Changing Intentions to Seek Mental Health Services through Social Influence and Education

by

Kimberly Kiley

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Department of Psychology

University of Manitoba

Winnipeg

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Abstract

Although research has shown that mental health interventions are effective, many people who are afflicted with a mental disorder or emotional distress do not seek services (e.g., Wang et al., 2005). Perceived stigma, the belief that an individual will be devalued and discriminated against for seeking psychological assistance, is a barrier to seeking mental health services, as some people avoid these services in order to avoid the associated stigma. Another barrier to mental health service utilization is mental health literacy, which refers to how well-versed people are in information regarding mental illness and treatment (Jorm et al., 1997). Low levels of mental health literacy may inhibit people from seeking help as they may not recognize their need for services and may not be aware that effective services are available. The first of two studies examined a social influence intervention aimed at reducing perceived stigma and increasing intentions to seek counselling. One hundred and sixty-six undergraduate students watched videos of ingroup or outgroup speakers discussing their non-stigmatizing experience with therapy or speakers discussing a control topic. No significant differences were found between the groups after the intervention. The second study investigated an educational intervention aimed at improving mental health knowledge and increasing intentions to seek counselling. One hundred and fifty-five undergraduate participants listened to either a control lecture or a lecture about mental illness and treatment with or without a testimonial by the lecturer about her positive experience with therapy. The participants who listened to the lecture and testimonial had higher relevant mental health knowledge and intentions to seek counselling compared to the control condition. No differences were found between the education only and control conditions on intentions to seek

counselling. The main finding of this project was that a combination of social influence and educational approaches has the most potential of improving intentions to seek mental health services, as each of these components does not appear to be effective independently.

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Chapter One: General Introduction

Research has shown that, overall, mental health interventions are effective at aiding those individuals they are designed to help. A study investigating 302 meta-analyses that examined the efficacy of various psychological, behavioural, and educational interventions found that over 90% of the meta-analyses reported that the examined treatments had a positive effect on the treatment groups as compared to control groups (Lipsey & Wilson, 1993). The results of this investigation led to the conclusion that, overall, mental health interventions are efficacious. Similarly, Lambert and Barley concluded that "psychotherapy is successful in general, and the average treated client is better off than 80% of untreated subjects" (Lambert & Barley, 2002, p. 26). Although research has shown therapy to be effective, some people have suggested that these results do not apply to therapy undertaken in clinically representative conditions. Shadish, Matt, Navarro, and Phillips (2000) found evidence that this limitation regarding therapy outcome research may be unfounded. Their meta-analysis of 90 studies discovered that therapy was effective over a range of clinical representativeness and that clinical representativeness was unrelated to effect size. As research has shown that mental health interventions tend to produce positive outcomes, it would be beneficial to determine who is having emotional and psychological difficulties and to maximize the number of individuals who will receive appropriate mental health services.

Mental Health Care Utilization and the Service Gap

Given that psychological interventions have been found to be effective, one would expect that people who would benefit from psychological interventions would be receiving appropriate services. Unfortunately, there appears to be a discrepancy between

the actual need for psychological services and the amount of care being received. Stefl and Prosperi (1985) referred to this discrepancy between need and care as the "service gap." That is, the gap consists of people who could benefit from psychological services and are not receiving appropriate services. Several large scale epidemiological surveys, which have examined prevalence of mental disorders within particular populations, have provided evidence that the service gap exists. The National Comorbidity Survey (NCS) found that 29% of individuals in their United States sample reported having a mental disorder during the past 12 months (Kessler et al., 1994). Similarly, the Epidemiological Catchment Area Survey (ECA) conducted in the United States between 1980 and 1985 found that 28% of noninstitutionalized adults had a mental disorder during the year prior to the survey (Regier et al., 1993). Although both of these surveys indicate that approximately 30% of the general population in the United States is afflicted with a mental disorder within a given year, not nearly as many individuals seek psychological help. The ECA found that only 28.5% of those individuals with a mental or addictive disorder received any services to treat mental or addictive disorders. Similar results were also found using epidemiological surveys in Canada. Bland, Newman, and Orn (1997) found that the one-year prevalence for their Edmonton, Alberta sample was 31.2%. Results of this survey found that 14.1% of the overall sample sought help for an emotional or mental problem during the year prior to the survey. Only 28.1% of those individuals with a past year diagnosis in the sample utilized mental health services. Therefore, 71.9% of individuals with a diagnosis did not receive psychological help. Similarly, Lin, Goering, Offord, Campbell, and Boyle (1996) found that 75% of those individuals with a past year diagnosis in their Ontario sample did not seek help. These

North American epidemiological surveys have shown that a gap exists between the number of people in need of care and the number of individuals who actually receive appropriate mental health care.

The service gap does not exist only in North America. Naganuma et al. (2006) conducted a survey of mental health services in two rural and two urban areas in Japan. They found that only 20% of individuals who met criteria for a mental disorder received treatment. Henderson, Andrews, and Hall (2000) also found that a service gap exists in Australia. They found that 64.4% of individuals who had a mental disorder had no contact with health services in the year prior to the survey. Only 29.4% of those people with a mental disorder had seen a general practitioner and only 7.5% had seen psychiatrists. Similarly, studies in Europe have found that there is a discrepancy between mental health service need and usage. In Finland, Aalto-Setala and colleagues (2002) found that 26% of their sample of young urban adults with a depressive disorder had never considered contacting mental health services and 23% had considered it but had never done so. Another European study conducted in Belgium, France, Germany, Italy, the Netherlands, and Spain found that only 25.7% of people with a mental disorder had consulted a formal health service during the year prior to the survey (Alonso, 2004). Thus, the service gap appears to be present in many different areas.

Recent literature appears to suggest that the service gap is shrinking in North America. In the National Comorbidity Survey Replication in the United States (NCS-R), 41.1% of adults with a mental disorder diagnosis had received treatment in the 12 months prior to the survey (Wang, et al, 2005). In Canada, 38.5 % of adults with a self-reported mental disorder utilized services for their mental health (Lesage et al., 2006). These

utilization rates are higher than the aforementioned North American rates. Although more people appear to be receiving services, there is still an extensive gap between need and care. These recent results indicate that approximately 60% of individuals in North America who meet diagnostic criteria for a mental disorder are not receiving services to treat this disorder.

Mental health service utilization varies across populations. This variation can be seen by comparing mental health service utilization rates from different countries. The NCS-R also found that the unmet need for mental health services is not equal for all groups of people in the United States (Wang et al., 2005). The service gap was found to be greatest for elderly individuals, racial-ethnic minorities, individuals with low incomes, those without insurance, and residents in rural areas. Studies have also found that men tend to seek mental health services less often then women (e.g. Andrews, Issakidis, & Carter, 2001; Fleury et al., 2012; Husaini, Moore, & Cain, 1994; McKay, Rutherford, Cacciola, & Kabasakalian-McKay, 1996; Thom, 1986; Vanheusden et al., 2008). Age has also been associated with mental health service utilization (Floury et al., 2012). Wang et al. (2005) found that using mental health care was significantly related to being younger than 60 years of age. Of adults below the age of 55, those individuals between the ages of 18 and 24 have been identified as least likely to use mental health services (Kessler et al., 2001). Some other sociodemographic variables that appear to play a role in the decision to use psychological services are education, employment status, income, and marital status (Bland et al., 1997; Leaf et al., 1987; Vanheusden, 2008). Previous research has also found statistical association with other personal characteristics, including personality dispositions and sociocultural variables (Nadler, 1983).The

differing levels of mental health service utilization between populations may be due to the fact that different groups of people may have distinct reasons for not seeking appropriated mental health services. The research examining factors associated with likelihood of receiving psychological treatment helps determine which individuals within a population are at risk of not utilizing mental health care. These studies, however, provide little insight into the reasons individuals do not or are unable to seek treatment for their emotional and psychological problems. In order to lessen the service gap, an understanding of why some people do not seek appropriate mental health services must first be reached.

Why Do Some People Not Seek Help?

Why do some people decide to seek help and others do not? According to Kushner and Sher (1989), the decision-making process related to seeking psychological assistance involves a conflict between approach and avoidance tendencies. Approach tendencies refer to factors that increase one's likelihood of seeking mental health services, such as the desire to reduce one's level of distress. Avoidance tendencies, on the contrary, refer to factors or barriers that decrease one's likelihood of seeking psychological assistance. Kushner and Sher postulate that the decision to seek mental health services occurs when an individual's approach tendencies outweigh the individual's avoidance tendencies. This model suggests that an individual falls into the service gap if they are in need of services but their avoidance tendencies outweigh their approach tendencies. Kushner and Sher's model has been given credence by a study conducted by Vogel and Wester (2003). Traditionally, approach factors have been implicated in the decision to seek mental health services. Vogel and Wester set out to

examine the role of avoidance factors in this decision-making process. They found that avoidance factors could account for at least as much variance in likelihood of seeking mental services as approach factors. Therefore, to lessen the service gap, approach tendencies need to be increased and the barriers that inhibit people from seeking mental health need to be identified and lessened.

Barriers to Seeking Mental Health Services

There are a variety of barriers that have been implicated in determining what prevents people from seeking needed psychological services. These barriers fall into three categories: professional, practical, and personal (Mackenzie, 2000). Professional barriers refer to ways in which professionals inhibit people from receiving appropriate mental health services. Specifically, these barriers relate to the ability or willingness of mental health professionals to treat particular groups of individuals. Personal biases of mental health professionals interfere with some groups of people receiving appropriate treatment. In order to receive appropriate treatment, clients must first be appropriately identified. Mental health professionals' personal biases have been shown to affect their diagnostic practices. Loring & Powell (1988) found that sex and race of clinicians and their clients can influence diagnoses even when the diagnostic criteria presented are clear-cut. Therefore, some individuals may not receive appropriate treatment, as their diagnoses were influenced by a mental health professional's personal biases. General practitioners' personal biases can also be a barrier to receiving psychological treatment. Redman, Webb, Hennricus, Gordon, and Sanson-Fisher (1991) examined the effect of patient gender on physicians' detection of psychological disturbance. Despite men and women in the sample having an equal number of high scores on a measure of

psychological disturbance, physicians classified significantly more females as disturbed. Thus, physicians' biases appear to affect who gets diagnosed as disturbed. These biases have also been found to impact which individuals are referred for psychological services. Badger et al. (1999) found that physicians tend to recommend that female patients with somatic presentation seek counseling more than they do for male patients with somatic presentation. Therefore, men may not be as likely to receive appropriate psychological treatment, because they are less likely to be identified as being psychologically disturbed or referred for counseling. Mental health professionals have also demonstrated a preference to treat certain types of clients, specifically female and younger clients (Ray, Mckinney, & Ford, 1987; Zivian, Larsen, Knox, Gekoski, & Hatchette, 1992). These preferences may inhibit older and male clients from receiving care.

Another type of professional barrier is the under-recognition of emotional and psychological problems. Studies have found that general practitioners fail to recognize the presence of psychological distress or disorder among their patients (Ormel et al., 1994; Robbins et al., 1994; Simon & VonKorff, 1995). For example, Simon, Goldberg, Tiemens, and Usten (1999) found that only 42% of patients with major depression were recognized and given an appropriate diagnosis by their primary care physicians. Thus, many individuals may not be receiving much needed referrals for psychological treatment by the medical sector, as they are not being diagnosed correctly.

Practical barriers have also been acknowledged as preventing some distressed individuals from receiving appropriate psychological care. One practical barrier that has been identified is affordability of mental health services. A number of studies have reported that high costs of mental health services and lack of adequate insurance

coverage inhibit people from seeking treatment (e.g., Hepworth & Paxton, 2007; Olfson et al., 2000; Thompson, Bazile, & Akbar, 2004). Apart from lack of insurance and high costs, there are other potential issues related to affordability, such as having to take time off from work to go to therapy sessions (Stefl & Prosperi, 1985). Cost of psychological service appears to be a barrier for many people. Sareen and colleagues (2007) noted that affordability was cited as a barrier to seeking services in the Netherlands, Canada, and the United States. However, they found that financial barriers were noted more often in the United States. It is not surprising that cost is a more salient barrier in the United States as compared to Canada. Universal health care allows Canadians to see general practitioners, psychiatrists and hospital-based mental health programs in regards to psychological difficulties without incurring any costs, while many people have to pay to see a healthcare provider in the United States.

Another practical barrier is related to the availability of mental health services. There are two ways in which availability of service can be construed as a barrier preventing people from seeking mental health services. First, there can be very few mental health services available in the area in which an individual lives. Some communities have fewer services available than others. Individuals in rural, impoverished areas find it difficult to receive treatment, as service providers are not available in their community (Fox, Blank, Rovnyak, & Barnett, 2001). In the United States, seventy-six percent of the areas with a mental health service shortage are in non-metropolitan areas (National Rural Health Association, 1999). Thus, availability is one of the barriers that may account for why there is a larger service gap in rural areas. A lack of availability of particular types of services has also been noted as a barrier. For

example, Fung and Wong (2007) found that Asian immigrants living in Toronto felt that the lack of availability of culturally and linguistically appropriate services prevented them from receiving needed mental health services. The second way availability can be a barrier is that many people are unaware of the availability of services in their area. That is to say, there may be treatment options available to an individual, but he or she does not know these services exist. Eisenberg, Golberstein, and Gollust (2007) found that being unaware of services was one of the predictors of not receiving appropriate mental health services. Although the university students in Eisenberg and colleagues' study had access to free counseling services on campus, only 49% of students indicated that they knew where to go for mental health services. Several other studies have reported that respondents cited that not being aware that services are available or where they are located were significant barriers that would inhibit or have inhibited them from seeking psychological services (e.g. Boyd et al., 2007; Hepworth & Paxton, 2007; Stefl & Prosperi, 1985).

Another practical barrier related to availability is accessibility of services. Some individuals have difficulty getting to locations where services are offered. Stefl and Prosperi (1985) found that people felt not having proper transportation to get to service locations posed a significant problem when seeking services. Stefl and Prosperi's participants also felt that not having anyone to go with may prevent them from seeking needed mental health services. Bischoff, Hollist, Smith, and Flack (2004) also found that their study's participants cited accessibility as a barrier to seeking psychological services when living in a rural community. Their participants indicated people may need to take an entire day off from work due to the time required to travel to and from a mental health

service provider's office. Accessibility becomes an issue for these people, because demands of work, home, and community life may make it impossible to take entire days off in order seek psychological services. Thus, accessibility can act as a barrier to receiving treatment for some people.

The final category of barriers is personal barriers. "Personal barriers consist of reasons [individuals] contribute to their own low rates of mental health service use" (Mackenzie, 2000, p.44). There are a multitude of reasons that can be subsumed under this category. One personal barrier that may affect mental health service utilization is an individual's level of mental health literacy. Jorm et al. (1997) defined mental health literacy as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (p. 182). Mental health literacy encompasses the knowledge of how to seek mental health information, of mental disorder etiology, of treatment options, and the ability to recognize mental disorders. A review of mental health service literature led Jorm (2000) to conclude that the public has poor mental health literacy. That is, many people are not well versed in information regarding mental disorders and psychological treatment. Low levels of mental health literacy may inhibit people from seeking mental health services, as they may not recognize their need for services or be aware that effective services are available.

