no main effect of geographic rurality [$F(1, 155) = 1.08$, $p = 0.30$], or interaction effect between geographic rurality and gender [$F(1, 155) = 0.52$, $p = .47$].

Hypothesis 2 was generally not supported, participants did not differ in their attitudes towards mental health treatment, their self-stigma, or public stigma by rurality. This analysis did find that women held more positive attitudes towards mental health treatment than men, which is consistent with literature. Gender did not influence either public or self-stigma.

Effect of the Manipulation on Overall GHSQ

To determine whether there was an effect of different types of DTCA on intentions to seek treatment; a mixed 2 x 3 ANOVA was conducted. The analysis used the independent variables of DTCA and time on the dependent variable of intentions to seek mental health treatment overall. The analysis of time on intentions to seek mental health treatment was significant [$F(1, 140) = 32.74$, $p < .01$, partial $\eta 2 = .19$], indicating that participants responses changed after manipulation. Analysis of DTCA manipulation on intentions to seek mental health treatment was not significant [$F(2, 140) = 2.05$, $p = .13$]. Analysis of the interaction between the DTCA manipulation and timing was not significant [$F(2, 140) = 1.80$, $p = .17$].

Hypothesis Three: Intentions of Rural Men Will Change Most After DTCA for Treatment

The third hypothesis was that compared to the control group, rural men will show significant intentions to seek mental health treatment after the two DTCA exposures that include messages regarding psychotherapy and teletherapy. Rurality was determined by geographic categorization, with participants who listed addresses of origin having a RUCA score of greater than 2 being rural. The analysis of the independent variables of DTCA exposure, gender, and geographic rurality on the dependent variable of intentions to seek mental health treatment was analyzed using a mixed 2 x 2 x 2 ANOVA. The within-subjects factor of this model was time, with pre-manipulation GHSQ and post-manipulation GHSQ as the two levels. An analysis of the main effect of time on intentions to seek treatment was significant [$F(1, 131) = 26.62$, $p < .01$, partial $\eta 2 = .17$], indicating that participant's responses changed overall. This is possibly due to a testing, priming, or fatigue effect. There was no main effect of geographic rurality [$F(1, 131) = .07$, $p = .79$], main effect of gender [$F(1, 131) = .44$, $p = .51$], or main effect of DTCA

manipulation [$F(2, 131) = 1.70$, $p = .19$] on intentions to seek mental health treatment overall. There were also no significant interaction effects within this analysis ($p > .05$).

The analysis of the independent variables of DTCA exposure, gender, and geographic rurality on the dependent variable of intentions to seek teletherapy was analyzed using a mixed ANOVA. A main effect of time on intentions to seek teletherapy was significant [$F(1, 165) = 28.81$, $p < .01$, partial $\eta 2 = .15$], indicating that participant's responses changed after the manipulation overall. There was no main effect of geographic rurality [$F(1, 165) = 1.74$, $p = .19$], gender [$F(1, 165) = .00$, $p = .99$], or DTCA manipulation [$F(2, 165) = .49$, $p = .61$] on intentions to seek teletherapy. Hypothesis three was not supported in that there was no main effect of gender, main effect of rurality, or interaction between gender and rurality.

Hypothesis Four: Evaluating the Effects of Rurality on Intentions to Seek Teletherapy After Teletherapy DTCA

The fourth hypothesis was that rural participants exposed to media advocating teletherapy would report greater intentions to seek teletherapy than non-rural participants after exposure to media advocating teletherapy. The first step of testing this hypothesis was analysis of the omnibus model of the effects of rurality, DTCA manipulation, and time (before and after) on intentions to seek teletherapy using a mixed 2 x 2 x 3 ANOVA.

Six outliers were identified through an inspection of a series of boxplots. They were determined to be genuinely unusual values and did not influence the results. They were included within the analysis. Intentions to seek teletherapy were normally distributed as assessed by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances as assessed by Levene's test ($p > .05$) and homogeneity of covariance matrices as assessed by Box's test ($p = .16$).

For the omnibus model, there was a significant main effect of time [$F(1, 170) = 25.88$, $p < .001$, $\eta^2 p = .13$]. There was no main effect of DTCA manipulation [$F(2, 170), = 1.47$, $p = .23$] or rurality [$F(1, 170) = .09$, $p = .91$]. There were also no two way interaction effects between time and DTCA manipulation [$F(2, 170) = 1.72$, $p = .18$], between time and rurality [$F(1, 170) = .02$, $p = .90$] or between DTCA manipulation and rurality [$F(2, 170) = .09$, $p = .91$]. The three way interaction between time, DTCA manipulation, and rurality approached significance but was not [$F(2, 170) = 2.85$, $p = .06$].

To clarify these findings, the simple interaction effects of time and rurality at each level of the DTCA manipulation on intentions to seek teletherapy were further explored in a factorial analysis of the previous model. There was a significant interaction between time and rurality on intentions to seek teletherapy when participants were shown DTCA advocating teletherapy [$F(2, 170) = 8.41$, $p < .001$] and when exposed to DTCA advocating psychotherapy in general [$F(2, 170) = 15.61$, $p < .001$] as shown in Figure 1 and Figure 2. There was no interaction effect between time and rurality when participants were exposed to DTCA that expressed positive messages about depression in the control group [$F(2, 170) = 2.48$, $p = .09$].

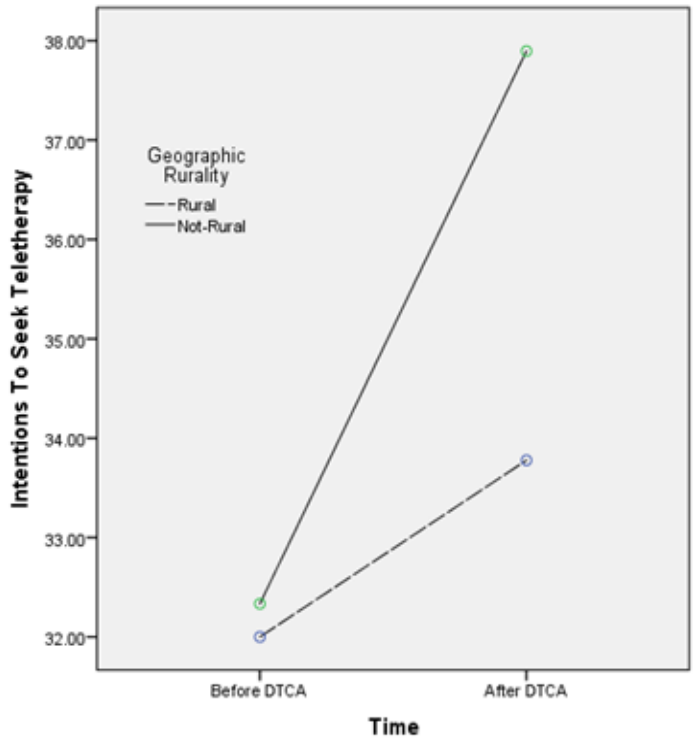

Figure 1. The Interaction Between Geographic Rurality and Time on Intentions to Seek Teletherapy for Participants Shown DTCA for psychotherapy.

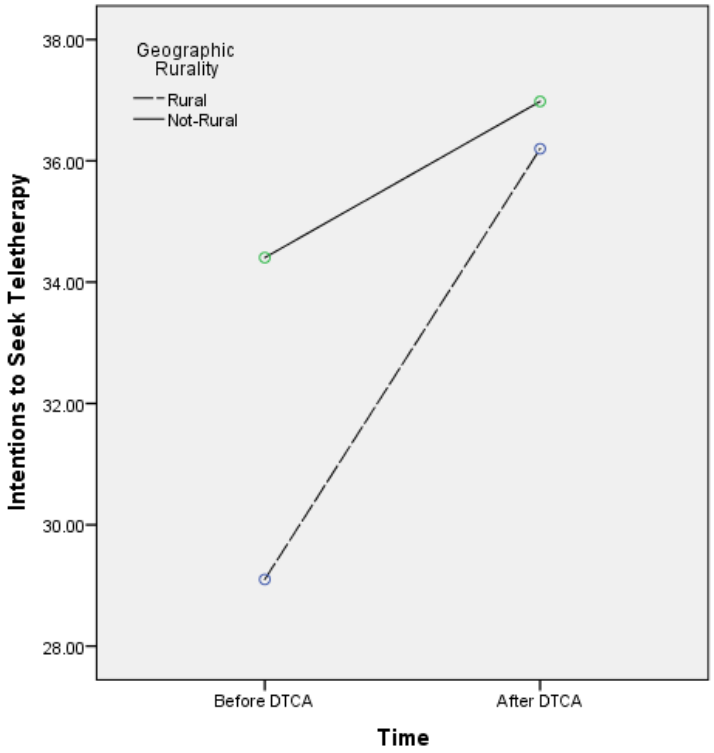

Figure 2. The Interaction Between Geographic Rurality and Time on Intentions to Seek Teletherapy for Participants Shown DTCA for Teletherapy.

To further explore the main effect of time in the model, the simple effects of time on intentions to seek teletherapy at the six levels of the other two variables; rural participants in the control group, non-rural participants in the control group, rural participants shown DTCA for psychotherapy, non-rural participants shown DTCA for psychotherapy, rural participants shown DTCA for teletherapy, and non-rural participants shown DTCA for teletherapy. Results are summarized in Table 9.