The other personal barriers are attitudes related to seeking psychological assistance. Some studies suggest there is a relationship between attitudes and mental health service use (e.g. Bayer & Peay, 1997; Elhai, Patrick, Anderson, Simons, & Frueh, 2006; Fischer & Farina, 1995; Greenley, Mechanic, & Cleary, 1987). For example, Cepeda-Benito and Short (1998) found that positive attitudes towards psychotherapy

predicted greater likelihood of seeking help for interpersonal, academic, and drug related problems among university students. Although some studies suggest that attitudes are related to help-seeking, there has been some debate as to whether attitudes do affect mental health service utilization, as some studies have failed to find a relationship between attitudes and service usage (e.g. Leaf et al., 1988; Lefebvre et al., 1998). Mackenzie, Knox, Gekoski, and Macaulay (2004) suggest these discrepant findings may be due to the nature of the studies themselves. The measurement of attitudes has been inconsistent across studies, and the instruments used may also have had validity and reliability concerns. In order to address these methodological issues, Mackenzie and colleagues (2004) developed a questionnaire designed to measure help-seeking attitudes that is theoretically based, valid, and reliable. Using this instrument, they found that attitudes were related to the intention to utilize mental health services. Sareen et al. (2007) reported that attitudinal barriers were cited more often than practical barriers as preventing people from seeking psychological services in the Netherlands, the United States, and Canada. Therefore, attitudes may in fact be a personal barrier that contributes to individuals' low levels of mental health service utilization rates.

One attitude that has been suggested as a possible barrier to seeking mental health service is that people believe they will be devalued and discriminated against for seeking psychological assistance. This attitude is referred to as perceived stigma. Research has provided evidence to substantiate the notion that perceived stigma is a treatment barrier (e.g., Stefl & Prosperi, 1985). For example, Barney, Griffiths, Jorm, and Christensen (2006) found that as perceived stigma increased, the likelihood of seeking help for depression decreased among their study participants. Therefore, if individuals believe

that they will be stigmatized for seeking services, they are less likely to seek appropriate mental health care.

Attitudes relating to emotional expression have been implicated as barriers to seeking appropriate psychological services. Komiya, Good, and Sherrod (2000) found that lack of emotional openness was associated with being reluctant to seek psychological treatment. Emotional openness refers to a person's comfort with emotions. Thus, people who are not comfortable with their emotions are less likely to seek mental health services. This reduced likelihood for seeking mental health services may be due to the fact that therapy involves disclosing personal information to a therapist. The self-disclosures often involved in therapy entail expressing emotions. Thus, if an individual is uncomfortable with emotions and the expression of these emotions, then he or she may not want to seek psychological services to avoid having to do so. Research has provided some support for this reasoning. Studies have found that comfort with disclosure is related to intention to seek psychological services (Vogel & Wester, 2003; Vogel, Wester, Wei, & Boysen, 2005). Diala et al. (2000) reported that people who were less comfortable talking about personal issues were five times less likely to seek help. Vogel, Wade, and Hackler (2008) attempted to understand how emotional expression related to willingness to seek mental health services. They found that the tendency to express emotions related to the perceived benefits and risks associated with self-disclosure. Specifically, people with a low tendency towards emotional expression were more worried about disclosing information to a therapist. These people anticipated more risks and fewer benefits to self-disclosure in a therapy situation. Anticipated risks were negatively related to attitudes towards therapy, which in turn, was negatively related to

willingness to seek therapy. Thus, this model suggests that an individual's low level of emotional expression can be a barrier to seeking psychological services.

Another personal barrier to seeking mental health services is attitudes regarding self-reliance. Studies have found that some people do not seek treatment, because they believe they should be able to solve the problem on their own (Boscarino et al., 2005; Sareen et al., 2007). Wells, Robins, Bushnell, Jarosz, and Oakley-Browne (1994) reported that one of the most common reasons among the participants in their sample for not seeking mental health service was the belief that people should be able to handle their own problems. Boyd et al. (2007) found that the participants in their study suggested that there was a culture of self-reliance in their rural area. People are expected to be able to do things on their own. The participants explained that seeking mental health services was not in line with this culture of self-reliance. Going to therapy was seen as a sign of weakness, as it indicated that the person could not deal with his or her own problems. This attitude of self-reliance is not present only in rural areas. Gilchrist and Sullivan (2006) found that young men in their Australian sample expressed that they were expected to be tough and self-reliant. They also viewed seeking help as a sign of weakness. Moskos, Olson, Halbern, and Gray (2007) and Thompson et al. (2004) also found that seeking help was equated to weakness. Thus, many people from different backgrounds appear not to seek therapy so as not to appear weak. These findings provide support for the notion that self-reliance can prevent people from seeking psychological services.

Rationale for Current Research Project

According to Kirby (2008), mental health is one of Canada's most pressing problems. The World Health Organization (WHO) also stresses the importance of focusing on mental health, as it projects that by 2020, depression will be the second leading contributor to the global burden of disease (WHO, 2009). Given that therapy has been found to be effective at improving the mental health of individuals suffering from psychological distress, increasing mental health service utilization would be helpful at combating what appears to be a looming global mental health crisis. One way to increase mental health service utilization would be to decrease barriers that inhibit people from seeking appropriate mental health services. Thus, this current research project examined interventions designed to reduce barriers to seeking mental health services.

As has been previously indicated, there are many different barriers that have been thought to reduce mental health services utilization rates. The barriers that this research project will be focusing on are perceived stigma related to seeking mental health services and mental health literacy. First, perceived stigma was chosen as a target barrier, as it appears to be a poignant barrier for those individuals in the "service gap." Stefl and Prosperi (1985) found that individuals in need of but not receiving mental health services noted perceived stigma as a barrier to service utilization twice as often as compared to those individuals who were in need of and using mental health services. Thus, perceived stigma appears to be a barrier that may play an important role in the decision to seek mental health services. This claim is further corroborated by recent studies that have found that perceived stigma was the most prominent barrier related to help-seeking for

mental health services (e.g. Hepworth & Paxton, 2007; Sherwood, Salkovskis & Rimes, 2007).

Mental health literacy was also chosen as a target barrier, as it appears to play an equally important role in the decision to seek mental health services. Suchman (1965) indicated that the illness experience and subsequent medical care is a 5-stage process. The first stage is the "Symptom Experience Stage." This stage involves identifying symptoms as interfering with normal social functioning. This stage is followed by the "Assumption of the Sick Role Stage," which consists of deciding that one is sick and needs professional care. Therefore, Suchman suggests that in order to seek professional treatment a person must first be able to recognize symptoms and the need for care. As was previously mentioned, mental health literacy consists of recognition of mental disorders and knowledge of professional help available. If an individual has a low level of mental health literacy, the first two steps for the illness experience and medical care process cannot be initiated. Therefore, mental health literacy appears to be a very important component of the mental health care seeking process.

This research project tested the effectiveness of interventions designed to increase the likelihood of seeking mental health services. The samples for the two studies within this research project consisted of university students. These samples may appear to be based on convenience; however, there are a number of reasons an intervention aimed at changing intentions to seeking mental health services could be beneficial for the university student population. Just as the service gap exists in the general public, there is evidence that there is a gap between service need and service usage among university students. For example, Eisenberg et al. (2007) found that between 37% and 84% of

university students whose screening for anxiety and depression was positive did not seek treatment. Another study found that less than half of college students that screened positive for a mental illness in 2005, as well as 2007, had received treatment between these two time points (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Thus, it is evident that many postsecondary students that could benefit from mental health services do not receive these services.

University students have fewer barriers to receiving psychological services, as they usually have access to free services on campus. Mental health literacy and perceived stigma related to seeking mental health services have been noted by university students as barriers to receiving psychological services (Eisenberg, et al, 2007). Thus, university students may be good candidates for testing interventions aimed at changing perceived stigma and mental health literacy, as these barriers and the service gap appear to be present within this population.

The existence of the service gap within the university student population is not the sole reason that university students have been chosen as participants. The university student population appears to be at increased risk of developing psychological distress. Research has shown that most mental disorders emerge between the ages of 15 and 24 (Kessler et al, 2005). A majority of university students fall within this age range, suggesting that some university students are experiencing or have recently experienced the onset of a mental disorder. Research has also suggested that university students experience elevated levels of psychological distress. Adlaf, Gliksman, Demers, and Newton-Taylor (2001) found elevated levels of psychological distress were more prevalent among Canadian undergraduates than individuals of the same age within the

general population. These findings suggest that university students have a greater need for psychological services than the general population.

Another reason university students have a need for psychological services is that psychological distress can have a negative impact on an individual's academic career. Research has suggested that some of the major causes of attrition in the first year of university studies are emotional in nature (Pritchard & Wilson, 2003). Depression was identified as a significant predictor of lower GPA and dropout (Eisenberg, Golberstein, & Hunt, 2009). It has also been found that self-reported mood ratings are better predictors of academic performance than intelligence (Haines, Norris & Kashy, 1996). Therefore, university students are vulnerable to experiencing psychological distress, and this distress can have a detrimental effect on their academic performance. These are reasons why an intervention aimed at lessening the extent of the service gap among university students is needed and why the current research project proposes to use university students as participants.

The current research project is comprised of two studies. The first study, which is outlined in chapter two, examined a social influence intervention aimed at reducing perceived stigma and increasing intentions to seek mental health services. The second study, which is outlined in chapter three, looked at educational interventions aimed at improving attitudes toward seeking mental health services and increasing mental health literacy and intentions to seek mental health services.

Chapter Two

The Effect of Social Influence on Reducing Perceived Stigma Related to Seeking Mental Health Service

Epidemiological surveys have provided evidence that many people who have a mental disorder do not receive mental health services. A number of different barriers have been suggested as contributing to low levels of mental health service utilization rates. One of these barriers is perceived stigma related to seeking mental health services. This refers to the belief that people will be devalued and discriminated against for seeking psychological assistance. In order to understand why perceived stigma inhibits people from seeking mental health services, stigma and how it relates to mental illness will be explored.

Stigma

The term stigma dates back to Ancient Greece. It was originally used to refer to a bodily sign, such as a tattoo, that signified that the branded individual had a blemished moral status. The modern use of the word stigma has shifted from the bodily sign that demarks a disgrace to denoting the disgrace itself (Goffman, 1961). From a social psychological standpoint, stigma can be equated to negative stereotyping (Corrigan & Penn, 1999). Hilton and von Hippel (1996) suggest that stereotypes are efficient means of processing information. Stereotypes are cognitive representations of social categories. An individual perceived as a member of a certain group will be inferred as possessing attributes and engaging in behaviours that are presumed characteristic of members belonging to that particular group. Rather than developing an understanding of that individual by processing current incoming information, it is quicker and easier to make assumptions about that person based on previously stored knowledge regarding members of the group to which that person is perceived to belong. Therefore, stereotyping can be beneficial as it makes information processing less time consuming. Although

stereotyping can be valuable from an information processing perspective, it can lead to discrimination, as a person can be perceived based solely on their group membership as possessing the negative attributes associated with a particular social group. Thus, stigma refers to the disgrace or negative effects of being labeled as belonging to a particular social category.

Link and Phelan (2001, 2006) conceptualize stigma as comprised of five components. The first component is that people recognize and label differences that exist between individuals. Second, these differences are linked to undesirable characteristics. In other words, negative stereotyping occurs. The third component involves setting apart the individuals who have been labeled in an "us" versus "them" categorization. The fourth component consists of devaluation and discrimination against the labeled individuals. Finally, the fifth component is that a power situation exists that allows for the aforementioned components to occur.

Stigma and Mental Illness

The stigma associated with being mentally ill is pervasive in modern society. Terms referring to mental illness, such as "crazy," carry negative connotations and are used as insults in colloquial language (Hayward & Bright, 1997). Television tends to portray the mentally ill primarily in a negative way. Primetime television characters depicted as mentally ill are more likely to be viewed as violent, to have a poor quality of personal life, be a failure at work, and to have a negative impact on society (Diefenbach, 1997; Signorelli, 1989). It is not surprising that Granello, Pauley, and Carmichael (1999) found that people who reported that electronic media was their primary source for information regarding mental illness demonstrated less tolerant attitudes towards people

with mental illness than those who received their information through other sources. A study examining words used by 14-year-olds to describe someone who experiences mental health problems found that nearly half of the words were derogatory terms, such as nuts and psycho (Rose, Thornicroft, Pinfold, & Kassam, 2007). These references to mental illness suggest that the public has a negative, stigmatizing view of the mentally ill.

Four negative stereotypes have been associated with the mentally ill (Byrne, 1997). One stereotype portrays the mentally ill as “figures of fun” who are viewed as crazy and ineffectual. The second stereotype depicts the mentally ill as persons to be pitied, as they are perceived as being unable to function on their own. A third stereotype is to view individuals with a mental illness as dangerous and insane. Finally, the mentally ill may also be characterized as lazy. These individuals do not want to recover. Endorsements of any of these stereotypes lead to discrimination against the mentally ill.

There is evidence to suggest that stereotypes are being endorsed, and discrimination is occurring against people with mental illness. People with and without experience with mental health care are under the impression that mental health care patients will be discriminated against, devalued, and rejected (Link, 1987; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989). Qualitative accounts by individuals with a mental illness substantiate these impressions, as these accounts indicate that individuals are overtly discriminated against. Dinos, Stevens, Serfaty, Weich, and King (2004) found that 63% of their sample of participants with a mental illness reported experiencing verbal or physical personal harassment. Research has also suggested the mentally ill can be discriminated against when trying to find employment (Brodreri & Drehmer, 1986; Thornicroft et al., 2009) and attempting to rent an apartment (El-Badri & Mellsop, 2007;

Page, 1977). A study in which mental health care consumers in New Zealand were interviewed found that half of these individuals reported being shunned or avoided once people knew about their mental disorder (El-Badri & Mellsop, 2007). Also, sixty-two percent of the sample felt that once people knew that they had a mental disorder they were treated as less competent. There is also evidence that the public has a low level of tolerance for individuals labeled as having a mental illness. Hall, Brockington, Levings, and Murphy (1993) found that only 4 to 12% of their study's respondents would have a close relationship or live with an individual described as having either paranoid schizophrenia, schizophrenic defect state, depression or obsessional neurosis. The responses obtained also indicated that only 32 to 53% would work with or live next door to these individuals.

It has been suggested that mental illness stigma has lessened over recent years. Recent studies continue to demonstrate that the discrimination against and devaluation of the mentally ill occurs (e.g., Dinos, et al., 2004; El-Badri & Mellsop, 2007). Angermeyer and Matschinger (2004) looked for changes in public attitudes towards people with depression between 1990 and 2001. They found that fear of depressive behaviour and the desire for social distance had not diminished. A recent study in Australia found that the desire for social distance from someone with depression has decreased since 2003/2004 (Reavley & Jorm, 2012). However, the perception that people with depression or schizophrenia are dangerous or unpredictable increased over this same time period. Therefore, there is evidence that mental illness stigma is still prevalent among the general population.

Although research has demonstrated that there is a perception that the mentally ill are stigmatized, it has been suggested that the actual rejection of the mentally ill is not a result of being labeled as such. Research has shown that public rejection of the mentally ill is significantly related to abnormal behaviour engaged in by these individuals (Link, Cullen, Frank, & Wozniak, 1987; Socall & Holtgraves, 1992). However, it would be an error to suggest that labels do not play a role in the stigmatization of the mentally ill. When individuals are labeled as mentally ill they are rejected more than those who are identified as physically ill that present with the same symptomatology (Socall & Holtgraves, 1992). Similarly, Piner and Kahle (1984) found that perceiving someone as unusual increased when an individual was labeled as mentally ill even though this individual did not engage in any bizarre behaviour. Phelan and Basow (2007) found that a predictor of mental illness stigma was labeling. More specifically, labeling accounted for the variance in mental illness stigma more when behaviour was ambiguous rather than when it obviously violated social norms. Thus, these studies suggest that the mental illness label is stigmatizing.

According to Corrigan and Wassel (2008), there are three ways in which mental illness stigma can have a negative impact on people. The first way is through public stigma. Public stigma refers to the negative perceptions and reactions of others to individuals who belong to a stigmatized group. As was just discussed, research suggests that individuals with a mental illness are negatively impacted by mental illness stigma as they are discriminated against because of their diagnosis.

The second way mental illness stigma can negatively impact people is through self-stigma. Self-stigma refers to the self-prejudice and the negative impact on self-

esteem and self-worth that result when an individual labels him or herself as belonging to a socially unacceptable group (Corrigan, 2004). In the case of mental illness self-stigma, the individual agrees with the stereotypes associated with mental illness and applies these stereotypes to him or herself (Corrigan & Wassel, 2008). In other words, self-stigma is viewed as the internalization of public stigma (Vogel, Wade, & Hackler, 2007). For example, if an individual believes that people who are mentally ill are incompetent, then that individual may believe that he or she must be incompetent because he or she has a mental illness. The application of the mental illness stereotypes to one's self results in decreased self-esteem and self-efficacy. Research by Vogel, Bitman, Hammer, and Wade (2013) investigated the relationship between public and self-stigma. This study found that initial public stigma levels predicted self-stigma levels after a three month period. Thus, there is evidence that mental illness stigma can negatively impact people as this stigma may be internalized.

The third way mental illness stigma has a negative effect on people is through label avoidance. Mental illness stigma differs from other stigmas as it lacks visibility (Corrigan, 2000; Goffman, 1961). As mental illness cannot be directly observed, it must be inferred. Four signals allow people to infer mental illness: labels, psychiatric symptoms, social skill deficits, and physical appearance (Penn & Martin, 1998). Therefore, if an individual is not exhibiting any bizarre behaviour and outwardly appears normal, labeling must occur for the individual to be stigmatized for being mentally ill. Goffman (1961) suggested that if an individual has the ability to conceal a stigmatizing characteristic, he or she will often do so in order to pass as normal. Therefore, an individual who outwardly appears normal may avoid situations that would cause him or

her to be labeled as mentally ill. In other words, this individual is engaging in label avoidance. The negative effects of label avoidance are not attributable to the lack of label but rather to the avoidance of particular situations that may result in this mental illness label. One way in which a mental illness label can be applied to someone is if the individual becomes associated with mental health care (Corrigan, 2004). For example, a label of being mentally ill may be applied to a person who is seen entering or leaving a mental health professional's office. Consequently, to avoid the mental illness label some individuals may not seek mental health care. Therefore, mental illness stigma can negatively impact some individuals, as it prevents them from seeking needed mental health services in order to pass as normal.

Perceived Stigma Related to Seeking Mental Health Services

As was just discussed, mental illness stigma can result in label avoidance behaviour. That is to say, some individuals appear to avoid seeking psychological services to avoid the stigma associated with being mentally ill. This avoidance of mental health care suggests that seeking and receiving mental health services are perceived as stigmatizing. For example, Barney, Griffiths, Jorm, and Christensen (2006) found that a substantive minority of their sample felt that they would be stigmatized by other people if they received help for depression. The perception that people will be stigmatized for seeking psychological assistance may not be unfounded. Sibicky and Dovidio (1986) conducted a study that examined initial impressions and behaviours towards individuals described as being in therapy. In this study, two participants were asked to engage in a ten minute conversation to get acquainted. One participant, the perceiver, was either told that the other participant, the target, was in therapy at a counselling centre, or there was

no mention of counselling. The target was unaware of this manipulation. Perceivers had more negative initial impressions of the targets identified as therapy clients as compared to the non-clients. The therapy clients were perceived as more unsociable, unsuccessful, awkward, unenthusiastic, and cold as compared to the non-client. The perceivers also behaved in a more negative fashion when talking to the therapy client.

Given that there is stigma associated with seeking mental health care and label avoidance occurs, a barrier to seeking mental health services is the perception that one will be stigmatized for seeking these services. Perceived stigma refers to the belief that an individual will be devalued and discriminated against for seeking psychological assistance, and it has been noted as a psychological treatment barrier in a number of different studies (e.g. Amato & Bradshaw, 1985; Boyd et al., 2007; Hirschfield et al., 1997, Kessler et al., 2001; Olfson et al., 2000; Stefl & Prosperi, 1985; Thompson et al., 2004). For example, adolescents in a rural area in Australia indicated that receiving psychological services was essentially admitting to having a mental health problem (Boyd et al., 2007). They also indicated that mental health problems are viewed in a negative light. Thus, they did not want to seek help so as to avoid the stigma they associated with being mentally ill. Researchers have also found that there is an inverse relationship between perceived stigma and likelihood of seeking help for depression (Barney et al., 2006). Similarly, Bayer and Peay (1997) found that participants that indicated they were more likely to seek mental health services believed more often that their friends, family, and doctors would approve of their help-seeking as compared to those who were less likely to seek mental health services. Structural equation modeling used by Vogel, Wade, and Hackler (2007) suggested that stigma impacts the decision to

seek help. They found that perceived public stigma predicted self-stigma, which is the internalization of the stigma associated with help-seeking. Self-stigma predicted attitudes which in turn predicted intentions to seek mental health services. Thus, perceived public stigma was found to affect willingness to seek help but this link was mediated by self-stigma. Therefore, there is evidence that the perception that seeking mental health services is socially acceptable or stigmatizing plays a role in the decision to seek psychological help.

Although the attitude of perceived stigma is related to decreased help-seeking, some studies have not found it to be the most dominant reported service barrier (Olfson et al., 2000; Stefl & Prosperi, 1985). However, perceived stigma is an important barrier to examine and reduce, because this barrier is more poignant for those individuals in the "service gap" (Stefl & Prosperi, 1985). In Stefl and Prosperi's sample, individuals in need of but not receiving mental health services noted perceived stigma as a barrier to service utilization twice as often as compared to those individuals who were in need of and using mental health services. Thus, perceived stigma appears to be a barrier that may play an important role in the decision to seek mental health services. This claim is further corroborated by recent studies that have found that perceived stigma was the most prominent barrier related to help-seeking for mental health services (e.g. Hepworth & Paxton, 2007; Sherwood, Salkovskis, & Rimes, 2007). Thus, changing attitudes that view service utilization as stigmatizing may be beneficial, because this attitude change may increase service utilization among individuals in the "service gap."

In addition to affecting individuals in the service gap, research has found that perceived stigma is a salient barrier that prevents some young people from seeking

mental health services. Young people and college students often cite embarrassment as one of the top reasons for not seeking mental health services, which suggests there is a negative perception of mental health care (Yap, Reavley, & Jorm, 2012; Yorgason, Linville, & Zitzman, 2008). Eisenberg and colleagues (2011) found that 21.4% of their sample of college students reported that they had not received appropriate levels of mental health care, because they were worried about what other people would think of them. Although perceived stigma is not the most cited reason for not seeking mental health services, this study and other research suggests that perceived stigma impacts help-seeking among university-aged individuals. For example, Golberstein, Eisenberg, and Gollust (2008) found a negative association between perceived stigma and perceived need for mental healthcare among individuals between the ages of 18 and 24. Additionally, a systematic review of the literature related to barriers that prevent adolescents and young adults from seeking help for mental health issues identified stigma as the most prominent barrier for this population (Gulliver, Griffiths, & Christensen, 2010). Thus, it is possible that service utilization among university students could increase if perceived stigma was lessened.

Social Influence

The current study is interested in changing attitudes concerning perceived stigma related to seeking mental health services. There is a vast amount of literature regarding attitude change, and a variety of attitude change strategies have been proposed. One method of attitude change that has received a lot of attention is social influence. One reason that social influence is often used as an attitude change mechanism is that people use social information to evaluate the validity of their attitudes. Humans have a drive to

evaluate their own attitudes, as holding incorrect attitudes can be harmful or fatal (Festinger, 1954). Information used to evaluate attitudes can be derived from the physical or social world. When a stimulus is objective and unambiguous, individuals use information from the physical world to evaluate their attitudes, beliefs, or opinions related to this stimulus. However, when the physical environment provides objectively ambiguous information regarding a particular stimulus, individuals turn to social reality. Therefore, when physical means of evaluation cannot be used, attitude validity must be verified using social comparisons (Festinger, 1950, 1954). According to Hardin and Higgins (1996) an experience shifts from subjective to objective when it is socially verified (i.e., it is shared by others). Thus, an attitude becomes viewed as objectively valid and reliable when it is shared by others. Hogg and Turner (1987) suggested that "social influence stems from a person's need to agree with members of a relevant social group in order to validate their responses as correct, appropriate or desirable" (p. 149). Thus, social influence can lead to attitude change through the attitude social validation process. Research has demonstrated that social influence can lead to change in a variety of attitudes, such as racial attitudes and attitudes towards public issues (e.g. Newcomb, 1952; Tan et al., 2001). It is not surprising that social influence can lead to attitude change, as research has also shown that judgments of physical reality are susceptible to social influence (e.g., Asch, 1951; Sherif, 1952).

Understanding social influence has received a great deal of attention, as many people are interested in changing the opinions and attitudes of others. Therefore, a number of theories have been put forth regarding how social influence works. For example, Deutsch and Gerard (1955) suggested that social influence could be broken

down into two types: normative and informational. Normative influence was defined as "an influence to conform with the positive expectations of others" (p. 629). Informational influence was defined as "an influence to accept information obtained from another as evidence of reality" (p. 629). Similarly, Kelley (1952) also proposed a dichotomy suggesting that reference groups could have a normative or comparative function. In terms of their normative function, reference groups can influence group members to hold similar attitudes through rewarding conformity and punishing non-conformity. The comparative function of reference groups proposed by Kelley refers to individuals using reference group norms to compare their own attitudes against in order to validate their own attitudes. Thus, the dichotomies proposed by Deutsch and Gerard and Kelley are similar in that one half of the dichotomies suggest that attitude change occurs due to social pressure, and the other half suggests that individuals accept the attitudes of others as their own because information from others is viewed as a benchmark of validity.

Unlike Deutsch and Gerard (1955), Kelley, Hogg, and Turner (1987) argue against the dichotomization of social influence. Van Knippenberg (2000) illustrates that normative and informational influence are not mutually exclusive by stating that: "if validity and objectivity of information is based on social consensus, the degree to which information is normative (i.e., represents social consensus) determines its validity and objectivity, that is, its informational value. Thus, normative influence is based on the informational value of norms (i.e., is informational), and informational influence is derived from the normativeness of the information (i.e., is normative)" (p. 160). Self-categorization theory offers a perspective on social influence that allows normative and

informational to be subsumed into one process. Self-categorization theory proposes that individuals do not have a single identity; rather, they have multiple conceptualizations of themselves (Turner, 1987). Self-categorizations are conceptualizations a person has of him or herself that either distinguishes him or herself from other stimuli or identifies him or herself as similar to other stimuli. These self-categorizations fall into a three level hierarchy of abstraction. The most encompassing level is the human level in which an individual categorizes him or herself as human. Thus, the individual differentiates him or herself from other species and categorizes him or herself as similar to other humans. The next level of abstraction relates to the individual's social identity. At this level, an individual forms ingroup-outgroup categorizations based on perceived similarities and differences with other human beings. Thus, the individual categorizes him or herself as belonging to particular social groups and not other social groups. The final level of abstraction entails an individual categorizing him or herself as a unique individual, differentiating him or herself from all other people. The social group level of abstraction is the level with which self-categorization theory is particularly concerned.

As previously indicated, self-categorization views the self as comprised of many self-concepts that are often context specific (Turner, 1987). That is to say, different self-concepts are salient in different situations. Salience, in this case, refers to whether or not a self-concept is cognitively prepotent in that it influences perception and behaviour. Thus, when a particular group membership is salient, an individual no longer defines him or herself as a unique individual; instead, he or she defines him or herself as a group member. Therefore, when a group membership is salient, the social group level of abstraction is being employed. As self-categorizations' salience varies from one situation

to the next, Oakes (1987) offered a theory as to what allows a social categorization to be salient. In order to understand social category salience, Oakes borrowed concepts from Bruner's (1957) analysis of categorization in perception. According to Bruner, accessibility of perceptual categories referred to the "readiness with which a stimulus input with given properties will be coded or identified in terms of a category" (p. 133). When applied to social categorizations, relative accessibility refers to the "latent readiness of given social categorizations to become activated" (Oakes, 1987, p.128). According to Oakes, an individual's self-definition, goals, needs, and expectations factor into the relative accessibility of a particular social categorization. Self-definition plays a role in determining a social category's salience, in that the extent to which an individual identifies with a particular social group affects the likelihood of that social categorization being activated. In other words, the more an individual identifies him or herself as a group member, the more accessible the social categorization is. The accessibility of a social categorization is also affected by an individual's goals and needs. For example, if an individual wants to be given a spot on a basketball team, he or she will likely perceive him or herself as a basketball player. Another determinant of a social categorization's accessibility is the learned expectations an individual has for a particular environment. Individuals learn from past experiences which social groups are likely to be seen in particular situations or environments. For example, a person will likely view him or herself as a student if he or she is seated in a classroom, as students usually occupy classrooms. Thus, a social categorization is more accessible if it coincides with an individual's self-identity, goals, needs, and expectations.

Fit of a social category also influences salience. Fit refers to how well reality coincides with a social category (Turner, 1987). According to Oakes (1987), there are two types of fit: structural and normative. Structural fit is based on the principle of meta-contrast (Turner, 1987). This principle states that stimuli are more likely to be perceived as belonging to the same category to the extent that intra-category differences are less than inter-category differences. Thus, structural fit refers to the extent to which observed differences between an individual and people within a particular social group are less than the observed differences between this individual and people not belonging to the particular social group in the stimulus field. Also, structural fit is dependent on the extent to which an individual is more similar to members of the specific group than to those individuals not in the group. Normative fit refers to whether or not the similarities and differences between the individual and other group members and between the individual and non-group members are in normatively consistent directions. Therefore, input fits a social categorization to the extent that observed similarities and differences between an individual, group members, and other people are consistent with the normative expectations of such a categorization.

According to Oakes (1987), salience is a function of the interaction of accessibility and fit. If two categorizations are equally accessible, then the one that "fits" better will become salient. Similarly, if two categories "fit," then the one that is more accessible will become salient.

When a particular group membership is salient, an individual defines him or herself as a group member. This self-definition allows depersonalization to occur (Turner, Oakes, Haslams, & McGarty, 1994). Turner (1987) defines depersonalization as

an individual applying a group stereotype to him or herself. That is, rather than viewing him or herself as a unique individual, this person views him or herself as an interchangeable representation of a social category. When the self is perceived as a prototypical group member, the individual expects to behave and think like a prototypical group member. Social influence can occur when self-categorization and the resulting depersonalization occurs. When a particular group membership is salient, people expect to hold the same attitudes and behave the same way as other people belonging to the same social category. Uncertainty arises if there is a discrepancy between an individual's attitudes and /or behaviours and those attitudes and/or behaviours of people perceived as belonging to the same social category (David & Turner, 2001). Matz and Wood (2005) found that participants in their experiment experienced dissonance discomfort when they disagreed with other group members. Dissonance can be reduced in a number of ways, such as changing groups, redefining the stimulus situation, or persuading others to change their attitudes or opinions (David & Turner, 2001; Matz & Wood, 2005). Another method of reducing the uncertainty created by the disagreement is by an individual changing his or her attitudes or opinions in order to agree with the group. Thus, when an individual is presented with counter-attitudinal information from an ingroup source, he or she may change his or her attitude so that it is consistent with this information.