Table 9

Summary of The Simple Effects of Time on Intentions to Seek Teletherapy at Each Level of Rurality and DTCA Manipulation

	Rural			Not-Rural		
Level of Manipulation	df	F	p	df	F	p
Active Control	1, 173	0.75	0.39	1, 173	98.01	0.05
Psychotherapy DTCA	1, 173	0.48	0.49	1, 173	742.59	< **0.001***
Teletherapy DTCA	1, 173	8.52	**0.004***	1, 173	155.76	**0.01***

Note. * = Significant at the $p < .05$ level.

There were mixed findings regarding hypothesis four. It was supported in that there was a significant interaction between time and rurality on intentions to seek teletherapy when shown DTCA advocating teletherapy. This was demonstrated by a greater change in intentions to seek teletherapy for rural participants'. Hypothesis four was not supported in that non-rural participants intentions to seek teletherapy improved more consistently across all types of DTCA.

Secondary Hypotheses

Exploratory Analyses of Sense of Place

The first secondary hypothesis was that sense of place would be associated with self-stigma and perceived-pubic stigma. A series of bivariate correlations of SOP on self-stigma, perceived public stigma, attitudes towards mental health treatment, intention to seek treatment overall, and intentions to seek each other specific type of treatment were run. SOP was not significantly correlated with perceived public stigma (r = .05, p = .52), self-stigma (r = .14, p = .09), or attitudes towards mental health (r = .07, p = .35). SOP was significantly correlated with intentions to seek teletherapy (r = .16, p = .03), intentions to seek help from a priest (r = .23, p < .01), and overall intentions to seek mental health treatment (r = .17, p = .03). This hypothesis was not generally supported as there was no significantly correlation between SOP or measures of stigma. There were noteworthy findings regarding the correlation of SOP on intentions to seek treatment.

Opiate Antagonist Training

The second secondary hypothesis was that intentions to seek naloxone training would be negatively associated with perceived-public stigma and self-stigma. A series of correlational analyses were run between participants' willingness to engage in a training to administer naloxone (as measured by the one question from the GSHQ) and various measures of stigma including self-stigma, public stigma, and attitudes towards mental health treatment. The correlation between intentions to seek naloxone training and perceived public stigma was not significant (r = .08, p = .29). The correlation between intentions to seek naloxone training and self-stigma was also not significant (r = .08, p = .34). There was a significant correlation between intentions to seek naloxone training and attitudes towards mental health treatment (r =

.18, $p = .01$), in which more positive attitudes indicated greater intentions to seek naloxone training. In addition, rural and non-rural populations did not differ in their intentions to seek training for naloxone as shown by a between subjects t-test [$F(1, 197) = .133$, $p = .72$]. This hypothesis was not supported, as intentions to see naloxone training was only related to intentions to seek mental health treatment and not stigma.

Chapter IV

DISCUSSION

Summary

Overall, the results of the current study suggest that the pre-existing negative attitudes towards teletherapy held by rural individuals may be susceptible to improvement through targeted DTCA. This effect may not be because DTCA can reduce stigma, but may be because DTCA for teletherapy may cue participants to avoid the stigma and other practical barriers to treatment of office psychotherapy. The effect of stigma was expected to have a larger association with intentions to seek mental health treatment than was found in the present study. When comparing the unique predictive ability of stigma beyond participant's own attitudes towards mental health treatment, stigma was only significantly predictive of intentions to seek therapy in an office. Stigma also did not differ with regard to geographic rurality as expected.

Hypothesis One: Stigma is Related to Intentions to Seek Treatment

There were mixed findings regarding hypothesis one. Perceived public stigma, self-stigma, and attitudes towards mental health treatment were all significantly correlated with intentions to seek mental health treatment in general, intentions to seek teletherapy, and intentions to seek psychotherapy in an office. This suggests that individuals with more self-stigma, perceived public stigma, and more negative attitudes toward mental health treatment were less likely to engage in mental health services. The hierarchical regression of attitudes and stigma on predict intentions to seek treatment overall demonstrated that attitudes towards mental health treatment were the strongest predictor. Neither self-stigma nor perceived public stigma contributed additional predictive power to the regression model. This finding may call into question the utility of stigma measures in predicting mental health treatment seeking behaviors.

Corrigan et al. (2001) summarized findings on the relationship between stigma and mental health treatment seeking, and found the two to be consistently related. It is possible that the current sample differed from previous samples because of the college student population. College students could rely less on stigmatized identities to make decisions, as their identities are still considered fluid. It is also possible that the high predictive value of attitudes towards mental health treatment was more inclusive of other constructs than expected. If this measure also captured elements of stigma than it might mask the additional contributing value of stigma measures. Wei (2017) compared the relative qualities of several stigma and mental health attitude scales, and found that there was little evidence for discriminant validity of the ATMHT scale. This could indicate that the scale overlaps with measures of stigma and another, more specific measure of personal attitudes may be appropriate.

The hierarchical regression of attitudes and stigma on intentions to seek office psychotherapy also demonstrated that attitudes towards mental health treatment were the strongest predictor. In this model, self-stigma was additionally predictive of intentions to seek office psychotherapy. As this finding was not replicated for all types of treatment, this may indicate that seeking treatment within a psychotherapy office is unusually susceptible to self-stigma. This could be explained by the increase in risk of being identified as a mental health patient when attending a specialist clinic. It is also possible that psychotherapy in an office is the cognitive prototype of mental health treatment, and elicits the most visceral negative reaction regarding help-seeking. Thompson, Bazile, and Akbar (2004) found lower intentions to seek mental health treatment in African American males who stated that psychotherapy in an office was too “impersonal,” when compared to treatment that was more integrated into a community

such as counseling by Clergy or at home treatment. This perception could also exist within rural populations and within the present sample.

The hierarchical regression of attitudes towards mental health treatment and stigma on intentions to seek teletherapy also demonstrated that attitudes towards mental health treatment were the strongest predictor. Neither self-stigma or perceived public stigma contributed significantly to the model. This may be because, when compared to office psychotherapy, there is relatively low risk of activating a stigma schema through being identified. It is also possible that teletherapy is novel enough that it does not activate the same stigma that other types of treatment do. There is limited research regarding the relationship between stigma and teletherapy. Reiner (2016) compared the level of stigma elicited by cybertherapy to stigma elicited by traditional psychotherapy and found no differences. Although this study did not include rural participants specifically, this may indicate that teletherapy is not seen as a modality of treatment that would elicit less stigma should a patient be identified.

The current sample may have been inconsistent with previous findings due to their age. The present sample of college students was relatively young. Sirey et al., (2001) found that younger participants generally perceive more stigma, but are less likely to have that stigma predict treatment discontinuation for depression. This is consistent with the current findings that attitudes towards mental health were more predictive of intentions to seek treatment than stigma. It is possible that the same analysis in order adults would show a different pattern.

Generally, the relationship between stigma and intentions to seek treatment is inconsistent (Reynders, Kerkhof, Molenberghs, & Van Audenhove, 2014). This suggests that population characteristics could influence the way that attitudes towards mental health treatment and stigma are related to intentions to seek treatment in the current sample. College students at a

rural University may not be influenced by stigma to the same degree as the general population. Corrigan et al., (2016) found that college students were accepting of a program that would assist them in disclosing their mental health treatment. This suggests a limited effect of stigma on intentions to seek mental health treatment that may be unique to college students.

Hypothesis Two: Rural Males Will Report More Stigma

The second hypothesis was composed of several parts. The first of which was to determine if there was a difference between rural and non-rural participants in terms of stigma. There was no significant difference between rural or non-rural participants in perceived public stigma, self-stigma, or attitudes towards mental health. This was consistent even when simple effects of rurality were explored between men and women. One possible reason for this finding could be the greater homogeneity within the sample of students used in the present study when compared to community samples. Jones, Cook, & Wang (2011) recruited participants from the community using a telephone survey and found significantly greater stigma in rural participants than non-rural participants. When this was corrected for income and education; however, the difference was non-significant. Participants in the present study had received approximately the same level of education at the time of the survey, and had access to similar financial resources. It is possible that the population characteristics which drive the perceived difference were not present in this sample.

A more consistent finding in the literature is that greater stigma is generally found in men than in women. Jones, Cook, and Wang (2011) found that rural men specifically maintained the highest levels of stigma even after corrected for education and income The present study found that women reported more positive attitudes towards mental health treatment than men, but no significant difference in perceived public stigma or self-stigma. This could be due to differences

in masculinity norms between populations. It is possible that rural men on a college campus do not associate masculinity with stigma to the degree that rural men in a community sample may. The present sample may also have had insufficient power to identify this interaction effect. Community samples addressing a similar concern have recruited over 3000 participants to address the relationship between self-stigma and demographic characteristics such as rurality and gender. This inconsistency may be due to a relatively small effect size (such as found in Jones, Cook, and Wang, 2011), which would not be apparent in the present study.

Regional cultural differences may have influenced the finding that there were no significant differences between rural and non-rural participants. An increase in the relevancy and visibility of mental health issues within rural Pennsylvania may have reduced the traditionally conceptualized difference in stigma between rural and non-rural populations. Simmons, Rajan, Godamt, and Elliott (2016) surveyed first responders in Pennsylvania and found that they held positive views of programs meant to decrease opioid overdose that included addiction treatment. It was suggested that the positive attitudes were motivated by the large increase in opioid related deaths in Pennsylvania, and rising public consciousness about the issue. It is also possible that the "small town" atmosphere of urban Pennsylvania does not have the same stigma increasing qualities as other urban areas. This would be a recent and relevant switch, as generally stigma of addiction is more severe than stigma of mental illness (Barry, McGinty, Pescosolido, & Goldman, 2014). The present sample did not find significant differences between rural and non-rural participants for income and education, indicating similarity between the two populations.