Using self-categorization theory, researchers have postulated that attitude change can be enhanced by using an ingroup source as opposed to an outgroup source. There are a multitude of studies that suggest that an ingroup source is more persuasive than an outgroup source. One example is an experiment conducted by Abrams, Wetherell, Cochrane, Hogg, and Turner (1990) that used the same procedure as Asch (1956).

Participants were asked to make judgments about line lengths after hearing the judgments of three confederates. At the beginning of the experiment the confederates were identified as either ingroup members or outgroup members. Participants in the ingroup condition reported more uncertainty about their judgments due to disagreement with the confederates than those in the outgroup condition. Participants also conformed more to erroneous responses of confederates in the ingroup condition. Thus, this study provides support for the self-categorization theory's hypothesis that influence is related to uncertainty that occurs when comparisons are made with ingroup members. Other studies have also shown that ingroup sources are more influential than outgroup sources. For example, studies have found that ingroup sources were found to be capable of influencing the appraisal of stressful situations and the experiencing of physiological pain (Haslam, Jetten, O'Brien & Jacobs, 2004; Platou & Voudouris, 2003). Another example comes from a study conducted by Mackie (1986) in which participants were presented with arguments that were described as being generated in a group discussion. Participants' attitudes were more affected when the group was described as being an ingroup source as opposed to an outgroup source. In line with self-categorization theory, McGarty, Haslam, Hutchinson, and Turner (1994) found that participants were more likely to agree with an ingroup source versus an outgroup source, but only when the group membership was salient for the participants. Therefore, the empirical evidence does suggest that an ingroup source is more persuasive. Thus, research provides support for self-categorization theory's approach to social influence as people perceived as belonging to the same salient social category have been found to have the ability to influence other group members' attitudes, opinions and behaviours.

The Present Study

Perceived stigma appears to be a poignant barrier for those individuals in need of but not receiving mental health services (Stefl & Prosperi, 1985). Thus, changing attitudes related to perceived stigma may result in increased service utilization. One method of changing attitudes is through social influence. According to self-categorization theory, people expect to agree with similar others and uncertainty arises if there is disagreement with other group members (David & Turner, 2001; Matz & Wood, 2005). This uncertainty can be resolved by an individual changing his or her attitudes. Thus, if an ingroup member suggests that therapy is not stigmatizing, it can be expected that individuals may change their attitudes regarding stigma related to seeking mental health services to coincide with this group member's attitude. Additionally, if an ingroup member indicates that seeking mental health services is an acceptable behaviour, it can be expected that individuals' intentions to seek counselling will increase accordingly. The aim of the current study was to answer the following research questions:

1) Can attitudes pertaining to perceived stigma related to seeking mental health services be socially influenced?

2) Can intentions to seek mental health services be socially influenced?

In order to address these questions, a study was conducted using two experimental groups and a control group. The experimental groups' participants listened either to ingroup or outgroup speakers discuss their non-stigmatizing experience with therapy. The control group's participants listened to speakers discuss their efforts to be environmentally friendly. In order to assess the effectiveness of this social influence intervention, participants' attitudes pertaining to perceived public stigma and self-stigma

related to seeking mental health services and their intentions to seek mental health services were measured one week prior to the intervention, immediately following the intervention, and two weeks after the intervention.

Research Hypotheses

1. Immediately after and two weeks following the intervention, the ingroup condition participants would have higher indifference to perceived stigma related to seeking mental health services as compared to the participants in the other conditions.
2. Immediately after and two weeks following the intervention, the ingroup condition participants would have lower self-stigma related to seeking mental health services as compared to the participants in the other conditions.
3. Immediately after and two weeks following the intervention, the ingroup condition participants would have higher intentions to seek counselling as compared to participants in the other conditions.

Method

Participants

Participants in this study were undergraduate students recruited from the University of Manitoba Introduction to Psychology research participant pool. All participants received course credit for their voluntary participation and were entered into a draw to win one of four $20 gift cards to the university bookstore if they participated in all phases of the study. A total of 199 students participated in the initial phase of the study. However, thirty-three participants were not included in the final data analysis. Thirty-one participants were lost due to attrition. Additionally, the data was screened for

outliers. Outliers were identified as any score on the dependent measures that had a z-score of 3.3 or higher. Two students were excluded from final analysis on this basis. Therefore, the final analysis was completed using data acquired from 166 students. Please refer to Figure 1 for an overview of the format of the study and for the number of students who participated in the different portions of the study.

The sample was comprised of 62 males (37.3%) and 104 females (62.7%) ranging between the ages of 18 and 25. The four most-reported ethnicities were Caucasian (70.5%), Asian (15.1%), Black (1.8%), and Aboriginal (1.8%). However, 7.8% of individuals did not report their ethnicity. In terms of faculty enrollment, most participants were enrolled in University 1 (68.7%), followed by Science (10.2%) and Arts (6.0%).

Materials

Inventory of Attitudes toward Seeking Mental Health Services (IASMHS). The IASMHS is a self-report measure of attitudes related to seeking professional psychological help (Mackenzie, Knox, Gekoski & Macaulay, 2004). Participants are instructed to rate how much they agree with 24 statements on a 5-point rating scale, from 0 “disagree” to 4 “agree”. The IASMHS is comprised of three subscales: “Psychological Openness,” a measure of the degree of openness to acknowledging psychological problems and seeking psychological treatment for these problems; “Help-Seeking Propensity,” a measure of willingness and ability to seek professional psychological help; and “Indifference to Stigma,” a measure of perceived stigma related to seeking mental health services. The Indifference to Stigma subscale was used in this study’s analysis as a measure of public stigma related to seeking mental health services. High scores on the

IASMHS represent positive attitudes towards seeking mental health service; therefore, high scores on the Indifference to Stigma subscale represent low levels of perceived public stigma. The IASMHS has demonstrated good internal consistency and reliability. Mackenzie and colleagues (2004) reported an internal consistency of .87 for the full scale IASMHS, .82 for psychological openness subscale, .76 for help-seeking propensity subscale, and .79 for indifference to stigma subscale. Study 1 of this project found the internal consistency using Cronbach's alpha to be .83 for the full scale IASMHS, .71 for psychological openness subscale, .71 for help-seeking propensity subscale, and .80 for indifference to stigma subscale. The test-retest reliabilities for the total scale and each of the subscales are as follows: full scale IASMHS, $r = .85$, $p < .01$; psychological openness, $r = .86$, $p < .01$; help-seeking propensity, $r = .64$, $p < .01$; and indifference to stigma, $r = .91$, $p < .01$ (Mackenzie et al, 2004).

Self-Stigma of Seeking Help Scale (SSOSH). The SSOSH is a self-report measure designed to measure self-stigma related to seeking psychological help (Vogel, Wade, & Haake, 2006). The SSOSH was constructed to evaluate the extent to which seeking mental health services is perceived as a threat to a person's self-esteem and overall self-worth. Participants are asked to rate how much they agree with 10 statements on a 5-point rating scale, from 1 "strongly disagree" to 5 "strongly agree". High scores on the SSOSH represent a high level of self-stigma related to seeking psychological help. The SSOSH has demonstrated good internal consistency and reliability. Studies conducted by Vogel, Wade, and Haake found the SSOSH to have an internal consistency reliability ranging from .86 to .91. It was also found that the SSOSH had a 2-month test-

retest reliability of .72. The current study found that the SSOSH had a Cronbach's alpha of .82.

Intentions to Seek Counseling Inventory (ISCI). The ISCI is a self-report measure of intentions to seek counseling (Cash, Begley, McCown, & Weise, 1975). It lists 17 problems which students have often brought to counseling. Participants are instructed to rate how likely they would be to seek counseling if they were experiencing each of the problems on a 4-point rating scale, from 1 "very unlikely" to 4 "very likely. Total scores range from 17 to 68, with high scores indicating that participants were likely to seek counselling. Cepeda-Benito and Short (1998) found that the total scale had good internal consistency with a Cronbach's alpha at .89. The current study also demonstrated that the ISCI has adequate internal consistency as the Cronbach's alpha score was .79. Using factor analysis, Cepeda-Benito and Short identified that three subscales exist within the ISCI: Interpersonal Problems (10 items), Academic Problems (4 items), and Drug/Alcohol Problems (2 items). Weight control did not fall into any of these three subscales. According to previous research, the internal consistency using Cronbach's alpha for the three subscales was .90 for Interpersonal Problems, .71 for Academic Problems, and .86 for Drug/ Alcohol Problems (Cepeda-Benito & Short, 1998). Data from the current study demonstrated that there was good internal consistency for the Interpersonal Problems and Drug/ Alcohol Problems subscales ($\alpha = .80$). However, the Academic Problems subscale had poor internal consistency ($\alpha = .51$). Only total scale scores were used in this research projects main analyses.

Depression Anxiety Stress Scales 21(DASS-21). The DASS-21 is a self-report measure of depression, anxiety, and stress (Lovibond & Lovibond, 1995). It is comprised

of 21 statements for which participants are instructed to indicate how much each one has applied to them over the last week using a four-point rating scale ranging from 0 “did not apply to me at all” to 3 “applied to me very much, or most of the time.” As the DASS-21 is a short form of the DASS, the total score is obtained by summing the individual item scores and multiplying the total by two. High scores represent high levels of depression, anxiety, and stress. The DASS-21 contains three subscales: Depression, Anxiety, and Stress. Studies have demonstrated that the DASS-21 has high internal consistency. For example, Antony, Bieling, Cox, Enns, and Swinson (1998) found that the internal consistency using Cronbach’s alphas was .94 for Depression, .87 for Anxiety, and .91 for Stress. The current study demonstrated that overall the DASS-21 has good internal consistency as the Cronbach’s alpha for the total DASS-21 score was .88. The data also show that the subscales have adequate internal consistency, as the Cronbach’s alphas were .83 for Depression, .69 for Anxiety, and .79 for Stress. Cut-off scores were developed for the DASS-21 subscales in order to identify level of severity relative to the general population (Lovibond & Lovibond, 1995). The levels of severity are as follows: normal, mild, moderate, severe, and extremely severe.

Other questionnaires. In addition to the aforementioned measures, this study also used a pre-manipulation questionnaire (see Appendix A), a post-manipulation questionnaire (see Appendix B), and a follow-up questionnaire (see Appendix C). These questionnaires were comprised of a variety of questions developed for this study. The pre-manipulation questionnaire contained questions regarding demographics, psychological service usage, and salience of group membership. The pre-manipulation questions regarding service usage asked participants to indicate if they or someone they

are close to were receiving or had received psychological services. In addition, participants were also asked to rate the helpfulness of their past experiences with mental health services and indicate if they had ever been diagnosed with a mental disorder. The salience of group membership questions in the pre-manipulation questionnaire were designed to determine how much the participants identify with the university student group. The post-manipulation questionnaire asked participants to recall and reflect on the testimonials presented during the experiment. These questions were included as a manipulation check to ensure that participants were attending to the testimonials. The post-manipulation questionnaire also contained questions about the speakers in order to determine how the speakers were being perceived by the participants. The follow-up questionnaire asked participants if they had heard anyone talk about the study and if they had seen any anti-stigma campaign media regarding mental illness or mental health services. Participants who have received psychological service in the past were also asked if they had ever been discriminated against or felt devalued because of their service usage.

Procedure

This study was comprised of three sessions: pre-manipulation, manipulation, and follow-up. Each of these sessions took place in a classroom setting.

During the pre-manipulation session, the experimenter explained the format and nature of the study. After filling out consent forms (see Appendix D), participants were instructed to fill out a questionnaire package, which included copies of the pre-manipulation questionnaire, the IASMHS, the SSOSH, the ISCI, and the DASS-21.

Following the completion of the questionnaire, participants were randomly assigned to one of three conditions: ingroup, outgroup, and control.

Manipulation sessions were scheduled approximately one week following the pre-manipulation session. Each of the manipulation sessions followed the same format. After a brief introduction regarding the session format and content, the participants listened to videotaped, scripted testimonials (See Appendix E for the testimonial for each condition). Participants in each manipulation session listened to video recordings of the same two speakers to ensure that any differences between the groups after the experimental manipulation could not be attributed to differences between the speakers used for each group. In order to rule out gender of the speaker as a confounding factor, a male and a female were employed as speakers. Participants in the ingroup condition were informed that the speakers were fellow University of Manitoba students. In the outgroup condition, the participants were informed that the speakers were from a culinary school from Virginia. The participants in the ingroup and outgroup conditions listened to a videotaped recording of both speakers discussing their non-stigmatizing experience with therapy. Participants in the control condition listened to a videotaped recording of both speakers talking about their attempts to reduce their environmental impact. After listening to the testimonials, the participants were asked to fill out a post-manipulation questionnaire package which included copies of the post-manipulation questionnaire, the IASMHS, and the ISCI.

It should be noted that the speakers were actors, and the testimonials were scripted and videotaped utilizing webcams. Scripted, videotaped testimonials were chosen as opposed to actual live testimonials to allow for more experimental control and

prevent variation across experimental sessions. As the scripts were designed to sound colloquial in nature, readability statistics were computed prior to the experiment. The Flesch-Kincaid Grade Level for the scripts was 7.4 suggesting that the participants would easily understand the content of the testimonials. In addition, the scripts of the testimonials were reviewed by five university-aged individuals to ensure that the testimonials were understandable and sounded natural.

Approximately two weeks after the experimental session, participants returned for the follow-up session. The time between the intervention and follow-up was only two weeks in order to ensure that all follow-up sessions were completed prior to the end of the semester. Participants filled out the follow-up questionnaire packages, which included copies of follow-up questionnaire, the IASMHS, and the ISCI. When handing in their questionnaires, participants received debriefing forms (see Appendix F). The debriefing forms informed the participants of the purpose and hypotheses of the study.

Results

Preliminary Analyses and Analytic Strategy

Preexisting group differences. Preliminary analyses were run to determine if any group differences existed prior to the experiment. As the study's hypotheses relate to indifference to stigma, self-stigma, and intentions to seek counseling, ANOVAs were conducted to determine if the experimental groups differed on these measures prior to the experiment. In addition, DASS-21 full scale scores of the groups were also compared in order to ensure that the groups did not differ in terms of psychological distress. Despite the fact that random assignment was employed, the results of these analyses, which can be found in Table 1, suggest that there were group differences prior to the interventions.

Specifically, the ingroup participants had significantly lower pretest scores on the ISCI as compared to the outgroup participants. Due to these pre-existing group differences, the main analyses will include pretest ISCI scores as a covariate.

Testing statistical test assumptions. Data were also checked to determine which statistical analyses were appropriate to test this study's hypotheses. As multivariate analysis can protect against type I error inflation, the data were screened to ascertain if test assumptions related to running a mixed-model MANCOVA were met. Scatterplots were visually inspected for each experimental group to determine if there were linear relationships among the dependent variables. The scatterplots along with correlation analyses suggested that the dependent variables were significantly correlated. Thus, the linearity assumption of the mixed-model MANCOVA was met. The data were also examined to determine if the normality assumption was met. Skewness and kurtosis scores of the dependent variables fell within acceptable limits, suggesting that the data were normally distributed. Additionally, histograms of the dependent variables for each experimental group were visually inspected and found to resemble normal probability distributions. Thus, the normality assumption was met. The homogeneity of variance assumption was also tested using Levene's Test for Equality of Error Variances. The results presented in Table 2 show that the only significant Levene's Test using the dependent variables was for the Indifference to Stigma scores. Heteroscedasticity was corrected by transforming the Indifference to Stigma scores with the log function. Finally, the homogeneity of covariance assumption was also met as the *Box's M* value of 45.42 was associated with a p value of .427, which was interpreted as non-significant. As

the data did not violate any of the aforementioned assumptions, the main analysis was comprised of a mixed-model MANCOVA.

Exploration of possible covariates. As gender, current psychiatric symptomology, and previous experience with mental health care have been associated with attitudes towards seeking mental health services (e.g. Dahlberg, Waern, & Runeson, 2008; Leong & Zachar, 1999; Nam et al., 2010), correlations were run to determine if these variables should be utilized as covariates. Previous experience with mental health care was the only variable correlated with all three dependent variables at posttest and follow-up (Table 3). The homogeneity of regression slopes assumption related to utilizing a covariate was met, as there was no significant interaction between group placement and previous experience with mental health services or pretest ISCI scores. Thus, the main analyses in this study utilized both pretest ISCI and previous experience with mental health care as covariates.

Salience of University Group Membership. Three questions in the pre-manipulation questionnaire were designed to determine how much the participants identify with the university student group. Only 4.2% of the sample disagreed with the statement “I consider myself to be a typical University of Manitoba student.” Similarly, less than 10% of the participants (9.1%) indicated that they did not believe that their attitudes and values were similar to those of the University of Manitoba student body. Finally, 7.2% of the sample disagreed with the statement “Being a University of Manitoba student is currently an important part of my identity.” As less than 10% of the sample endorsed responses that suggest low salience of university group membership, salience scores were not included as part of the statistical analysis.

Attrition statistics and analysis. As 31 participants were lost to attrition, demographic information was examined and t-tests were conducted to determine if participants who dropped out of the study differed significantly from those who remained for the duration of the study. The ages of the participants who dropped out ranged between 18 and 25 years old with a mean of 19.4. Of the 31 dropouts, 15 were male and 16 were female. These participants were Caucasian (58.1%), Asian (16.1%), Biracial (12.9%), and Aboriginal (3.2%). However, 9.7% of individuals did not report their ethnicity. In terms of faculty enrollment, most participants were enrolled in University 1 (77.4%), followed by Arts (9.7%) and Science (6.5%). None of the dropouts indicated that they were receiving current mental health services while 19.4% disclosed that they had received these services in the past. Statistical analysis comparing the participants who dropped out of the study to those who remained for the duration of the study found no significant differences on the pretest measures of the dependent variables. There was a significant difference between these two groups of participants on DASS-21 scores, $t(197) = -2.18$, $p = .031$. The dropouts had a mean score of 34.26 ($SD = 19.54$) on the DASS-21, which was significantly higher than the mean score of participants who remained through the entirety of the study ($M = 26.53$, $SD = 18.20$). Therefore, the results of the study may not be applicable to students across distress levels given that some students with higher levels of depression, anxiety, and stress dropped out prior to the completion of the study.

Mental Health and Service Utilization

Thirty-one (18.7%) of the 166 participants reported having seen a mental health professional in the past, while only five participants (3.0%) reported that at the time of

the experiment they were receiving mental health services. Eleven (6.7%) participants disclosed that they had been diagnosed with a mental illness in the past. Of those individuals who have received mental health services, 56.2% found these services helpful, 25.0% were neutral regarding the helpfulness of these services, and 18.7% believed these services were not beneficial. Only one person felt stigmatized by others for seeking mental health services. Close to half of the participants (48.2%) reported that a close friend or family member had seen a mental health professional.

At pretest, the participants had a mean score of 26.53 (*SD* = 18.20) on the DASS-21. As shown in Table 4, all severity levels on the DASS-21 subscales were represented in the sample. The percentage of participants with severe or extremely severe scores on each of the subscales is as follows: Depression 6.6%, Stress 7.2%, and Anxiety 13.3%. Thirty-two participants (19.3%) scored within the severe or extremely severe range on at least one of the subscales on the DASS-21. Of these thirty-two participants only 12.5% were receiving mental health services at the time of the study.

Pretest Scores

At pretest the mean score of the entire sample on the Indifference to Stigma subscale of the IASMHS was 19.98 (*SD* = 6.42). The average response on each item of this scale is 2.50. This average score reflects that, overall, participants responded affirmatively to questions related to indifference to stigma as the midpoint of the scale is 2.00. Similarly, participants' responses were suggestive of low levels of self-stigma, as the average item score on the SSOSH fell slightly below the midpoint of 3.00. The mean total score on the SSOSH was 25.34 (*SD* = 6.25), with an average individual items score being 2.53.

The average scores of the participants at pretest suggested that overall these individuals are were not likely to seek mental health services. The mean total score on ISCI was 37.74 (*SD* = 7.54). The mean scores for each subscale were 21.96 (*SD* = 5.31) for Interpersonal Problems, 8.20 (*SD* = 2.42) for Academic Problems, and 5.75 (*SD* = 2.01) for Drug/ Alcohol Problems. The average items scores for the Interpersonal Problems and Academic Problems subscales were slightly below the midpoint of 2.50 with scores of 2.20 and 2.05, respectively. The average item score on the Drug/ Alcohol Problems subscale was slightly above the midpoint with a score of 2.88.

Main Analyses of Hypotheses

Multivariate analysis. A mixed-model MANCOVA was conducted using past mental health care use and pretest ISCI scores as covariates, transformed Indifference to Stigma, SSOSH, and ISCI scores at post-manipulation and follow-up as dependent variables, and experimental group as the independent variable. Multivariate analysis found no significant effect for group placement [*Wilks' Lambda* $\lambda = .94$, $F(6, 318) = 1.76$, $p = .107$]. See Table 5 for means and standard deviations for each dependent variable at post-manipulation and follow-up.

Univariate analysis. Although the results of the multivariate analysis suggest that the social influence intervention were ineffective overall, the univariate analyses of the data specifically related to each hypothesis are presented below.

Indifference to social stigma. The first hypothesis stated that immediately after and two weeks following the intervention, the ingroup condition participants would have higher indifference to perceived stigma related to seeking mental health services as compared to the participants in the other conditions. In order to test this hypothesis a

mixed-model ANCOVA was run utilizing the transformed Indifference to Stigma subscale of the IASMHS at posttest and follow-up as the dependent variable, pretest ISCI scores and past mental health service use as covariates, and group placement as the independent variable. Although 49% and 61% of the ingroup condition participants had an increase of indifference to social stigma at posttest and follow-up, respectively, the Indifference to Stigma scores of ingroup participants did not differ significantly from the scores of the outgroup and control group conditions [F (2, 161) = .10, p = .909].

Self-stigma. The second hypothesis stated that immediately after and two weeks following the intervention, the ingroup condition participants would have lower self-stigma related to seeking mental health services as compared to the participants in the other conditions. In order to test this hypothesis a mixed-model ANCOVA was run utilizing SSOSH at posttest and follow-up as the dependent variable, pretest ISCI scores and past mental health service use as covariates, and group placement as the independent variable. Although over 50% of the ingroup condition participants had a decrease in self-stigma at posttest and follow-up, the ingroup SSOSH scores did not differ significantly in comparison to the SSOSH scores of the outgroup and control group conditions [F (2, 161) = 1.23, p = .296].

Intentions to seek mental health services. The third hypothesis stated that immediately after and two weeks following the intervention, the ingroup condition participants would have higher intentions to seek counselling as compared to participants in the other conditions. In order to test this hypothesis a mixed-model ANCOVA was run utilizing ISCI scores at posttest and follow-up as the dependent variable, pretest ISCI scores and past mental health service use as covariates, and group placement as the

independent variable. Although 47% and 56% of the ingroup condition participants had an increase in scores on the ISCI at posttest and follow-up, respectively, the average ISCI scores did not differ significantly in comparison to those scores of the outgroup and control group conditions [F (2, 161) = 2.69, p = .071].

Additional Analyses

The impact of social influence has been described as being a function of the number of people constituting the source of influence (Cialdini & Trost, 1998). Thus, those participants who already have individuals in their social group who have accessed mental health services may be impacted more by the message that seeking mental health services in acceptable. An additional mixed-model ANCOVA was conducted utilizing only those participants who indicated that someone they were close to has used mental health services. The dependent variable for this analysis was intentions to seek mental health services. The analysis also utilized pretest ISCI scores and previous mental health care use as covariates. The mixed-model ANCOVA found a significant between subject effect with a medium effect size [F (2, 75) = 3.35, p = .041, $\eta_p^2 = .08$]. Pairwise comparisons found a significant mean difference of 3.31 (p = .042) between the ingroup and control group conditions. No other significant pairwise comparisons were found.

Qualitative Data

Participants were asked to write down any thoughts they had after listening to the videos. Although participants were not directly asked to discuss topics that related to this study's hypotheses, many individuals expressed that their attitudes relating to seeking mental health services had changed. Responses to this open-ended question suggested that 20.3% of individuals in the ingroup condition and 17.3% of individuals in the

outgroup condition had a decrease in perceived stigma related to seeking mental health services. One participant from the ingroup condition wrote that "I really liked both speakers. Listening to their stories helped me understand that seeking help from a psychologist is okay and that it is a normal thing to do. It doesn't mean you are crazy." Another participant from the ingroup condition stated that "at first I thought [the speakers] were average people who don't have problems. Then I realized that even normal looking people can have problems that aren't greatly reflected and obvious to others. Also after hearing their stories I feel that if I ever have any problems seeing a therapist is nothing to be ashamed of. " In addition to changes in attitudes relating to perceived stigma, a change in intentions to seek mental health services following the intervention was also reflected in some of the participants' responses to the open ended questions. Within the ingroup condition 18.6% of participants specifically stated that they would be more likely to seek mental health care, while 11.5% of participants in the outgroup condition also expressed a similar sentiment. One participant from the ingroup condition conveyed that the intervention had impacted her and wrote "I honestly think my views have changed on seeking professional mental help. I used to think that all problems could be resolved on their own without seeing a therapist but now I know it's not that simple. I think if I ever have problems mentally I wouldn't hesitate to see a therapist after watching these videos." The responses provide qualitative data that suggest that there was an increase in indifference to perceived stigma relating to seeking mental health services and an increase in intentions of seeking mental health services for some individuals following the intervention.

Discussion

Although university students typically have access to free or low cost mental health services, many students with mental health related concerns do not seek out appropriate services. A systematic review of studies that examined barriers that prevented adolescents and young people from seeking mental health services identified stigma and embarrassment as the most prominent barrier for this population (Gulliver, Griffiths, & Christensen, 2010). Additionally, an examination of barriers that prevent college students from seeking mental health services found that some students indicate that they did not seek out counselling services because they were worried about what other people would think of them (Eisenberg, Golberstein, & Gollust, 2007). As stigma related to seeking mental health services has been identified as a possible barrier that impacts university students from seeking mental health services, the current study tested a social influence intervention aimed at reducing perceived stigma associated with seeking mental health services.

The first hypothesis of the current study postulated that participants who listened to non-stigmatizing accounts of seeking mental health services from speakers who were fellow university students would have higher indifference to stigma as compared to participants who listened to the same accounts from outgroup speakers or listened to testimonials about being environmentally conscious. Unlike previous research that found a decrease in perceived stigma following a social influence intervention (Kiley, 2007), no significant differences were found among the three conditions in terms of Indifference to Stigma subscale scores. Thus, the first hypothesis was not supported.

The second hypothesis stated that immediately after and two weeks following the social influence intervention, the ingroup condition participants would have lower self-stigma related to seeking mental health services as compared to the participants in the other conditions. No significant differences in SSOSH scores were found among the three conditions; thus the second hypothesis was also not supported.

Finally, it was hypothesized that immediately after and two weeks following the intervention, the ingroup condition participants would have a higher intentions to seek counselling in comparison to the participants in the outgroup and control conditions. The data did not support this hypothesis as no significant differences were found.

Although the hypotheses that were initially postulated were not supported, there is evidence that the intervention was effective for some participants. Qualitative data from the open-ended questions that were designed as a manipulation check suggest that some participants noticed a change in their level of perceived stigma and their intentions to seek mental health services. Approximately one fifth of individuals in the ingroup condition and 17.3% of individuals in the outgroup condition made remarks that were coded as reflecting a decrease in perceived stigma. For example, one participant wrote "The speakers were cool and made me think that therapy is more normal than I always thought." Participant responses also suggested that 18.6% of participants in the ingroup and 11.5% of participants in the outgroup condition noticed an increase in their intentions to seek mental health services. One participant shared "I would now think about the idea of seeking help if I need it during rough times. [The speakers] showed me not to be scared of what people might think and that your friends might be going through the same thing. It is okay to ask for help."

In addition to support from qualitative results, further analysis of the data suggested that the social influence intervention impacted the intentions to seek mental health services of a subset of participants. Specifically, when the analysis only included those participants who knew someone who had received mental health services, the ingroup had higher intentions to seek counselling in comparison to the control group. According to Cialdini (1993) one of the six basic categories of influence is social proof, which is also known as social influence. People use social information to evaluate the validity of their attitudes and behaviours. That is to say, people are influenced because the behaviours and opinions of others are viewed as evidence or proof of what is the correct way to think or behave. The impact of social influence has been described as being a function of the number of people constituting the source of influence (Cialdini & Trost, 1998). There is power in numbers as a behaviour or a thought is given more credence if there is more proof to its validity. When participants who knew people close to them who received mental health services were exposed to the social influence intervention, it is likely that the social information from the intervention provided further proof that seeking mental health services is a valid and acceptable behaviour. There was no significant difference in intentions to seek counselling between the outgroup and control group participants. Thus, exposure to multiple sources within the participants' perceived social network may lead to an increase in intentions to seek mental health services. These findings are consistent with research that has shown that seeking mental health care is influenced by a person's social network. For example, Vogel, Wade, Wester, Larson, and Hackler (2007) found that over 90% of their participants who sought the services of a mental health professional knew someone else who sought help. Thus,

social influence appears to impact intentions and the decision to seek mental health services.

Limitations and Confounding Variables of Study 1

Although there was evidence that the social influence intervention impacted intentions to seek mental health services for a subset of participants and there was limited qualitative data to suggest changes in perceived stigma for some participants, the intervention did not impact the levels of perceived stigma, self-stigma, and intentions to seek mental health services of the majority of the ingroup condition participants, as was initially hypothesized. There are several limitations that may have contributed to the lack of support for the aforementioned hypotheses. One possible contributing factor relates to the pretest levels of the dependent variables. At pretest the average indifference to stigma score was slightly above neutral and the average self-stigma score was slightly below neutral. These pretest scores reflect that participants did not view seeking counselling as highly stigmatizing. According to self-categorization theory, people expect to hold the same attitudes and behave the same way as other people belonging to the same social category. Personal uncertainty about the attitudes an individual holds arises if there is a discrepancy between this individual's attitudes and those attitudes held by people perceived as belonging to the same social category (David & Turner, 2001). An individual can address the dissonance created by this uncertainty by adopting the same attitudes as people perceived as belonging to the same social category. As the participants in the present study did not have attitudes that differed significantly from the message communicated by the speakers, attitude uncertainty most likely did not occur, which suggests that attitude change was not required. Although the average intentions to

seek counselling score was slightly below the neutral point, these attitudes may not have been severe enough to create dissonance for the participants. Thus, pretest scores may have made participants less susceptible to social influence.