When analyzed by self-identification, area of origin may have influenced participant characteristics. Participants who self-identified as urban in the presents study were socio-economically very similar to rural participants, while participants who identified as coming from

suburban participants reported coming from households with higher incomes. Income was positively correlated with public stigma in the present sample; indicating that participants who came from more wealthy families responded that they saw more stigma in the community. Income generally has been found to be unrelated to self-stigma, as shown by meta-analysis review (Livingston & Boyd, 2010), which is consistent with the present lack of findings regarding the relationship between income and self-stigma. It is possible that the lack of an association between income and self-stigma is unique to the Pennsylvania population.

The present lack of differences between rural and non-rural participants in stigma may be due to the definition of rurality. The present sample diverges from most research on rural populations by recruiting from a student population all living in the same geographic area. For this reason, the address of longest residence was used instead of a present address. It is possible that the current geographic environment, a University campus, is more influential on the amount of stigma reports than an area that they have spent most of their life. It is also possible that individuals who are able to attend college are fundamentally different from the general population in terms of values, intelligence, or other important factors. The actual amount of public stigma (whether perceived or not) would be near equivalent between groups, as the geographic communities all of the present participants spend most of their time in are the same. As the amount of public stigma in the University atmosphere may be the same for all current participants, the present sample may have benefited from conceptualizing perceived public stigma as "sensitivity to stigma" or "stigma stress" as a result of the same degree of public stigma. Rusch et al., (2009) collected self-reported perceived stigma and the "stigma stress in a sample of 85 individuals with mental illness within the same community. They found that participants who experienced stigma as more stressful also perceived more stigma existing in the

community. Taken together, it is unlikely that a valid comparison between rural and non-rural stigma within a community can be made with perceived public stigma reports. The actual level of stigma in a college environment may mask any true difference.

The use of an address of longest resident to categorize students as rural is also problematic as it does not directly indicate the most recent, formidable, or relevant geographic cultural influence. It is possible that the time spent at college has influenced all participants in a similar manner. The present sample was living in a college town that is largely considered rural. A college campus in a rural county will have different characteristics and culture than a rural area without a college, or even the surrounding community not affiliated with the University. While this was the intention of the present system of categorization, there was no measure collected that successfully differentiated the level to which their culture had been influential. Although SOP was included in an attempt to measure this, it is not clear that this was accomplished.

The effect of gender overall on stigma and attitudes towards mental health was also analyzed. There was no effect of gender on self-stigma or perceived public stigma. There was a significant difference in terms of attitudes towards mental health in which women demonstrated more positive attitudes towards mental health treatment. This effect was consistent for rural and non-rural participants. This is consistent with literature that women tend to demonstrate lower levels of negative attitudes than men (Livingston & Boyd, 2010). Chandra and Minkovitz (2007) found that gender differences in stigma begin early and are present in 8th graders as well as adults. They found that girls in their sample were twice as likely to report intentions to seek mental health treatment than boys, and reported significantly less stigma. It was unexpected that women in the present study did not report less self-stigma than men. It is possible that this is due

to the sample characteristics, in that all participants were college students who were enrolled in a general psychology course. A general psychology class, and education in general, may increase mental health literacy and equalize stigma associated with mental illness between genders.

Hypothesis 2 was generally not supported as there was no main effect of rurality on measures of self-stigma, perceived public stigma, or attitudes towards mental health treatment. Possible reasons for this include the sample characteristics of being younger, college students, and being categorized according to a previous address.

Effect of DTCA on Overall Intentions to Seek Treatment

In order to determine if the three DTCA messages had different effects on intentions to seek mental health treatment, an analysis of variance was completed. Participants demonstrated greater intentions to seek mental health treatment regardless of the version of DTCA to which they were exposed.

It was not hypothesized that participants would report greater intentions to seek mental health treatment after all conditions, as it is inconsistent with previous findings by LaLonde (2013). The previous study showed no change in intentions to seek treatment between the two measurements; before DTCA exposure and after DTCA exposure. LaLonde (2013) used a much shorter measure of intentions to seek mental health treatment, the Intentions to Seek Counseling Inventory (McGhee, 2011). It is possible that the vignettes used within the GHSQ influenced participants more than a series of isolated questions. These vignettes could have cued participants to consider and empathize with those who experience mental illness to a greater degree. Besides the GHSQ measure itself, participants were exposed to a great degree of material alluding to mental illness; measures of stigma, measures of attitudes towards mental health, and the DTCA regarding mental illness. This exposure could have primed participants to normalize

the various mental health concerns that they read in the GHSQ and perceive them in a more positive light. Participants may have reported greater intentions to seek treatment the second time they were exposed to the measure simply because of their familiarity with the instrument.

Another possibility is that the manipulation made a significant difference in improving attitudes, but the participants were primarily influenced by the educational component of the DTCA rather than the message specific to treatment. It is possible that the DTCA's main effect was through a priming mechanism in which providing an audio stimulus with positive messages about mental health made the largest difference. This may be the most likely scenario; as a majority of the manipulation was dedicated to education about mental health and the possibility for change in general. Each DTCA consisted of 202 words describing the symptoms of depression and normalizing depression in the beginning of the message. For the control DTCA condition, 13 additional words further depression were added. For the DTCA advocating psychotherapy 33 words advocating psychotherapy were added. For the DTCA advocating teletherapy 66 words were added. These additions were all at the end of the message, were shorter, and were arguably less relevant than the 202 words describing depression. The different manipulations may not have been influential on intentions to seek mental health treatment if primacy effects were more pronounced than recency effects. Corrigan, Kosyluk, Fokuo, and Park (2014) compared primacy effects to recency effects in a group of college students exposed to DTCA, and found that those who were more skeptical showed greater primacy effects. It is possible that the present sample was more skeptical about DTCA or engaging in research, and therefore would be less likely to be very influenced by the different additions to each DTCA condition. There may not have been a difference between DTCA groups due to the lack of salience of the message that differentiated them.

Another possibility is that the stimulus was not influential enough due to the fact it was audio only, limited in time, and not repeatedly presented to participants. It is possible that the manipulation was just not adequate to change behavior. Demyan and Anderson (2012) found a significant effect between a control group and video DTCA after nine exposures to the same video stimulus. Yousaf and Popat (2015) presented participants with a repetitive visual priming task in which participants repeatedly unscrambled sentences related to the benefits of mental health treatment. Yousaf and Popat (2015) found significant effect of the priming task improving intentions to seek treatment when compared to a passive control group. Wong and Chan (2015) presented students with a single exposure to a video stimulus; however, found no effects of the manipulation. It may be that DTCA that is repetitive is more effective than a single exposure. Although visual stimuli are not always effective, they may be more powerful than audio stimuli, such as those used in the present study.

Participants in this study were all enrolled in a general psychology course and most likely had been cued about psychological topics within the last few days. It is possible that having recently been exposed to psychological topics could have lowered the threshold for being cued to sympathize with a message regarding depression. It is possible that participants who have not recently been exposed to psychological material may react in a different manner. Another possible explanation for the significant effect of time is due to demand characteristics; a type of response bias in which participants respond in the manner they believe is expected to be agreeable or to please the researcher (Boot, Simons, Stothart, & Stutts, 2013). Because participants were in a psychology course, they could have been motivated to "help" to researcher find a correct answer by improving their intentions to seek treatment regardless of the stimulus. This can sometimes be mitigated by measuring what participants believe is expected of them.

There was no measurement of participant expectations or understanding of the current study. The purpose of the study to improve participant's attitudes through an audio stimulus was transparent due to the repeated administration of several measures before and after DTCA exposure, leaving open the possibility that participants anticipated that they would be expected to improve in their attitudes towards mental health.

Hypothesis Three: Intentions of Rural Men Would Change Most After DTCA Manipulation

The third hypothesis, that rural males would show an increase in the change in attitudes towards teletherapy following teletherapy specific DTCA compared to non-rural participants, was not supported. It was also consistent with the finding that there was no difference between DTCA groups for intentions to seek treatment overall. As previously discussed, there are several potential reasons why the manipulation was not effective that may also explain the lack of difference in effects between rural and non-rural participants.

Given this studies limited findings regarding DTCA in general, it is possible that a priming effect influenced all participants in a similar way which then minimized group differences. This could because the wide variety of mental health issues and treatments prime participants to consider mental health from a more positive perspective. It is also possible that this is due to fatigue, and participants were more likely to endorse generalized positive intentions uncritically during a second administration.

The effect of direct to consumer advertising for psychotherapy in rural populations has not been previously explored to the knowledge of the author. Weissman, Blumenthal, Silk, and Newman (2004) noted that primary care physicians in rural, urban, and suburban settings did not find a difference in the way DTCA impacted their patient requests for psychotropic medication.

Spake, Joseph, and Megehee (2014) collected data from patients of both rural and urban primary care patients regarding their attitudes towards DTCA. They found that urban participants reported more skepticism of DTCA for pharmaceuticals, while rural participants were more likely to report that DTCA prepared them for a medical appointment by informing them. The study did not explore whether the rate of prescription or treatment in general was different, or differentially impacted, between rural and urban participants. A small increase in the receptivity of DTCA by rural populations may explain current findings.

Another possible reason the third hypothesis was not supported is that the assumptions behind this hypothesis were not valid. The manipulation was intended to address an assumed difference between populations; that rural males would show especially negative attitudes towards mental health treatment compared to non-rural populations. This assumption was not supported in the present sample. It is still possible that this approach could be effective given a sample of rural males who do demonstrate a significantly greater amount of stigma or more negative attitudes towards mental health treatment than urban participants. Spake, Joseph, and Megehee (2014) demonstrated that in a community sample, older rural men were less skeptical of DTCA for pharmaceuticals than older urban men. This suggests that there may be generational or other differences that are present in a community sample of rural participants, and are not in a student sample.