Another possible limitation that could have impacted the effectiveness of the intervention was participants' lack of identification with the speakers. According to self-categorization theory, social influence occurs when an individual categorizes him or herself as belonging to a particular group and this categorization is salient (Turner, 1987). As mentioned previously, when a group membership categorization is salient, an individual expects to think and behave like other group members within that particular social category. Thus, an individual may change his or her attitudes and behaviours in order to be consistent with other group members. However, if a self-categorization is not salient, then social influence does not occur. According to Oakes (1987), in order for a categorization to be salient it must fit the current conditions. Fit is based on the principle of meta-contrast (Turner, 1987). A categorization fits to the degree that perceived inter-category differences outweigh intra-category differences. Thus, if an individual perceives more differences between him or herself and another person in comparison to other possible categorizations, then this individual will not view him or herself as belonging to that same social category as the aforementioned person. In other words, the self-categorization will not be salient. Although approximately 90% of the participants in the present study within the ingroup condition reported that they felt that the speakers seemed like typical University of Manitoba students, at least 40% of the participants disagreed with statements that suggested that they could identify with the speakers. This lack of identification may suggest that many participants perceived differences between

themselves and the speakers, thus they did not view themselves as belonging to the same social group as the speakers. Thus, the intervention may not have been effective at changing attitudes and intentions to seek counselling because the ingroup categorization was not salient for many participants in the ingroup condition.

Unlike the current study, previous research found a decrease in perceived stigma following a social influence intervention (Kiley, 2007). The social influence medium of Kiley's study differed from the present study. The study conducted in 2007 utilized live speakers, whereas the present study utilized video-taped testimonials. Further research is needed to determine if the medium used impacts the effectiveness of social influence interventions aimed at reducing stigma and improving intentions to seek mental health services.

Changes in self-stigma, perceived stigma, and intentions to seek mental health services were found for many participants in the control group. These changes could reflect indiscriminate responding by participants or environmental factors that may have influenced participants in all conditions, such as exposure to anti-stigma campaigns. Nearly one third of the participants indicated that they had seen an anti-stigma campaign posters or commercial, which could have impacted the results. The results could have also been contaminated by participants from different conditions speaking to each other about the experiment. Approximately 10% of participants indicated that they heard someone else talk about the study and around 22% of participants admitted to talking about the study themselves.

Conclusion

The results of the present study provide some support that social influence approaches can impact intentions to seek mental health services for some individuals, specifically those persons who already know someone who has utilized mental health services. However, the social influence intervention was not effective at changing attitudes and intentions for the entire sample. These results are consistent with recent research regarding mental illness stigma. Eisenberg, Downs, and Golberstein (2012) found that contact with treatment users alone did not result in a decrease in mental illness stigma. According to Rüsch, Angermeyer, and Corrigan (2005), interventions that combine education and contact with individuals with mental illness have the most potential of affecting mental illness stigma. In order to change stigma related to seeking mental health services and intentions to seek mental health services, interventions may require both educational and social influence components. A recent study by Eisenberg, Speer, and Hunt (2012) found that 65% of their sample of college students with untreated mental health problems reported low levels of stigma and positive beliefs about treatment, which led them to conclude that "the traditional focus of help-seeking interventions on stigma may need to be supplemented by other approaches" (Eisenberg, Hunt, & Speer, 2012, p. 226). Therefore, research regarding mental illness stigma and mental health treatment barriers of college students both suggest that interventions aimed at increasing intentions to seek mental health services among university students should not consist solely of a social influence component aimed at reducing perceived stigma. In line with these conclusions, Study 2 of this research project examined an intervention aimed at increasing intentions to seek mental health services utilizing an educational

approach with and without a social influence component.

Chapter Three

Using Mental Health Education to Increase Intentions to Seek Mental Health Services

There are a variety of barriers that prevent people from initiating the process of seeking mental health services. One such barrier that has been implicated is individuals' levels of mental health literacy. Jorm and colleagues (1997) first introduced the term mental health literacy and defined it as "knowledge and beliefs about mental disorders which aid their recognition, management, and prevention" (p.182) Mental health literacy is comprised of six main components: " (1) the ability to recognize specific disorders and different types of psychological distress; (2) knowledge and beliefs about risk factors and causes; (3) knowledge and beliefs about self-help interventions; (4) knowledge and beliefs about professional help available; (5) attitudes which facilitate recognition and appropriate help-seeking; and (6) knowledge of how to seek mental health information" (Jorm, 2000, p. 396).

A review of the literature led Jorm (2000) to conclude that the public's mental health literacy is low in some countries. These low levels of mental health literacy can possibly be attributed to where people get their information regarding mental disorders and psychological treatment. Wolff, Pathare, Craig, and Leff (1996) found that 33% of their study's participants reported that their main source of information regarding mental illness was through personal contact with somebody with a mental disorder, and 32% indicated that their main source was the media. Therefore, a majority of people do not get their main information regarding mental illness through any educational source. The potentially concerning finding of this study is that nearly a third of individuals receive their mental health education through the media. The media has been found to portray individuals with mental illness and psychotherapy in a negative light. For example, characters depicted in primetime television as mentally ill are often portrayed as violent,

having a poor quality of personal life, being a failure at work, and having a negative impact on society (Diefenbach, 1997; Signorelli, 1989). These negative portrayals appear to have a negative impact on people's perception of mental illness. Wahl and Lefkowits (1989) found that after viewing a movie that portrayed the killer as mentally ill, participants in their study had less favourable attitudes towards mental illness and community care of the mentally ill as compared to participants that viewed a control film.

The media also offers society poor representations of therapy. Many movies utilize therapy to help advance plot lines, as scenes involving therapy provide further information about the inner workings of the main characters or provide information about past events. Although therapy is depicted in many films, most movies provide inaccurate portrayals of therapists and the therapeutic process. According to Schulz (2005), there are a number of myths communicated to the public regarding therapy through films. Movies often portray the therapeutic process as crazy in itself and consisting of only talking, very rarely employing medication. Another myth is that people who recover lost memories are healed instantly. Films also provide their audiences with the misconceptions that therapists are ineffectual limit setters who cross ethical boundaries and require emotional healing themselves. Similarly, Greenberg (2000) reported that movies do not provide an accurate description of what real therapy entails and stated that: "whatever the diagnosis invoked, celluloid shrinks generally continue to provide mere catharsis without depth insight, an occasional shot of hypnosis, and a plethora of simple minded advice one could get across the garden fence" (p. 337). Thus, films do not reflect the depth and breadth of the field of therapy and provide inaccurate information about therapy and the conduct of therapists. These unrepresentative depictions of therapy

appear to misinform movie viewers about therapy and have a negative impact on people's perception of therapy. A study by Vogel, Gentile, and Kaplan (2008) found that there was a negative correlation between participants' level of exposure to drama and comedy television shows and the amount they perceived disclosing information to a therapist to be beneficial. Similarly, Robison (2009) found that media portrayals of psychotherapy had a negative impact on participants' expectations of therapy. Therefore, the public's low level of mental health literacy might be attributed to the fact that much of the mental health information received by the public is not from reliable or unbiased sources.

Mental Health Literacy as a Barrier to Seeking Treatment

In order to understand how low levels of mental health literacy might act as a barrier to seeking mental health treatment, an understanding of the mental illness experience and how this leads to seeking help must first be obtained. According to Suchman (1965) the illness experience and associated medical care consists of five stages. Stage one is the Symptom Experience Stage, which consists of three components: a physical component, a cognitive component, and a mental component. The physical component of the symptom experience refers to the actual physical experiencing of the symptoms. The cognitive component refers to the meaning that the individual attributes to the symptoms. That is, the individual recognizes their physical experience as being related to an illness. Finally, the emotional component is the fear or anxiety associated with the physical and cognitive components of the symptom experience. Therefore before individuals seek medical care, they must recognize the symptoms, believe the symptoms are pathological, and have some level of emotional discomfort associated with the recognition of the symptoms. The second stage of the illness experience is the

Assumption of the Sick Role stage. This stage entails that the individual views him or herself as sick and in need of care. The third stage is the Medical Care Contact Stage, which refers to the individual seeking out medical care. The fourth stage is the Dependent-Patient Role Stage. In this stage the individual transfers control to the medical professional and adheres to the treatments that are prescribed. The final stage is the Recovery and Rehabilitation Stage, which involves the individual deciding after treatment has been completed to relinquish the patient role.

Although Suchman's model applies to medical care, it can be extended to mental health care. In the case of mental health care, the symptom experience consists of individuals recognizing their experience as symptomatic and being concerned about these symptoms. The assumption of the sick role stage involves recognizing the presence of a mental disorder and the need for care. Therefore, before an individual can enter the contact stage and seek mental health care, the person must recognize his or her symptoms, the presence of a mental disorder, and the need for professional care. As mental health literacy encompasses knowledge relating to symptom and mental disorder recognition and beliefs regarding professional health care, engagement in the first two stages of the mental illness experience requires adequate levels of mental health literacy. Hence, low levels of mental health literacy can act as a barrier that inhibit people from engaging in the first two stages of Suchman's model and ultimately seeking needed psychological help. Research has provided evidence to support this link between mental health literacy and mental health service utilization. For example, Rüsch and colleagues (2011) found knowledge of mental illness was positively associated with mental health service use and intentions to seek mental health services. Lack of knowledge about

available services has also been identified as one of the top four reasons college students do not seek needed mental health treatment (Yorgason, Linville, & Zitzman, 2008). As mental health literacy is multidimensional, the different ways in which mental health literacy can affect mental health service utilization rates will be discussed below.

Knowledge of mental illness may be lacking among the general public, and this lack of knowledge can act as a barrier to mental health care usage. Some individuals believe that they do not have sufficient knowledge to identify the signs and symptoms of mental illness (Thompson, Bazile, & Akbar, 2004). Wolff et al. (1997) found that 21% could not name any types of mental disorders and 19% could name only one. In line with these findings, studies have also shown that individuals are unable to recognize mental disorders or psychological symptoms of distress. For example, Jorm and colleagues (1997) assessed an Australian sample's ability to recognize and diagnose depression and schizophrenia when presented with a vignette of a person suffering from one of these disorders. Although 72% of the sample was able to recognize that the individual in the depression vignette was suffering from a mental disorder, only 39% were able to properly label the disorder as depression. Similarly, 84% were able to recognize the individual in the schizophrenia vignette as having a mental disorder, but only 27% identified the disorder as schizophrenia. Despite the fact that the majority of the sample was able to recognize the presence of a mental disorder, 28% thought that the person in the depression vignette did not have a disorder, and 16% did not recognize the presence of a mental disorder in the schizophrenia vignette. In a similar study carried out in Alberta, 75.6% identified the individuals in a vignette as having depression (Wang et al., 2007). In a study conducted in Switzerland, only 39.8% of participants thought that person in a

depression vignette had a mental illness (Lauber, Nordt, Falcat, & Rossler, 2000). Although these studies demonstrate that levels of mental disorder recognition vary across populations, they demonstrate that some people fail to recognize mental disorders.

If mental health issues are not recognized by an individual, it is unlikely he or she will receive mental health care. Therefore, under-recognition of mental disorders may be a barrier that prevents some people from receiving psychological treatment. A qualitative analysis conducted by Epstein and colleagues (2010) found three stages that led individuals to speak to their physician about depression-related symptoms and seek appropriate care: knowing, naming, and explaining. Knowing refers to an individual recognizing that something is wrong. The naming stage entails the individual being able to describe his or her distress. Finally, the explaining stage involves an individual organizing his or her subjective experience by finding causal explanations for his or her distress. Thus, seeking care starts with being able to recognize symptoms of mental illness. Further research also suggests that recognition of psychological symptoms and distress impacts the decision to seek mental healthcare. For example, in a study conducted by Hirschfield and colleagues (1997), participants indicated that failure to recognize symptoms was a reason some people with depression are not receiving mental health services. Similarly, Boscarino, Adams, Stuber, and Galea (2005) found that 55% of people in their sample with post traumatic stress disorder or depression following the World Trade Center disaster did not seek post-disaster mental health services. Of these individuals, nearly three quarters (73%) indicated that they had not sought out mental health care because they did not believe they had a problem. Other studies have reported similar results demonstrating that a reason some individuals with mental illness do not

seek help is that they deny having a mental disorder (e.g. Olfson et al., 2000; Vanheusden et al., 2008). Thompson, Issakidis, and Hunt (2008) reported that the delay to seek treatment for anxiety disorders could largely be accounted for by the time taken to recognize the problem. Thus, the mental disorder recognition component of mental health literacy appears to be related to individuals' failure or delay to seek mental health services.

A related barrier to under-recognition of mental disorders is the under-recognition of need for care. Lack of perceived need for professional psychological services has been found to be a predictor for not receiving services among university students with depression or anxiety disorders (Eisenberg et al., 2007). Andrews, Issakidis, and Carter (2001) found that 65% of individuals with a mental disorder who had not consulted a mental health professional did not perceive a need for care. It might be suggested that the reason these individuals did not perceive a need for services was that their mental disorder did not have a significant impact on their functioning. However, one third of these individuals had at least one comorbid disorder and/or a moderate to severe level of disability that affected their ability to work. Similarly, a study examining help-seeking among suicidal college students found that half of their participants indicated that they had not sought treatment because of reasons related to a lack of perceived need for care (Downs & Eisenberg, 2012). Specifically, they noted that they questioned the severity of their need and believed that their problems were normal college-related stress. Therefore, some individuals who evidently have a need for mental health assistance do not seek mental health services, as they do not view their situation as warranting these services.

As was previously discussed, some people do not seek mental health services, because they do not recognize their situation as warranting care. Another reason people do not perceive a need for mental health care is that they do not believe mental health services are effective. Despite the fact that therapy has been found to be effective (e.g. Lipsey & Wilson, 1994), the level of mental health literacy for some individuals is such that they are unaware that therapy can be beneficial. For example, only 34% of an Australian sample thought psychotherapy was helpful for treating depression, and 13% thought that psychotherapy would be a harmful treatment for people with depression (Jorm et al., 1997). Approximately one third of participants in a European sample indicated that professional health care was worse than or the same as receiving no help for a serious emotional problem (ten Have et al., 2010). A more optimistic view of mental health services was found among individuals in Alberta, Canada (Wang et al., 2007). Eighty percent felt that psychiatrists and counselors could be helpful to someone described as having symptoms of depression. However, only 8% and 17% of participants thought that psychiatrists and counselors were the best source of help for an individual with depression. In contrast, almost half of the sample felt that a general practitioner was the best source of help. Therefore, specialized mental health services are perceived in a less positive light as compared to medical services.

Individuals' tendencies to turn to a particular help provider is related to the individuals' expectancies for that help provider (Tinsley, Brown, de St Aubin, & Lucek, 1984). Thus, if an individual has negative expectancies regarding therapy, it is not very likely that the individual will seek mental health services. Bayer and Peay (1997) found that the strongest predictor of seeking mental health services was a person's belief in the

ability of a mental health professional to help or provide support for people's problems. People who were more likely to seek help felt that mental health services could help them. Also individuals who were more likely to seek mental health services felt that mental health service providers could be accepting and understanding. A study utilizing college students also found that beliefs about treatment effectiveness were significantly correlated with mental health service utilization (Eisenberg, Hunt, Speer, & Zivin, 2011). Similarly, participants in studies examining barriers that prevent people from seeking professional psychological assistance indicated that they failed to seek help because they did not think that anyone could help them (e.g., Amato & Bradshaw, 1985; Meltzer et al., 2003; Wells, Robins, Bushnell, Jarosz, & Oakley-Browne, 1994). One study found that pessimism regarding the capacity for mental health service to help and self-reliance were found to be the most important reasons for not receiving adequate levels of mental healthcare in the Netherlands and Australia (Prins et al., 2011). Therefore, being unaware of the effectiveness of therapy can be a barrier to mental health service usage.

Another dimension of mental health literacy that can act as a mental health service barrier is the knowledge of where to get help. Wrigley, Jackson, Judd, and Komiti (2005) found that the two most cited reasons for not seeking help for psychological difficulties were embarrassment and not knowing where to seek help from. Another study found that 39% of nonusers of mental health services with social anxiety symptoms were uncertain where to go for help. Similarly, Eisenberg and colleagues (2007) found that being unaware of services was one of the predictors of not receiving appropriate mental health services. Although the university students in the study had access to free counseling services on campus, only 49 % of students indicated that they

knew where to go for mental health services. Several other studies have reported that respondents cited that not being aware that services are available or where they are located were significant barriers that would inhibit or have inhibited them from seeking psychological services (e.g. Boyd et al., 2007; Hepworth & Paxton, 2007; Stefl & Prosperi, 1985). Consistent with these findings, some individuals reported that their decision to seek help was prompted by finding out where to get help for their mental health problems (Thompson, Hunt & Issakidis, 2004). Thus, lack of knowledge regarding mental health service availability is a barrier to seeking psychological help.

Mental health literacy also refers to attitudes which facilitate recognition and appropriate help-seeking. Attitudes related to help-seeking have been found to prevent people from seeking mental health services. For example, Sareen et al. (2007) reported that attitudinal barriers were cited more often than practical barriers as preventing people from seeking psychological services in the Netherlands, the United States, and Canada. Similarly, Cepeda-Benito and Short (1998) found that positive attitudes towards psychotherapy predicted greater likelihood of seeking help for interpersonal, academic, and drug related problems among university students. Thus, not having positive attitudes and beliefs about seeking mental health services can act as a barrier to seeking mental health services.

Mental Health Education

Level of mental health literacy appears to play a role in the decision to seek mental health services, specifically the ability to recognize mental disorders and need for mental health care and knowledge regarding the effectiveness and availability of therapy. Therefore, improving mental health literacy may increase mental health service

utilization, as level of mental health literacy may no longer act as a service usage barrier. Eisenberg and colleagues (2007) suggested that educational and awareness campaigns could reduce the unmet need for psychological assistance among university students. According to Jorm (2000), mental health education efforts are much less common than educational efforts regarding cancer and heart disease. However, mental health education campaigns do exist, particularly those aimed at teaching people to recognize depression. National depression awareness campaigns have been run in the United States, United Kingdom, and Australia (Jacobs, 1995; Jorm, Christensen, & Griffiths, 2005; Paykel, Hart, & Priest, 1998; Regier, et al., 1988). A community campaign targeting young people has also been used in Australia to increase mental health literacy and help-seeking (Wright, McGorry, Harris, Jorm, & Pennell, 2006).

Research efforts have been made to explore the effectiveness of possible approaches to mental health education interventions. One such study conducted by Sharp, Hargrove, Johnson, and Deal (2006) examined a 40 minute mental health education intervention. This intervention provided information regarding the prevalence, signs, symptoms, possible etiologies of mental disorders, the therapeutic process, and contact information for local mental health resources. This educational approach resulted in more positive attitudes towards seeking professional psychological help as compared to a control intervention; however, there was no increase in overt help-seeking four weeks after the intervention and no change in overall opinions of mental illness. The low levels of help-seeking could be accounted for by lack of need for care over the four week period. It is possible that willingness to seek therapy changed as a result of the intervention, and when the need arises the participants will seek the appropriate services.

This study failed to measure willingness to seek mental health services; thus it is impossible to know if willingness was affected by the intervention.

Hobson (2008) also investigated a mental health education intervention. Unlike the previous study, this study measured willingness to seek mental health services following a mental health education intervention that consisted of an educational handout. Results showed that participants in the experimental condition after the intervention had higher willingness to seek mental health services as compared to the control condition. Therefore, mental health education may be effective at changing willingness to seek therapy. However, Hobson failed to find any differences on attitudes and perceived stigma related to seeking mental health services.

Both studies by Hobson (2008) and Sharp and colleagues (2006) have limitations that may have affected their results. Both studies failed to use manipulation checks to ensure that their interventions had been properly attended to by their participants. Another limitation was that Hobson's intervention was very brief and may not have presented enough information to elicit attitude change. Also, Hobson's study used a control group that simply filled out questionnaires without reading a handout. It is possible that the difference between the experimental and control groups was due to differences in demand characteristics. Using a control group that read a handout regarding a topic other than mental health may have been helpful in reducing the difference in demand characteristics between the two groups. Therefore, the studies by Hobson and Sharp et al. are promising but are troubled by methodological issues.

Other studies have provided insight into what types of educational material or methods of presentation may be effective at inducing attitude changes and changes in

willingness to seek mental health services. Han, Chen, Hwang, and Wei (2006) examined two educational interventions, biological attribution, and destigmatization education, aimed at changing willingness to seek professional help. Both approaches had participants read five paragraphs of educational material. The biological attribution approach explained the biological basis for depression, whereas, the destigmatization approach provided information to decrease blameworthiness of depression. Only the biological attribution approach resulted in increased willingness to seek help. However, the destigmatization approach did result in a decrease in negative attitudes towards people with depression.

Read and Law (1995) took a different approach to mental health education. Rather than focusing on the biological attribution model, the researchers employed lectures that discussed psychodynamic, behavioural, cognitive, and humanistic modes of causation, stereotypes held by the public, and cognitive-behavioural and psychodynamic therapy. After listening to the lectures, participants had a more psychosocial perspective towards mental illness causation and had less negative attitudes towards mental patients. Willingness to seek services was not measured. This study also found that there was a relationship between mental health locus of origin and attitudes indicating that biological beliefs about causes of mental illness may be related to attitudes towards the mentally ill. Read and Law's findings suggest that an exclusively biological attribution approach to mental health education, like that employed by Han et al. (2006), may result in increased mental illness stigma.

Another study interested in mental health education compared the effectiveness of narrative and argument advertisements as interventions to increase mental health literacy

(Chang, 2008). The narrative advertisement consisted of a story regarding the daily life of an individual with depression, which was followed by tips to deal with depression. The argument advertisement listed the symptoms of depression prior to listing the tips to deal with depression. The narrative ad resulted in higher levels of sympathy towards depression and greater willingness to seek help for depression than the argument advertisement. The narrative ad was perceived as more vivid and engaging than the other ad, and it also allowed for experiential immersion. Therefore, mental health educational materials may be more effective if they engage the listener or reader rather than simply presenting the relevant information.

Mental health education may be one method to change attitudes related to seeking mental health services. Another method that has been explored is presenting firsthand accounts of experiences with mental health services. One study that examined the effect of personal accounts on attitudes towards seeking mental health services was conducted in Australia by Buckley and Malouff (2005). This study presented study participants with two first-hand accounts of experiences that led them to seeking mental health services. A clinical psychologist also explained the therapeutic process from the professional's perspective. It was hypothesized that the firsthand accounts would provide vicarious reinforcement for seeking mental health services. Following the experimental intervention, participants had more positive attitudes towards psychological services, greater indifference to stigma associated with seeking therapy, and greater interpersonal openness as compared to the control group participants. However, the intervention did not result in any change in the recognition of the value of seeking therapy. This study provides evidence that social influence through firsthand accounts can result in changes

in attitudes towards seeking mental health services. Kiley (2007) also found that social influence could be employed to change attitudes related to seeking mental health services. In this study, participants listened to a speaker, who was introduced as a fellow university student, discuss her non-stigmatizing experience with seeking mental health services. After the intervention, there was a significant decrease in perceived stigma related to seeking mental health services. However, no change in willingness to seek services was found. These two studies suggest that social influence through firsthand accounts can be used to influence attitudes related to seeking mental health services.

In sum, research has demonstrated that changes in willingness to seek psychological services and changes in attitudes related to seeking mental health services can occur following mental health education interventions. A variety of approaches to mental health education have been employed from written handouts to longer in-class lectures. Although biological attribution information can result in changes in willingness to seek mental health services, information regarding other psychological approaches to causation may result in less stigmatizing attitudes towards mental illness. According to Corrigan and Wassel (2008), stigma associated with mental illness can inhibit people from seeking mental health services in order to avoid the stigma associated with being labeled mentally ill. Thus, mental health education approaches may want to include non-biological models of mental illness causation to limit the stigma associated with being mentally ill. Also, mental health education approaches should engage the participants rather than simply providing information in order to increase the effectiveness of the educational intervention.

The Present Study

The aim of the current study was to examine the effects of two mental health education interventions that integrate some of the current research findings regarding effective mental health education and that address some of the limitations found in past mental health education studies. One of the interventions in this study was a straightforward mental health education intervention. The intervention provided university students with information regarding mental illness and treatment in a lecture format. The other intervention combined mental health education and a social influence approach. This intervention involved a lecturer talking about her positive personal experience with therapy prior to providing mental health information. Therefore, the firsthand account portion of the lecture was the social influence component of the intervention and provided a more engaging approach to mental health education rather than simply presenting the information. Furthermore, a social influence approach was used to attempt to change attitudes and beliefs about therapy and mental illness, which is a component of mental health literacy. In fact, research has shown that social influence can be used to change attitudes related to seeking mental health services (Buckley & Malouff, 2005; Kiley, 2007). Thus, it was hypothesized that a mental health education and social influence intervention would increase willingness to seek mental health services by reducing two barriers related to mental health literacy: mental health knowledge and attitudes related to seeking mental health services.

Method

Participants

Participants in this study were undergraduate students recruited from the University of Manitoba Introduction to Psychology research participant pool. All participants received course credit for their voluntary participation. They also were entered into a draw to win one of four $20 gift cards to the university bookstore if they participated in all phases of the study. A total of 205 students participated in the initial phase of the study. However, fifty participants were not included in the final data analysis. Forty-one participants were lost due to attrition. Two students' responses were excluded from data analysis because they failed to fill out the manipulation check questions. Another three participants were excluded due to missing data. Additionally the data was screened for univariate and multivariate outliers. Four students were excluded from final analysis on this basis. Therefore, the final analysis was completed using data acquired from 155 students. Please refer to Figure 2 for an overview of the format of the study and for the number of students who participated in the different portions of the study.

The sample was comprised of 56 males (36.1%) and 99 females (63.9%) ranging between the ages of 17 and 25. The four most-reported ethnicities were Caucasian (67.7%), Asian (7.1%), biracial (6.5%), and Aboriginal (5.2%). However, 9.0% of individuals did not report their ethnicity. In terms of faculty enrollment, most participants were enrolled in University 1 (72.3%), followed by Science (9.0%) and Arts (7.7%).

Materials

This study also used the IASMHS, the ISCI, and DASS-21. Please refer to chapter 2 for descriptions and the previously reported psychometric properties of these questionnaires. The data collected in the current study demonstrated that these measures have good levels of internal consistency, as the Cronbach's alpha were .82, .80, and .91 for the IASMHS, ISCI, and DASS-21, respectively.

This study also utilized a pre-manipulation questionnaire (see Appendix G), a post-manipulation questionnaire (see Appendix H), and a follow-up questionnaire (see Appendix I). These questionnaires were comprised of a variety of questions developed for this study. Each of the questionnaires included five open ended questions that were used to measure mental health knowledge. These questions were scored by an individual who was blind to the experiment and trained to use the scoring guide found in Appendix J. The pre-manipulation questionnaire included a copy of the DASS-21 and was also comprised of questions regarding demographics, past psychological service usage, and salience of group membership. The questions regarding service usage asked participants if they or someone they are close to had received psychological services. If the participants had received psychological services, they were also asked to rate their helpfulness. The salience of group membership questions in the pre-manipulation questionnaire were designed to determine how much the participants identified with the university student group.

The post-manipulation questionnaire asked participants to recall and reflect on the lecture they heard during the experiment, which acted as a manipulation check. It also

contained questions about the speaker in order to determine how the speaker was being perceived by the participants.

The follow-up questionnaire asked participants if they had heard anyone talk about the study to determine if others had refrained from discussing the components of the study. The participants were also asked if they had seen any campaign media regarding mental illness or mental health services.

Procedure

This study was comprised of three sessions: pre-manipulation, manipulation, and follow-up. Each of these sessions took place in a classroom setting.

During the pre-manipulation session, the format and nature of the study were explained, and participants filled out consent forms (see Appendix K). After consenting to take part in the study, participants were instructed to fill out a questionnaire package, which included copies of the pre-manipulation questionnaire, the IASMHS, the ISCI, and the DASS-21. Following the completion of the questionnaire, participants were randomly assigned to one of three conditions: education, combination, and control.

Manipulation sessions were scheduled approximately one week following the pre-manipulation session. Each of the manipulation sessions followed the same format. After the session format and content were briefly introduced, the participants listened to a videotaped lecture. Participants in each manipulation session listened to the same lecturer to ensure that any differences between the groups after the experimental manipulation could not be attributed to differences between the lecturers used for each group. Participants listened to one of three lectures depending on the condition to which they were assigned. In the education condition, participants listened to a student lecture

about the prevalence of mental disorders, the service gap, symptoms of depression and anxiety disorders, the etiology of depression, mental health interventions, and the availability of psychological services (see Appendix L for lecture and associated PowerPoint slides). The combination condition used the same lecture as the education condition; however, the lecturer provided a personal testimonial about her experience with seeking therapy prior to starting the lecture (see Appendix M). The participants in the control condition listened to a lecture focused on climate change (see Appendix N for lecture and associated PowerPoint slides). After listening to the lectures, the participants were asked to fill out a post-manipulation questionnaire package, which included copies of the post-manipulation questionnaire, the IASMHS, and the ISCI.

It should be noted that the lecturer was an actor, and the testimonial and lectures were scripted and videotaped. The testimonial and lectures were pre-recorded to allow for more experimental control and prevent variation across experimental sessions. The scripts of the testimonial and lectures were reviewed by five university-aged individuals to ensure that they were understandable and sounded natural. As the testimonial was designed to sound colloquial in nature, readability statistics were also computed prior to the experiment. The Flesch-Kincaid Grade Level for the testimonial was 7.3 suggesting that the participants would easily understand the content of the testimonial.

Approximately two weeks after the experimental session, participants returned for the follow-up session. The time period between the manipulation and follow-up sessions was chosen to ensure that the follow-up sessions occurred before the introduction to psychology course covered topics related to the content of the lecture utilized in this study. Participants filled out the follow-up questionnaire packages, which included

copies of the follow-up questionnaire, the IASMHS, and the ISCI. When handing in their questionnaires, participants received debriefing forms (see Appendix O), which informed the participants of the purpose and hypotheses of the study.

Research Hypotheses

1. Immediately after and two weeks following the intervention, the combination group would have more positive attitudes towards seeking mental health services as compared to the other groups.
2. Immediately after and two weeks following the intervention, the combination group would have higher intention to seek counselling scores as compared to the other groups.
3. Immediately after and two weeks following the intervention, the combination group would have higher knowledge relevant to mental health as compared to the other groups.

Results

Preliminary Analyses and Analytic Strategy

Preexisting group differences. Preliminary analyses were run to determine if any group differences existed prior to the experiment. As this study's hypotheses relate to attitudes towards seeking mental health services, intentions to seek counseling, and mental health knowledge scores, ANOVAs were conducted to determine if the experimental groups differed on these measures prior to the experiment. In addition, DASS full scale scores of the groups were also compared in order to ensure that the groups did not differ in terms of psychological distress. As the DASS full scale scores were heteroskedastic, an ANOVA was run using DASS full scale scores transformed

with the square root function. Results of these analyses (Table 6) suggest that there were no significant pre-existing group differences.

Testing statistical test assumptions. Data were also checked to determine which statistical analyses were appropriate to test this study's hypotheses. As multivariate analysis can protect against type I error inflation, the data were screened to ascertain if test assumptions related to running a mixed-model MANCOVA were met. Scatterplots were visually inspected for each experimental group to determine if there were linear relationships among the dependent variables. The scatterplots along with correlation analyses suggested that the dependent variables were significantly correlated. Thus, the data do not violate the linearity assumption of the MANCOVA.