Hypothesis Four: Rural Participants Will Respond to Teletherapy DTCA

The fourth hypothesis was supported in that there was an interaction between rurality and time for participants who were shown DTCA advocating teletherapy. Visual analysis of the data showed that, at this level of DTCA, rural participants started with much lower intentions to seek teletherapy and then changed dramatically to match the intentions of the non-rural participants.

The interaction of time and rurality on intentions to seek teletherapy was also significant for participants shown DTCA advocating talk therapy in general. This is clarified by the simple effects of time on intentions to seek teletherapy. Non-rural participants significantly improved after exposure to DTCA regardless of whether the message was specific to teletherapy or psychotherapy in general. The improvement of non-rural participants' intentions to seek teletherapy approached significance in the control group as well. Rural participants' intentions to seek teletherapy only significantly improved when shown DTCA specific to teletherapy. Together, these findings may indicate that non-rural participants are more likely to respond to DTCA in general; however, that rural participants may respond more strongly to targeted messages that address issues important to them. In the present study, that message would be the benefits of privacy and convenience for teletherapy.

The significant interaction effect between time and rurality was consistent with the hypothesis; however, it was unexpected given the lack of significant findings in hypothesis three and limited support for hypothesis two. Exposure of different levels of DTCA did not change intentions to seek treatment overall, and rural participants did not report greater rates of stigma or more negative attitudes towards mental health than non-rural participants, and rural participants did not respond to a greater degree to DTCA than non-rural participants. The assumptions were conceptualized as barriers to treatment that could be rectified by targeted DTCA, and did not appear to be need this correction. This may indicate that hypothesis four was supported through a method of action other than decreasing stigma as hypothesized.

Attitudes towards mental health did not appear to be changed by this manipulation, and populations did not differ in terms of stigma before the manipulation. It is possible that hypothesis four was supported because teletherapy allows a greater avoidance of the perceived

social sanctions (as evidenced by perceived public stigma) for rural participants than urban participants. In urban and suburban settings, anonymity is expected in offices given the generally large population and low likelihood of seeing an acquaintance or other known member of the community. In contrast, individuals and mental health centers are highly identifiable in rural populations, even by their vehicle. Smalley et al., (2010) completed a review of the most common concerns of mental health patients in rural areas, and found that privacy and being identified were amongst the most common. Logan, Stevenson, Evans, and Leukefeld (2004) found that urban women perceived less risk of being identified for seeking mental health and legal services following domestic violence than rural participants. The perception of increased risk of identification may not be directly related to stigma itself, but may increase the negative impact of stigma and attitudes towards mental health treatment on intentions to seek treatment. The increased privacy afforded by teletherapy may be less consequential to non-rural participants as there is minimal risk for being labeled as seeking treatment. This labeling is very threatening to all populations, but only rural participants are regularly at risk when seeking treatment. This makes teletherapy especially helpful for rural participants, and a DTCA manipulation that points out this benefit of increased privacy could increase participants' expectations of privacy and decrease their fear of being labeled.

Another population of treatment seekers that find privacy to be extremely important is cancer patients. Leung, Smith, and Atherton (2015) noted that cancer patients in rural areas were more often identified unintentionally due to the difficulty of travel, greater visibility, and greater flow of information in rural areas. This same risk may pertain to mental health patients in rural areas, and it is possible that they are identified much more often than patients in non-rural areas. This risk, and the awareness of it, could significantly motivate greater avoidance in rural areas.

The increased intention to seek teletherapy after DTCA specific to that treatment is possibly due to a perceived reduction in being identified. Although the manipulation did not specifically mention privacy, it did mention how difficulty travel can be, which can be a risk factor for being identified as a mental health patient.

In the present study, rural participants did not report a greater rate of stigma than non-rural participants. This may indicate that negative attitudes are not the primary barrier preventing rural participants from seeking mental health treatment. The present data suggests that other variables, such as a lack of privacy in rural areas, decreases the utilization of mental health. This may indicate that teletherapy and other services that decrease participants' public affiliation with mental health treatment would provide the security and privacy to rural participants that has always been present for non-rural participants. This could indicate that the perceived problem of more negative attitudes towards mental health treatment in rural populations is not as present as expected.

Although not explicitly hypothesized, it was expected that rural participants intentions to seek teletherapy after DTCA for teletherapy would be greater than intentions to seek teletherapy of non-rural participants after DTCA for teletherapy. While rural participants did change their intentions to a greater degree, this significance was due their much lower intentions to seek teletherapy than non-rural participants before the manipulation. This is consistent with the pilot study by Regnier and Roerich (2015) which also found lower intentions to seek teletherapy in rural participants than non-rural participants. The reason for this is still unclear, as it was expected to be because of differences in stigma and attitudes towards mental health treatment. It is possible that rural participants are more concerned about digital security. Although the literature has generally suggested that teletherapy is effective and is well received, many

concerns about digital security, cost, and the personal nature of the experience are still raised by professionals and patients (Scharff, 2013). It is also possible that a general suspicion of a novel treatment modality may be met with more distrust by rural participants than non-rural participants. Dibartolo and McCrone (2010) found that "distrust of outsiders" was a principal barrier to recruiting older rural participants for research or treatment. It is possible that rural participants are distrustful of bringing an "outsider" into their home and treatment through the use of technology. This may indicate that recruiting local clinicians to provide teletherapy may be a more effective approach.

Discussion of Demographic Data

The present study used data from a pilot study to determine how to categorize college students as either rural or not rural. The use of college students as a sample representative of rural communities is questionable. Rural areas are defined by demographic differences such as more advanced age, a higher proportion of Caucasian individuals, and lower average income when compared to non-rural communities (Center for Rural Pennsylvania, 2014). These demographic differences are important in explaining psychological differences between populations. In the present sample, participants categorized as rural or non-rural did not significantly differ on any of these variables. This may mean that the present sample of "rural" students is not reprehensive of rural communities in Pennsylvania. In addition, students who were categorized as rural in this sample mostly lived on a college campus, and were categorized as rural due to the address of their longest residence. This was used as an identifying variable based on pilot study data (Regnier & Roehrich, 2015) which showed it to be highly related to self-identification. Self-identification of rural residency and the present method of categorizing rural residency demonstrated significantly less agreement in the present study. It is unclear why

this occurred; however, it may be due to error because of the small sample size of the pilot study (40 participants). While this categorization practice showed promise, there is not a significant literature base supporting it. Schultz (2004) has used a similar categorization technique to explore the qualitative experience of college students who come from rural areas and match them demographically with rural communities in the area. They also found that these students internalized the culture and values of a college settings quickly, and may not reflect rural "values" or background significantly after a semester of college. As this study was completed during the Spring semester, it is unknown how similar the students categorized as rural in the present study are to their home communities.

A complicating factor in the literature regarding rurality is the inconsistency in choosing a comparison group. While studies that use intuitive definitions of rural often also recruit from clearly urban areas for a comparison group, there appears to be no standard comparison group when making geographic categorizations. The present study uses "non-rural" as a comparison group in keeping with general Rural Health Research Center guidelines. This office also suggests several other organizations of categories for participants including categories of micropolitan, large rural city, and urban. Several other studies use rurality as a three-level factor. These factors also differ according to the individual standard used. Ames et al., (2014) identified college-student participants as coming from rural, proximal-rural, or urban backgrounds based on address, while Pederson et al., (2013) categorized participants as rural or non-rural based on address. Due to the various methods of categorizing rural, the distinction should be made on sample characteristics and research questions. The research question of interest for the present study was specifically regarding rural participants; and a broad "non-rural" comparison group was chosen. The characteristics of the sample; however, indicated that individuals who identify

as suburban were the majority. This may indicate the utility of a third geographic category in future samples of college students.

In the present sample, self-identified geographic origin may have been an inappropriate manner to categorize participants in order to isolate the cultural influence of rurality, as there was a significant confounding variable of ethnicity. There was a significantly greater proportion of participants who stated that they were white and identified as rural and suburban when compared to urban participants. There was no significant difference in ethnicity when comparing rural and non-rural populations geographically. This difference most likely is due to cultural identification rather than difference in statistical power. The present data is consistent with census data in that urban populations are more likely to be African American or Hispanic while rural populations are more likely to be Caucasian.

A descriptive analysis of previous experiences with mental health treatment demonstrated some unexpected results. Rural participants responded that they had greater exposure to someone they know being diagnosed with a mental disorder, and that rural participants reported a greater exposure to psychiatric medications. This is inconsistent with most previous findings. Gamm, Stone, and Pittman (2010) reviewed several studies comparing treatment utilization rates and found that rural participants consistently had less exposure to mental health treatment of all types. The primary difference between these samples and the present study is the use of college students. While it is clear that the rate of service utilization for rural participants in this study is not representative of the larger community, the reason for the difference is unclear. It is possible that younger, educated rural individuals do seek mental health treatment to a greater degree than their non-rural counterparts.

The higher rate of psychiatric medication experience in rural populations could be due to either preferences for medical management of mental illness in rural populations due to its increased privacy, or to the limited availability of specialist mental health services within rural areas. A disproportionate number of rural patients have been found to seek mental health care with their primary physicians, or with specialists in physician's practices (Smalley et al., 2010). The increased call for integrated primary mental health care may be an appropriate reaction to this trend, in which medical offices have fulfilled the gap left by specialty mental health centers.

Further analysis of the data from this study demonstrated that a greater proportion of participants who had sought talk therapy found it to be helpful (82.4%) when compared to those who had received medication and found it helpful (72.8%), which is a pattern that was even more pronounced within rural participants. Rural participants who had experience with talk therapy stated that it was helpful 94.1% of the time compared to only 62.5% of rural participants who had experience with psychiatric medication found it helpful. This difference was not statistically tested due to the extremely restricted sample and so may be due to error. There was no difference between satisfaction within non-rural participants, with 78.9% of non-rural participants reporting that talk therapy was helpful and 77.2% of non-rural participants stated that medication was helpful. The descriptive data is consistent with previous findings; however, as Susman (1995) have found that PCP care physicians may not be as equipped as specialists in providing mental health treatment.

Rural participants had significantly greater exposure to a psychotropic medication (63.2%) than non-rural participants (34.1%). This is consistent with the literature suggesting that rural populations receive mental health treatment through their PCP more frequently than non-rural populations (Gamm, Stone, and Pittman, 2010). Because rural participants demonstrated

similar attitudes towards psychotherapy, this difference is most likely not due to preferences for the treatment itself. Rural participants most likely sought psychiatric medication to a greater degree because it was more available and private than any other type of treatment. What is unclear is whether there was a greater need of mental health treatment in the current sample for rural participants than non-rural participants. Future studies may benefit from a measure of psychological distress in order to compare treatment seeking behavior to an approximation of need. The growing field of integrated primary care in which brief psychotherapy integrated into a PCP's office may be especially relevant and helpful in rural areas. Forney et al., (2013) for example, found that the inclusion of specific mental health practitioners through teletherapy or on site significantly improve outcomes for rural participants being treated for depression.

It is also possible that individuals from rural areas know more about the mental health care of their family members due to the reduced privacy or greater interpersonal communication within these communities. This would increase the rate at which they respond that a "family member," has received treatment. Information was gathered in this manner in order to protect the privacy of participants given that they also listed an address. It is also possible that this finding is due to sampling procedures. Rural participants who attend college are a specific subset of the population which may not be representative of their communities. One difference between students from rural areas and rural communities may be a greater experience with mental health treatment and the mental health system. This could be because exposure to mental health treatment motivates education or be due to a third unknown variable that distinguishes them from peers. It is also possible that exposure to greater education, even if it is less than an academic year, could increase help seeking behavior. The experience of the present sample is inconsistent with the suggestion of some literature that shows primary care facilities underdiagnose mental

illness (Susman, Crabtree, & Essink, 1995). If this were true, it is unlikely that such high rates of mental health treatment would be found in rural participants. While it is not clear that PCPs are the primary prescribers of this medication, this is the most likely situation as only 25% of rural areas have access to a psychiatrist (Gamm, Stone, & Pittman, 2010).

The relatively low rate of positive experience with psychiatric medication within our sample is consistent with previous literature which suggests that these medication's effects can be less permanently helpful, and that PCP's treatment of depression is less frequently "adequate" by empirical standards (Alexandre, Younis, Martins, & Richard, 2010). No data was collected that addressed the question of whether participants received adequate treatment when they did seek mental health care. It is likely that this would impact whether there was positive experience with the treatment.

Although only a portion of the sample had experience with mental health treatment, the sample's previous experience may confound other analyses. The first hypothesis stated that rural participants held more negative attitudes towards talk therapy when compared to non-rural participants. This hypothesis was based on the premise that rural participants would have limited access to mental health treatment and would have less exposure. As this was not the case, the lack of a significant finding for hypothesis one may be confounded by previous experience with mental health treatment.

Participants who had found any mental health treatment helpful (talk therapy, psychiatric medication, or having a diagnosis) reported more positive attitudes towards mental health treatment. This is consistent with literature that suggests positive experiences lead to greater intentions to seek help from similar treatment. Gulliver, Griffiths, and Christiensen (2010) found that previous positive experience with mental health treatment, and learning secondhand about

positive experiences with mental health treatment, was one of the most consistently predictive factors in determining future mental health treatment. For the present sample, individuals who had experience with psychotherapy showed more positive attitudes towards treatment and greater intentions to seek mental health treatment in the future. This same finding did not hold for psychiatric medication, and participants who had positive experience with medication reported only positive attitudes towards psychiatric medication in the future. They did not show more positive intentions to seek other types of mental health treatment. This is contradictory to the assertion that DTCA for pharmacotherapy is beneficial for all treatment through educating patients (Frosch & Grande, 2010). This difference in findings may have been because a greater number of participants were not satisfied with psychiatric medication treatment.

In summary, the present study was unique in how it defined rural participants which had several consequences. Participants were categorized as rural or not-rural, which is a dichotomous categorization that has been broadly used in comparison populations. Despite this, a third intermediate category may be helpful in the future to take into consideration this demographically unique suburban population. The categorization was also unique because it was based on an address at which participants were no longer living. Their experience with college and living in a college town may have influenced all participants in a similar and confounding manner. Rural participants in the present study reported more exposure to psychiatric medication and psychiatric diagnoses than non-rural participants. This is generally inconsistent with previous literature and may be due to a real difference between this sample and rural communities. This finding also could have possibly confounded other analyses which sought to compare rural and non-rural participants in their attitudes towards mental health treatment and stigma. Experience with psychotherapy had generalized associations with intentions to seek

mental health treatment, while experience with psychiatric medication did not. This is a unique finding which suggests future directions of research.

Variables Associated with Sense of Place

The hypothesis that SOP would be positively correlated with self-stigma was not supported. The finding that sense of place was significantly associated with intentions to seek treatment in the sample overall and in non-rural participants was not specifically hypothesized but is consistent with our conceptualization of SOP. Intentions to seek treatment were likely influenced by SOP through the general sense of trust in the community to be supportive and beneficial. Overall, participants who reported greater SOP also reported greater intentions to seek treatment from a priest or religious figure. This also may be due to a general trust in the community. Allen, Davey, and Davey (2009) found that clergy were an important link between mental health resources and African American communities. It is likely that the direct involvement of clergy with the community makes them a convenient and trustworthy source of help.

The lack of an association between SOP and stigma was unexpected, as a tendency to affiliate with a locations was thought to create a larger outgroup bias. It is consistent with the previous discussion of how rural participants in the present study had greater experience with mental health treatment and may be significantly influenced by their present campus environment. Participants in the present study are unlikely to have their geographic origin influence their level of stigma when compared to their current environment. The relationship between stigma of mental health treatment and SOP has not been previously examined to the knowledge of the investigator; however, some evidence suggests that a higher SOP would be associated with less stigma. Tester et al. (2011) studied SOP among individuals who lived in

public housing, and found that those who lived in senior living (which was less stigmatized) showed greater sense of place than those who lived in family living (which was more stigmatized). This finding was consistent even when the community and quality of life factors were considered. The research did not focus on stigma related to mental health treatment but stigma of social class. It is possible that SOP is more predictive of stigma related to geographic identity (from a bad neighborhood) and not a diffuse phenomenon such as mental illness. Keene and Padilla (2010) found that "spatial stigmatization" is a significant barrier to participants integrating with their community when moving from low income areas to high income areas. They also found that this stigma was alleviated somewhat by a high sense of place affiliation with the new location. While spatial stigma could possibly occur for the rural participants (or urban participants) in the present study, this was not explored.

The data may suggests that the connection participants feel to their geographic location does not influence their view of mental illness and those who have it in general, but is associated with the practical aspects of their help seeking behavior. There are many possible variables that influence help seeking intentions beyond stigma as previously discussed; however, they do not appear to different between rural and non-rural participants in the present study.

Participants Intentions to Seek Naloxone Training

It was hypothesized that a participant's willingness to be prescribed naloxone would be negatively related to self-stigma, public-stigma, and attitudes towards mental health treatment. This was only partially supported, as there was a relationship between attitudes towards mental health treatment and intentions to receive naloxone training, but not self-stigma or public stigma. Participants with more positive attitudes towards mental health treatment reported greater intentions to seek Naloxone training. This is consistent with previous findings that fear of

negative consequences of treatment prevent patients from asking for Naloxone. Green et al., (2017) found that patients who used opiates were unlikely to ask for Naloxone unless they perceived few negative consequences of asking for it through a pharmacy. As Pennsylvania has a training based distribution system, the participants of the present study would only go through this "treatment" if they showed favorable attitudes towards it.

Intentions to seek Naloxone training were not significantly related to either public or self-stigma, and did not differ by rurality. This may have been because of a ceiling effect, in which participants generally reported high levels of intentions to seek naloxone training overall. There are generally positive attitudes towards this intervention, it is well known in the area, there have been outreach programs and coursework discussing the issue of an opiate antagonist, and the legislature has stood behind its use. Journalists have noted some concerns, but there has been minimal negative reaction to the use of Naloxone by first responders (Signorini, 2016). Kirane et al., (2016) found that 99% of participants in a community health clinic would positively react to being provided naloxone by their primary care provider. While this study did not specify that the patients were addicted to opiates, it suggests that there is minimal risk to a patient's identity for seeking the medication in general. Williams (2013) found that participants were very positive towards training programs which educated family members of opiate addicts about how to use the medication and about opiate overdose prevention in general.

Drug users are still highly stigmatized, which is a principal barrier to the widespread use and practice of harm reducing measures such as naloxone training (Bazazi, Zaller, Fu, & Rich, 2010). The absence of a relationship between intentions to seek Naloxone training and public stigma was unexpected; as there was expected to be a strong overlap between stigma of mental health treatment and stigma of addiction. This assumption has not been supported; however, as

Rao et al. (2009) found that stigma of addiction was much more variable according to treatment setting and individual characteristics than stigma of mental illness. Specifically, their study found that individuals who were attempting recovery in an outpatient settings elicited much less stigma than participants than those who were inpatients. The present study did not distinguish between stigma of addition and stigma of mental health treatment. It is possible that measures of addiction stigma may have been more highly related to intentions to seek Naloxone training.

The lack of findings regarding intentions to seek Naloxone training may be due to the novel method of eliciting self-report. In retrospect, the vignette that was created describing opiate addiction within the GHSQ was likely to connect on an emotional level with participants because it explained addiction as an incidental event to medical treatment. The addicted individual was described as "struggling with many painful health issues." The vignette was also safe, in that it described a "brother" compared other vignettes which asked participants to make the experience relevant to themselves. A vignette describing opiate addiction may not be capable of eliciting stigma when it is safe (not directly personal) and sympathetic. These characteristics were chosen to reflect characteristics of opiate addiction in common situations that may require the administration of Naloxone. Regardless of the realism of this vignette, a more negative description of addiction (such as adding details about criminal activity or violent behavior) may be more sensitive to detecting stigma.

Limitations of the Study

A significant limitation of the present study was the definition or rural that was used. Although this definition was consistent with the Office of Rural Health Policy guidelines, this defined an area as only "rural" or "not rural." These categorizations may have been insufficient to characterize the distinct cultural backgrounds of participants in the present study. Participants

that identified as having suburban and urban participants were categorized together as a comparison group, despite significant differences in income and ethnicity. The largest group of participants also identified as suburban. Bunnell et al., (2016) also grouped suburban and urban participants together to use as a comparison group when exploring the feasibility of internet based therapy based on the assumption that urban and suburban participants do not experience the same barriers to treatment that rural participants do. These barriers, as previously discussed, may include a greater rate of stigma, limited transportation, and lack of privacy. Since cultural factors are also thought to influence level of stigma; however, this distinction may be inadequate.

Self-identified rurality was used in a limited manner in the present study. This was done in order to determine whether true effects between rural participants were being missed due to the geographic definition in use. Generally, using self-identified rurality did not alter the findings regarding the main hypotheses. Measurements of rurality through self-identification may have the benefit of addressing the unique cultural component of rural communities. On the other hand, individuals who consider themselves as coming from rural areas; but geographically do not, may have access to transportation, privacy, and other resources that are not representative of the community.

The sample for the present study consisted of college students enrolled in a general psychology course. This limited sample pool could have influenced the present study's findings in several ways. College students differ from the general population in many important ways including their age, limited life experience, and general homogeneity (Peterson, 2001). In a meta-analysis of the response styles of college students, Peterson (2001) found that the homogeneity of college students extended to their responses in research, and that this decreases group differences that would otherwise exist in the general population. The problem of using

college students who would show a decreased difference between rural and non-rural characteristics is amplified by our use of a less direct categorization of rural, as previously discussed. It is possible that the present study's participants limited their response styles to the degree that group most group differences that exist in communities would not be measurable.

There were several additional possible confounding variables in the present study. One such variable was ethnicity. Although the chi-squared analysis indicated that ethnicity was not significantly different between rural and non-rural participants when measured geographically, self-identified categories of rurality did demonstrate that ethnicity was unevenly distributed. Ethnicity has been shown to be a significant factor both in how stigma is experienced and in how it impacts intentions to seek treatment. Turner, Jensen-Doss, and Heffer (2015) found that African American and Hispanic participants held more negative attitudes and more stigma than European Americans; however, attitudes towards mental health only predicted help seeking behavior for European Americans. If ethnicity was unevenly disturbed between rural and non-rural groups in the present study, this would bias comparisons of the levels of stigma and the manner in which it influences intentions to seek treatment. It is possible that a lack of findings regarding a difference in stigma between rural and non-rural participants is because of this uneven distribution.

Parental income was another variable which did not differ significantly in this study according to geographic rurality; however, it did according to self-identified rurality. Participants who self-identified as suburban reported parental incomes that were significantly higher than participants who self-identified as urban or rural. This is consistent with research by Stewart, Jameson, and Curtin (2015) who found that rural areas had lower incomes than non-rural. The lack of equal distribution of parental income between suburban and non-suburban participants

could influence the present findings. Link, Yang, Phelan, and Collins (2004) reviewed articles related to stigma and found that low income was related to higher levels of stigma, and may increase the distress caused by stigma. The participants who reported that they had urban backgrounds and lower incomes may have skewed the comparison group towards having more stigma.

The present study had fewer rural participants than non-rural participants. This underrepresentation reduces the power of some of the statistical analyses and increases the chance of a type II error. The pilot study preceding this research (Regnier & Roehrich, 2015) recruited participants from the same subject pool and had found a much greater proportion of rural participants. This same distribution did not occur in the present sample, and may indicate an unforeseen difference in sampling. It is unclear why this occurred; however, may be due to timing. Participants for the pilot study were recruited early in the fall semester, while participants were recruited towards the end of the Spring semester. Any differences that existed between participants who seek to participate in research during these different times would be reflected in the samples.

Previous literature has suggested that DTCA is most effective for individuals who have previous experience with mental health treatment (Demyan & Anderson, 2012). Since the rural group of participants in this study had more experience with mental health treatment, this could have acted as a confounding factor in why the DTCA manipulation was more effective for rural participants. Prior experience with mental health was included in the analysis as a control variable. Because it was unclear how positive or negative experience, as well as additive factors of different types of experience may alter intentions to seek treatment, the possibility cannot be discounted that the present study's findings are mainly due to previous experience with

treatment. Our analysis corrected for previous experiences with counseling specifically; however, the measure was kept intentionally vague to protect participant privacy. More detailed information regarding previous experience with mental health was not collected in the present study.

A weakness of the present study's design was the limited difference between each level of the DTCA manipulation. As previously discussed, all three DTCA stimuli shared the same 202 word introduction which may have been the most salient. A primacy effect could have biased all participants towards responding to the initial portion of the DTCA, and largely ignore the ending.

Another weaknesses already discussed regarding the DTCA manipulation included the audio only nature of the stimulus as opposed to a audio/visual stimulus. A majority of advertisements occur through internet or television and include audio and visual components (Robins, 2016). Previous studies have used both audio/visual, audio only, and visual only stimuli with mixed results (LaLonde 2015), and so it is unclear what may be most effective in changing participants attitudes towards psychotherapy. DTCA that is more attention grabbing by having both components may be helpful. The manipulation was also only presented once. Some researchers have suggested that this is insufficient to influence participants behavior, and is not relevant to the modern atmosphere of being repeatedly exposed to the same DTCA (Demyan & Anderson, 2012).

Another weakness of the present study was the use of intentions to seek mental health treatment instead of measuring actual behavior. The clinical application of research such as the present study is to determine whether DTCA can be used in a beneficial manner to increase help-seeking behavior. One way to accomplish this would be to collect data regarding help-seeking

behaviors before and after the manipulation. For the current study, this may have been impractical due to the privacy concerns of participants. As address information was gathered, personal help-seeking behavior could have been directly connected to participants. Instead, intentions to seek mental health treatment measured by reactions to hypothetical vignettes was used as an approximation of help-seeking behaviors. While not ideal or direct, this technique has been validated as a significant predictor of help seeking behavior (Wilson, Deane, Ciarrochi, & Rickwood, 2005). Previous research regarding the effectiveness of DTCA has used intentions to seek mental health treatment (Demyan & Anderson, 2012; Yousaf & Popat, 2014; LaLonde, 2013; Wang & Chan, 2014) with mixed results.

Future Directions

While much research which focuses on the behavior of rural groups uses a comparison sample made up urban and suburban populations; this may not be a valid approach. In the present sample. Urban and suburban participants had distinct income and ethnicity characteristics, which most likely influenced unique stigma profiles and attitudes towards mental health as well. In studying AIDS related stigma, Kalichman, Katner, Banas, and Kalitchman (2017) found that rural areas reported more internalized stigma while small urban areas (which may be analogous to suburban areas) reported more enacted stigma (behavioral discrimination). As discussed previously, stigmas of different identities act in different ways and so it possible that stigma of mental health treatment would follow a different pattern. This may suggest that urban and suburban centers deserve to be individually analyzed in terms of their behavior and attitudes towards mental health. Future research may benefit from measuring rurality as a three-level factor instead of two.

While the present research used a geographic variable to determine rurality, the criteria was based on an address of longest residence, and not their current living situation. This was done because college students often live in the same area, and may be inaccurately categorized based on their current address. As previously discussed, there are concerns with using college students for research regarding rural attitudes because of their limited similarity to community characteristics, tendency to respond in a homogeneous way, and unique characteristics. Future research may benefit from direct community sampling instead of using a convenience sample of college students. This would be beneficial in that participants would presently reside in a rural area (and therefore have less influence of a college campus) and would be more representative of rural areas in general.

One key characteristic of the rural participants in the present sample was exposure to mental health treatment. The rural participants in the present study demonstrated significantly greater experience (or awareness of) mental health treatment than non-rural participants. They also reported greater exposure to mental health treatment than what would be expected from a rural community sample (Clement et al., 2015). Future research may explore the generalizability of this finding and its implications. With regard to participant rurality, future research may also benefit from increasing the power of their comparisons by oversampling rural participants.

A majority of participants in the present sample were Caucasian, and this was unevenly disturbed between self-identified geographic location. Borders, Booth, and Curran (2014) have found that stigma of treatment for behavioral health differs significantly for African American participants compared to Caucasian participants. Future research may benefit from a more direct comparison of the effect of ethnicity on stigma of mental health treatment and intentions to seek treatment. Should future research use a three-level factor of rurality, it is likely that income may

be different between populations. A more direct inclusion and analysis of income may clarify its influence on stigma in future research. An important construct within cross-cultural stigma research has been stigma-competence, which should be included within future studies in this area. David and Knight (2008) found that African American men reported significantly more stigma associated with race, age, and sexual preference than Caucasian participants; however, did not show the same association between stigma and mental health outcomes that Caucasian participants did. Stigma competence or ability to handle the negative impact of stigma could explain this difference. It is possible that stigma competence could influence the association between stigma and intentions to seek mental health treatment. Future research may benefit from measuring and exploring the relationship between stigma competence and intentions to seek mental health treatment.

A future direction of research may be to explore directly whether privacy directly influences intentions to seek mental health treatment. This could be accomplished by manipulating the hypothetical circumstances within which urban or non-rural participants seek mental health treatment. For example, it is possible that non-rural participants' attitudes and intentions would match those of rural areas more closely if there was an increased chance that non-rural participants would be identified as a mental health patient. Patient's expectations of privacy have been used as a predictor of help seeking behavior in the past. Chan et al., (2016) found that an expectation of privacy was one of two factors that predicted college student's willingness to seek internet based mental health treatment. A direct manipulation of expectations of privacy in both rural and non-rural participants has not been completed, and may be a direction of future research. Future research should address the concept of masculinity and how it impacts stigma. While expected differences in stigma were found between men and women, it

is unclear to what degree the salience of masculine norms influenced the present study's findings.

Clinical Implications and Conclusions

The first hypothesis was partially supported; public stigma, self-stigma, and attitudes towards mental health were all correlated with intentions to seek treatment in general and of intentions to seek teletherapy and office psychotherapy. This indicates that, independently, these variables are useful constructs to understanding intentions to seek treatment. Hierarchical regression of these findings; however, indicate that attitudes towards mental health treatment was the most powerful predictor across analyses. There may be limited utility of differentiating between different types of stigma when the goal is to predict help seeking intentions. In determining unique variability explained by stigma, the only significant findings was that self-stigma predicted intentions to seek office psychotherapy beyond the ATMHT scale. This may indicate that office psychotherapy is especially activating of internal negative beliefs about oneself if mentally ill. Other treatment settings may be considered in order to prevent additional stigma related treatment avoidance.

Levels of stigma were compared between rural and non-rural groups and by gender. There was no significant differences between rural and non-rural participants on measures of stigma or attitude variables. Previous literature has suggested that the difference between rural and non-rural populations in terms of stigma can be explained through income and education. As the present sample was not divided on these variables, this is the most likely explanation. This finding implies that rurality may not be an adequate predictor of stigma beyond demographic factors. Women reported more positive attitudes towards mental health treatment when compared to men. There was no difference between genders for the level of self-stigma or

perceived public stigma. The general lack of expected differences between populations is most likely due to the present sample being college students who are generally more homogenous in terms of experience, age, education, income, and attitudes than the general population. This implies that future research may benefit from recruiting directly from rural communities.

There was no difference between the three groups exposed to different DTCA manipulations in intentions to seek treatment. The hypothesis that rural men would show greater intentions to seek mental health treatment than non-rural men and all women was not supported. There were also no differences between rural men and other populations regarding the effectiveness of various DTCA exposures. This implies that the present stimulus was insufficient in some way. Possible alterations to a DTCA stimulus may be to increase the number of exposures participants have to a manipulation, increase the salience by adding a visual component, and counteract primacy effects by limiting the length of educational material within a DTCA. It may also be beneficial to expand or demonstrate the treatment being suggested in the DTCA.

The hypothesis that rural participants attitudes towards teletherapy would improve more in reaction to DTCA of teletherapy than non-rural participants, was supported. This was not expected given the previous findings that stigma was not different between populations. This may be because rural populations were convinced that they would have greater privacy through the DTCA, and that they could avoid the harmful implications of being identified as a stigmatized individual while still perceiving and experiencing it. This implies that rural populations may be better served by teletherapy. It also implies that there may be unintended consequences of teletherapy in that negative attitudes towards mental health treatment may be reinforced by avoidance and by legitimization of "hiding" that status. Teletherapy to increase

privacy may also decrease patient well-being by encouraging avoidance. The present study suggests that teletherapy should be implemented in situations only where supportive resources are also available. These resources would be responsible for counteracting possible negative effects by transitioning individuals towards being more open about their identity, and may also actively fight negative attitudes through educational and contact related programs.

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Appendix A

Informed Consent

You have been invited to participate in a psychological research study. Due to being an undergraduate student at IUP, you are eligible to participate. Those enrolled through PSYC 101 are able to use their participation in this study to help fulfill psychological research requirements. The following information is provided in order to help to make an informed decision whether or not to participate.

The purpose of this study is to investigate how students respond to help seeking from professional sources in different circumstances. Questions will be asked using the online survey tool Qualtrics and should take no more than 60 minutes of your time. You will be asked questions about your reactions to different realistic situations that may occur.

While you will be asked to provide an address in this study, this information will be converted into de-identified data before analysis. This information will also not be connected with the name provided on this informed consent. Your responses will be analyzed and presented in aggregate only.

Your participation in this study is voluntary. If you are willing to participate in this study, please indicate so by providing your signature at the bottom of the page. If you choose to not participate, you can exit out of the survey at any time and inform the research proctor.

If you have any questions about the present study, please contact the investigator or the faculty supervisor using the contact information below.

Jesse Regnier M.A.	**Laurie Roehrich Ph.D.**
Graduate Student	**Associate Professor**
Indiana University of Pennsylvania	**Indiana University of Pennsylvania**
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By signing below, you are indicating consent to participate in this research

_____ _____

Signature **Date**

_____

Name (printed)

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects. The IUP IRB can be contacted at 724-357-7730

Appendix B

Demographic Information

What is your current permanent listed address?

What is the address that you have spent the most time at before coming to college?

1) Age:_____

2) What is your sex?
    a) Female
    b) Male

3) Ethnicity
    a) Black or African American
    b) White/Caucasian
    c) Hispanic
    d) Asian
    e) Native Hawaiian or Other Pacific Islander
    f) American Indiana or Alaskan Native

4) Please indicate which of the following best describes you/your parents' yearly income:
    a) Less than $22,000
    b) $23,000 to 50,000
    c) $51,000 to $100,000
    d) $101,000 to $150,000
    e) Greater than $150,000

5) What is your class ranking?
    a) Freshman

b) Sophomore

c) Junior

d) Senior

6) Are you an international student?

a) Yes

b) No

7) Which of the following best describes your background?

a) Rural

b) Urban

c) Suburban

8) What is your current area of study (major)?

9) Have you or another family member ever sought professional counseling or psychotherapy from a professional?

a) No

b) Yes (check all that apply)

i) Did you believe it was helpful?

(1) Yes

(2) No

10) Have you or an immediate family member ever received a mental health diagnosis such as Depression or Anxiety from a health provider?

a) No

b) Yes (please check all that apply)

i) Did you believe it was helpful?

(1) Yes

(2) No

11) Have you or an immediate family member ever used psychiatric medication such as antidepressants or stimulants?

a) No

b) Yes (please check all that apply)

i) Self

ii) Parent

iii) Sibling

iv) Did you believe it was helpful?

(1) Yes

(2) No

Appendix C

SSOHS

People at times find that they face problems that they consider seeking help for. This can bring up reactions about what seeking help would mean. Please use the seven point scale to rate the degree to which each item describes how you might react in this situation.

1 = Strongly Disagree 3 = Agree 5 = Disagree 7 = Strongly Agree

1. I would feel inadequate if I went to a therapist for psychological help.

2. My self-confidence would NOT be threatened if I sought professional help.

3. Seeking psychological help would make me feel less intelligent.

4. My self-esteem would increase if I talked to a therapist.

5. My view of myself would not change just because I made the choice to see a therapist.

6. It would make me feel inferior to ask a therapist for help.

7. I would feel okay about myself if I made the choice to seek professional help.

8. If I went to a therapist, I would be less satisfied with myself.

9. My self-confidence would remain the same if I sought help for a problem I could not solve.

10. I would feel worse about myself if I could not solve my own problems.

Appendix D

Perceived Public Stigma

Please indicate whether you agree or disagree with the following statements.

1 = Strongly Disagree 3 = Agree 5 = Disagree 7 = Strongly Agree

1. Most people would willingly accept someone who has received mental health treatment as a close friend.

2. Most people believe that a person who has received mental health treatment is just as intelligent as the average person.

3. Most people believe that someone who has received mental health treatment is just as trustworthy as the average person.

4. Most people would accept someone who has fully recovered from a mental illness as a teacher of young children in a public school.

5. Most people feel that receiving mental health treatment is a sign of personal failure.*

6. Most people would not hire someone who has received mental health treatment to take care of their children, even if he or she had been well for some time.*

7. Most people think less of a person who has received mental health treatment.*

8. Most employers will hire someone who has received mental health treatment if he or she is qualified for the job.

9. Most employers will pass over the application of someone who has received mental health treatment in favor of another applicant.*

10. Most people in my community would treat someone who has received mental health treatment just as they would treat anyone.

11. Most young adults would be reluctant to date someone who has been hospitalized for a serious mental disorder.*

12. Once they know a person has received mental health treatment, most people will take that person's opinions less seriously.*

*Items that are reverse-keyed

Appendix E

Attitudes Toward Mental Health Treatment-Depression

Please indicate how much you agree/disagree with the following statements.

1 = Strongly Disagree 3 = Agree 5 = Disagree 7 = Strongly Agree

1. Professional mental health services can effectively reduce mental health problems.

2. If I sought mental health services, it is likely I would find a therapist that I would feel comfortable opening up to.

3. In my community, people take care of their emotional problems on their own; they don't seek professional mental health services.

4. Mental health professionals are well trained.

5. If I were experiencing a mental health breakdown, I am confident that taking medications would provide me with relief.

6. I do not fully trust mental health professionals.

7. I feel confident that I could find a therapist who is understanding and respectful of my ethnicity/culture.

8. Mental health professionals don't really care about you, they are just there for a paycheck.

9. Due to time and financial constraints, seeking mental health services is not a feasible option for me.

10. Professional mental health treatment would not be helpful for me.

11. My family would support me seeking professional mental health services.

12. Mental health services are only effective if your therapist matches your race and/or ethnicity.

13. Most therapists have a lot of book smarts, but no street smarts.

14. I would be comfortable seeing a therapist that is a lot younger than me.

15. I believe that therapy is the most effective way to deal with mental health problems.

16. Most mental health professionals have negative beliefs about the mentally ill.

17. Seeking professional mental health services is a last resort.

18. I would be comfortable seeing a therapist who is of a different race than I am.

19. I know people who have had negative experiences when they sought professional mental health services.

20. I would seek help from my family and friends, before seeking help from a mental health professional.

Appendix F

General Help Seeking Questionnaire – Vignette Version, Modified

1. In the past two weeks Jake has found it hard to wind down or relax. He's also been feeling pretty overwhelmed, "twitchy", and intolerant. He's been over-reacting to things that are going on.

If you were feeling like Jake, how likely is it that you would seek help from a mental health professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jake?

_____

Do you think Jake needs help?

2. In the past two weeks Jane has noticed that she has felt worried or scared without any particular reason, and her hands have trembled a lot even though she doesn't drink coffee or caffeine drinks. On a few occasions, she has felt close to panic, and at the same time become aware that her mouth has got really dry and that she has difficulty breathing.

If you were feeling like Jane, how likely is it that you would seek help from a professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jane?

_____

J. Do you think Jane needs help?

3. John has been feeling unusually sad and down-hearted for most of the day for nearly two weeks. He doesn't feel like eating and has lost weight. He can't keep his mind on his studies and his grades have dropped. He has put off making decisions and feels that even day-to-day tasks are too much for him. To him, life feels meaningless and he doesn't feel he is worth much as a person.

If you were feeling like John, how likely is it that you would seek help from a professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone.	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office.	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together.	1	2	3	4	5	6	7

k. What, if anything, is wrong with Jane?

_____

l. Do you think Jane needs help?

4. In the last four weeks Jess has found herself thinking about how easy it would be to end it all, and she knows that at least once a week during this time she has thought about how and when she could kill herself.

If you were having thoughts like Jess, how likely is it that you would seek help from a professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jess?

_____

J. Do you think Jess needs help?

5. In the last couple of months Jack has found himself doing things when he is drinking alcohol that he later regrets and which he's been getting into trouble for. He knows he's needing more and more to feel the same way after drinking and to complete his daily tasks. When he's not drinking, he's been feeling more and more wound up, sad and confused. He's falling behind in his school work.

If you were relying on a substance like Jack, how likely is it that you would seek help from a professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jack?

_____

J. Do you think Jack needs help?

6. Jeff is living at home with his parents. Recently he's stopped attending his classes and over the past 6 months he has stopped seeing his friends. He's also started locking himself in his bedroom and refusing to eat with the family or have a bath. His parents hear him walking around his room at night and even though he is alone, they hear him shouting and arguing as though someone is there. He feels afraid to leave the house because he believes he's being spied on by the neighbor.

If you were feeling like Jeff, how likely is it that you would seek help from a professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jeff?

_____

J. Do you think Jeff needs help?

7. In the last couple of weeks Jan has felt crushing pressure in the left side of her chest, and had pain in her left jaw, left arm, back and stomach. Jess has also felt short of breath and light headed, and on several occasions, Jess thought she was going to be sick.

If you were feeling like Jan, how likely is it that you would seek help from a mental health professional in each circumstance?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7

I. What, if anything, is wrong with Jan?

_____

J. Do you think Jan needs help?

8. Justin's brother has recently struggled with many painful health issues. He recently began seeing signs that his brother has been using a greater amount of the pain medication than prescribed and injecting heroin. Thinking about his brother has caused a significant amount of stress for Justin.

If you had a sibling addicted to heroin like Justin, how likely is it that you would seek help from the following sources?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

A. If medication (for stress) was prescribed by your regular doctor	1	2	3	4	5	6	7
B. If psychotherapy was conducted over the phone	1	2	3	4	5	6	7
C. If psychotherapy occurred in a private office	1	2	3	4	5	6	7
D. If psychotherapy was conducted at a University Campus	1	2	3	4	5	6	7
E. If psychotherapy was referred by a priest or religious leader	1	2	3	4	5	6	7
F. If psychotherapy was completed through a self-driven website	1	2	3	4	5	6	7
G. If counseling was completed in a self-help group							
H. Just pull yourself together	1	2	3	4	5	6	7
I. A training that would allow you to administer medication which would reverse the effects of a heroin overdose	1	2	3	4	5	6	7

J. What, if anything, is wrong with Justin?

_____

K. Do you think Justin needs help?

Appendix G

Sense of Place (SOP) Scale

1. Everything about my hometown is a reflection of me.
2. My hometown says very little about who I am.*
3. I feel that I can really be myself in my hometown.
4. My hometown reflects the type of person I am.
5. I feel relaxed when I'm in my hometown.
6. I feel happiest when I'm in my hometown.
7. My hometown is my favorite place to be.
8. I really miss my hometown when I'm away from it for too long.
9. My hometown is the best place for doing the things that I most enjoy.
10. For doing the things that I enjoy most, no other place can compare to my hometown.
11. My hometown is not a good place to do the things I must like to do.*
12. As far as I am concerned, there are better place to be than my hometown.

*Items that are reverse keyed.

Appendix H

Audio Stimulus

Depression is a serious condition that involves the body, mood, and thoughts. It affects how you eat and sleep. It alters your self-perception. It changes the way you think and feel. People with depression cannot just “snap out of it” or “pull themselves together,” because depression isn’t the same as a passing mood. Left untreated, depression may last for weeks, months, or years at a time.

Depression can make routine tasks unbearably difficult. Pleasures that make life worth living – watching a football game, having dinner with friends, even making love – can be drained of joy. Depression brings pain and disruption not only to the person who experiences it, but also to their family and friends who care about them.

Ask yourself, are you feeling sad or “empty”; irritable; worthless; pessimistic or hopeless?; o you feel overly tired or “slowed down”; restless or agitated; like no one cares about you; or like life is not worth living. Have you noticed significant changes in your appetite or sleeping habits?; Do you have persistent headaches, stomachaches or chronic pain; trouble concentrating, remembering things or making decisions; have you lost interest in work, hobbies, or sex? If you are experiencing some of these symptoms lasting two weeks or more, you may have depression.

Control condition:

Depression is a real, treatable illness and is nothing to be ashamed about.

Treatment groups 1:

If these symptoms are familiar, consider talk therapy with a counselor or psychologist. Talk therapy is a natural an effective way to treat depression and help reduce future episodes of depression as well.

Teletherapy

If these symptoms are familiar, consider talk therapy with a counselor or psychologist. Talk therapy is a natural an effective way to treat depression and help reduce future episodes of depression as well.

Sometimes it can be difficult to make it into the office or find the right time to address your depression. Talk therapy can also be completed from home over your phone or computer.

Appendix I

Debriefing

Indiana University of Pennsylvania
Department of Psychology

This debriefing information is provided to you so that you may be aware of the purpose of the research and to identify areas of potential concern. Included is a list of counseling referrals if you find that you would like to talk with someone further. The study you have just participated in involved a series of questionnaires designed to gather information about your attitudes towards mental health help-seeking in general (Vogel, Wade, & Haake, 2006), your cultural background, and your attitudes towards several different types of mental health treatment.

The present study hypothesizes that individuals from rural backgrounds will experience more negative attitudes towards mental health treatment. It also hypothesizes that methods of psychotherapy which allow for greater anonymity will be more palatable to individuals from rural backgrounds only after an audio stimulus. These hypotheses are drawn from a literature that addresses cultural components or rurality and its impact on mental health treatment (Wrigley, Jackson, Judd, & Komiti, 2005).

It is not uncommon for a person to experience disappointment with their responses. If you would like to discuss your concerns with a professional, there are multiple organization that are available in the community. Feel free to contact them if you would like, however you are under no obligation to do so.

University Counseling Center	724-357-2621	Suites on Maple East, G31 901 Maple Street Indiana, PA 15701
Indiana Community Guidance Center	724-465-5576	793 Old Route 119 Hwy North Indiana, PA 15701

The primary investigator is Jesse Regnier, M.A. and the faculty sponsor is Laurie Roehrich Ph.D. In order to learn further about the research or results, please give your name and contact information to the research assistance or contact the Psychology Department at 724-357-2426.

Thank you for your participation.

References

Wrigley, S., Jackson, H., Judd, F., & Komiti, A. (2005). Role of stigma and attitudes toward help-seeking from a general practitioner for mental health problems in a rural town. *Australian and New Zealand Journal of Psychiatry*,*39*(6), 514-521.

Vogel, D. L., Wade, N. G., & Haake, S. (2006). Measuring the self-stigma associated with seeking psychological help. *Journal of Counseling Psychology*,*53*(3), 325.