Additional assumptions related to running mixed-model MANCOVAs were also checked. First, the data were examined to determine if the normality assumption was met. Skewness and kurtosis scores of the dependent variables fell within acceptable limits suggesting that the data was normally distributed. Additionally, histograms of the dependent variables for each experimental group were visually inspected and found to resemble normal probability distributions. Thus, the normality assumption was met. The homogeneity of variance assumption was also tested using Levene's Test for Equality of Error Variances. The results presented in Table 7 show that the only significant Levene's Test using the dependent variables was for the mental health knowledge variable. This analysis suggests that the data for the mental health knowledge variable did not meet the homogeneity of variance assumption. Heteroscedasticity was corrected by transforming the data with the square root function. Finally, the homogeneity of covariance assumption was also met as the *Box's M* value of 60.65 was associated with a p value of

.059, which was interpreted as non-significant. As the data did not violate any of the mixed-model MANCOVA test assumption following the transformation of the mental health knowledge scores, the main analysis was comprised of a mixed-model MANCOVA.

Exploration of possible covariates. As gender, previous experience with mental health care, and current psychiatric symptomology have been associated with attitudes towards seeking mental health services (e.g. Dalberg, Waern & Runeson, 2008; Nam et al., 2010), tests were run to determine if these variables should be utilized as covariates. Previous experience with mental health care was the only variable correlated with all three dependent variables (Table 8). The homogeneity of regression slopes assumption related to utilizing a covariate was met, as there was no significant interaction between group placement and previous experience with mental health services. Thus, the main analysis was a mixed-model MANCOVA with previous mental health care as a covariate.

Salience of University Group Membership. Three questions in the pre-manipulation questionnaire were designed to determine how much the participants identify with the university student group. Only 10.3% of the sample disagreed with the statement “I consider myself to be a typical University of Manitoba student.” Similarly, less than 10% of the participants (9.7%) indicated that they did not believe that their attitudes and values were similar to those of the University of Manitoba student body. Finally, 7.1% of the sample disagreed with the statement “Being a University of Manitoba student is currently an important part of my identity.” As only 10% or less of the sample endorsed responses that suggest low salience of university group membership, salience scores were not included as part of the statistical analysis.

Attrition statistics and analysis. As 41 participants were lost to attrition, demographic information was examined and t-tests were conducted to determine if participants who dropped out of the study differed significantly from those who remained for the duration of the study. The ages of the participants who dropped out ranged between 18 and 24 years old with a mean age of 19.0. Of the 41 dropouts, 15 were male and 26 were female. These participants were Caucasian (70.7%), Asian (22.0%), and Aboriginal (2.4%). However, 4.9% of individuals did not report their ethnicity. In terms of faculty enrollment, most participants were enrolled in University 1 (65.9%), followed by Science (12.2%) and Arts (7.3%). None of the dropouts indicated that they were receiving current mental health services while 19.5% disclosed that they had received these services in the past. Statistical analysis comparing the participants who dropped out of the study to those who remained for the duration of the study found no significant differences on the pretest measures of the dependent variables and scores on the DASS-21.

Mental Health and Service Utilization

Forty (25.8%) of the 155 participants indicated that they have used mental health care in the past, while only two participants (1.3%) reported that at the time of the experiment they were receiving mental health services. Eleven (7.1%) participants disclosed that they had been diagnosed with a mental illness in the past. Of those individuals who have received mental health services, 37.5% found these services helpful, 27.5.0% were neutral regarding the helpfulness of these services, and 35.0% believed these services were not beneficial. Approximately half of the participants

(53.5%) reported that a close friend or family member had seen a mental health professional.

At pretest the participants had a mean score of 33.44 (*SD* = 22.80) on the DASS-21. As shown in Table 9, all five severity levels on the DASS-21 subscales were represented in the sample. The percentage of participants with severe or extremely severe scores on each of the subscales is as follows: Depression 14.8%, Stress 14.2%, and Anxiety 13.5%. Thirty-eight participants (24.5%) scored within the severe or extremely severe range on at least one of the subscales on the DASS-21. Of these thirty-eight participants only 5.3% were receiving mental health services at the time of the study.

Pretest Scores

At pretest the mean score of the entire sample on the IASMHS was 57.73 (*SD* = 12.82). The average response on each item of this scale is 2.40. This response score reflects that on average participants responded affirmatively to questions related to attitudes towards seeking mental health services as the midpoint of the scale is 2.00. The average score on the Psychological Openness subscale of the IASMHS was 19.86 (*SD* = 5.10). Participants had a mean of 18.20 (*SD* = 5.85) and 19.66 (*SD* = 6.28) on the Help-Seeking Propensity and Indifference to Stigma subscales, respectively. The average item response on all three subscales was slightly above the midpoint.

The average scores of the participants at pretest suggested that overall these individuals are were not likely to seek mental health services. The mean total score on ISCI was 36.90 (*SD* = 7.70). The mean scores for each subscale were 21.07 (*SD* = 5.58) for Interpersonal Problems, 8.05 (*SD* = 2.37) for Academic Problems, and 5.95 (*SD* = 1.74) for Drug/ Alcohol Problems. The average items scores for the Interpersonal

Problems and Academic Problems subscales were slightly below the midpoint of 2.50 with scores of 2.11 and 2.01, respectively. Whereas, the average item score on the Drug/ Alcohol Problems subscale was slightly above the midpoint with a score of 2.98.

The pretest scores for questions assessing mental health knowledge suggested that mental health literacy among the participants is not well developed. At pretest participants were able to identify an average of 1.86 symptoms (*SD* = 1.05) of the possible nine symptoms of depression. Of the possible seven symptoms of Generalized Anxiety Disorder, the participants were able to identify an average of .91 symptoms (*SD* = .71). When asked to identify the four factors associated with the onset of depression, participants were able to name approximately one of these factors (*M* = .97, *SD* = .71). Very few participants were aware of the five categories into which most approaches to psychotherapy fall as the mean score for this question was .05 with a standard deviation of .30. Finally, most of the participants did not know where University of Manitoba students could access psychotherapy, which was reflected in a mean score of .30 (*SD* = .60) of a possible two points. Although the maximum possible mental health knowledge score possible is 27, the average overall mental health knowledge score was 4.09 (*SD* = 1.87) among the participants.

Main Analyses of Hypotheses

Multivariate analysis. A mixed-model MANCOVA was conducted using past mental health care use as a covariate, attitudes towards seeking mental health services, intentions to seek counselling, and the square root of the mental health knowledge scores at post-manipulation and follow-up as dependent variables, and experimental group as the independent variable. This test demonstrated a significant multivariate effect for

experimental group placement, *Wilks' Lambda* $\lambda = .48$, $F(6, 298) = 22.07$, $p < .001$, $\eta_p^2 = .31$. The multivariate analysis also identified a significant interaction between time and group, *Wilks' Lambda* $\lambda = .77$, $F(6, 298) = 6.91$, $p < .001$, $\eta_p^2 = .12$. See Table 10 for means and standard deviations for each dependent variable at post-manipulation and follow-up.

Univariate analysis.

Attitudes towards seeking mental health services. The first hypothesis stated that immediately after and two weeks following the intervention, the combination condition participants would have more positive attitudes towards seeking mental health services as compared to the other groups. A mixed-model ANCOVA that utilized total IASMHS scores at post-manipulation and follow-up as the dependent variable, experimental group placement as the independent variable, and past mental health care use as a covariate was used to test this hypothesis and was not found to be significant [$F(2, 151) = 2.03$, $p = .134$]. Although there were no statistically significant differences between the groups at pretest, exploratory analysis was conducted utilizing pretest scores as a covariate to control for the slight differences that were present in the pretest means. When pretest scores were added as a covariate a significant main effect was found [$F(2, 151) = 6.56$, $p = .002$, $\eta_p^2 = .08$]. Pairwise comparisons utilizing the Bonferroni adjustment found a significant mean difference of 4.48 ($p = .001$) between the control group and combination group. No other significant mean differences were found.

Intentions to seek counselling. The second hypothesis stated that immediately after and two weeks following the intervention, the combination group participants would have a greater increase in intentions to seek mental health services as compared to the

participants in the other conditions. In order to test this hypothesis a mixed-model ANCOVA was run utilizing total ISCI at post-manipulation and follow-up as the dependent variable, previous mental health services usage as a covariate, and experimental group placement as the independent variable. This analysis found a significant main effect [$F(2, 151) = 5.54$, $p = .005$, $\eta_p^2 = .07$]. Pairwise comparisons utilizing the Bonferroni adjustment found a significant mean difference of 4.57 ($p = .004$) between the control group and the combination group. No other significant differences were found.

Mental health literacy. The third hypothesis stated that immediately after and two weeks following the intervention, the combination group participants would have a greater increase in mental health knowledge scores as compared to participants in the other conditions. A mixed-model ANCOVA, which utilized the square roots of the total mental health knowledge scores at post-manipulation and follow-up as the dependent variable, previous mental health services usage as a covariate, and experimental group placement as the independent variable, was used to test this hypothesis. A significant main effect was found to be significant [$F(2, 151) = 76.20$, $p < .001$, $\eta_p^2 = .50$]. Pairwise comparisons utilizing the Bonferroni adjustment found a significant mean difference of 1.01 ($p < .001$) between the control group and the combination group. The mean difference between the control group and the mental health education group was also found to be significant ($MD = .90$, $p < .001$).

The ANCOVA examining mental health literacy also revealed a significant time by group interaction. There was a decrease in mental health knowledge scores from post-manipulation to follow-up. In order to verify the robustness of the manipulation, an

ANCOVA was run with only the follow-up mental health knowledge scores. A significant effect was found [$F(2, 151) = 46.89$, $p < .001$, $\eta_p^2 = .38$]. Pairwise comparisons utilizing the Bonferroni adjustment found a significant mean difference of .87 ($p < .001$) between the control group and the combination group. The mean difference between the control group and the mental health education group was also found to be significant ($MD = .71$, $p < .001$).

Qualitative Data

Participants were asked to write down any thoughts they had after listening to the videos. Although participants were not directly asked to discuss topics that related to this study's hypotheses, the responses provide qualitative data that suggest there were changes in mental health knowledge, attitudes, and intentions to seek mental health services following the interventions. Very few respondents spoke about a change in attitudes following the intervention. However, 7.8% of individuals in the combination condition and 5.8% of individuals in the mental health education condition had either a decrease in perceived stigma related to seeking mental health services or more favourable attitudes towards mental health services. One participant from the combination condition wrote that "psychological help was more acceptable than I thought." Another participant from the combination condition spoke about her experience with depression and stated that "it was comforting that I have not been the only [person to face depression] and that it is not something to be embarrassed about." Participants' responses also provided support for a change in intentions to seek mental health services. Several participants reported that the information provided during the intervention helped them recognize their need for psychological assistance. One participant wrote "the information is all very

relevant and made me wonder if it is I who should be seeking help as all of the symptoms of generalized anxiety disorder fits how I often feel." Seven participants in the combination condition and three participants in the mental health education condition specifically stated that they would seek mental health services as a result of the intervention. In addition to changes in attitudes and intentions, the open ended questions provided data to support that the interventions increased the mental health literacy of some participants. Following the intervention, 43.1% of participants in the combination condition and 26.9% of the mental health education condition participants stated that their knowledge of mental illness or mental health services increased as a result of the lecture they heard. In particular, participants highlighted that statistics about the prevalence of mental illness among university students was informative. A number of participants also indicated that they were previously unaware of the counselling services available to university students. After learning that university students have access to free counselling services on campus, one participant stated "I've been wanting to get help but I felt as if help was too hard to find but now I have the knowledge as to where it is." The aforementioned qualitative data provides further support that the intervention used in the study was effective in increasing intentions to seek counselling, improving attitudes towards seeking mental health services, and improving mental health literacy among some participants.

Discussion

There is evidence that a gap exists between need for services and actual use of mental health services among post-secondary students. For example, Eisenberg, Hunt, Speer, and Zivin (2011) found that among their sample of college students who had at

least one mental health problem only 36.5% had received any mental health care in the year prior to the study and only 21.8% were currently utilizing mental health services. Therefore, a majority of students who are experiencing mental health related concerns are not receiving help to assist them with these issues. There are a variety of reasons that college students cite for not seeking help for mental health problems. A study conducted by Yorgason, Linville, and Zitzman (2008) reported that the top four reasons college students did not seek needed services were insufficient time to seek services, a lack of knowledge about mental health services, embarrassment, and a belief that services would not help. Two of these top four reasons are related to low mental health literacy. Mental health literacy consists of the knowledge and beliefs about mental illness and interventions, knowledge of how to obtain mental health information, and attitudes that allow people to recognize mental illness and seek help for mental health concerns (Jorm, 2000). As level of mental health literacy impacts help-seeking, the aim of the current study was to test educational interventions aimed at improving mental health literacy and intentions to seek counselling. One of the interventions also utilized a social influence component aimed at improving attitudes related to seeking mental health services. It was hypothesized that the combination condition, which utilized both educational and social influence components, would result in better outcomes than the educational and control conditions. The results support this hypothesis. Multivariate analysis that utilized intentions to seek counselling, attitudes toward seeking mental health services, and mental health knowledge as dependent variables and previous mental health care utilization as a covariate identified that there was a significant effect for group placement. Therefore, the interventions had significantly different effects on mental health care

related variables. The results of analyses examining the effect of group placement on each of the dependent variables will be discussed below.

The first hypothesis for the current study was that immediately after and two weeks following the interventions, the combination group would have more positive attitudes towards seeking mental health services as compared to the educational and control groups. Although initial tests did not find support for this hypothesis, exploratory analysis found a significant group effect across time when pretest attitude scores and previous use of mental health services were used as covariates. Further analysis only revealed a significant difference between the combination and the control group. Thus, exploratory analysis provides partial support for this hypothesis as the combination condition differed significantly from the control condition but not the educational condition when pretest scores were controlled. The educational condition did not differ significantly from the control group, thus education alone does not appear to be sufficient to affect attitudes related to seeking mental health services.

The second hypothesis postulated that immediately after and two weeks following the intervention, the combination group would have higher intention to seek counselling scores as compared to the other groups. This hypothesis was also partially supported as the combination condition differed significantly from the control condition in terms of intentions to seek counselling across time. However, there was no significant difference found between the combination group and educational group in intentions to seek counselling following the interventions. Although the combination group did not differ from the educational group, the educational group did not differ significantly from the control group. Therefore, the combination of education and social influence appears to be

the more effective intervention, as it is the only intervention that differed significantly from the control condition.

The third hypothesis stated that immediately after and two weeks following the intervention, the combination group would have higher mental knowledge as compared to the other groups. Again, only partial support was found for this hypothesis, as the combination condition only differed significantly from control condition on mental health knowledge scores across time. The educational condition was also found to be significantly different from the control group with respect to this dependent variable. Thus, both the combination and educational condition resulted in increased mental health literacy in comparison to the control group. It should be noted that there was a decrease in mental health knowledge for the combination and educational conditions from posttest to follow-up. However, the mental health knowledge scores for participants in the combination and education groups continued to be significantly higher at follow-up than the scores of the participants in the control group. Thus, education with and without a social influence component appears to improve mental health knowledge with an effect that last for at least two weeks.

Qualitative data also provides support that the combination and education interventions had an effect on attitudes, intentions to seek counselling, and mental health knowledge. Participants were asked to write down any thoughts that they had after listening to the intervention as part of a manipulation check. The responses of 43.1% of the participants in the combination condition and 26.9% of the participants in the education condition reflected an increase in mental health knowledge. A number of the participants indicated that prior to the intervention they were not aware of how prevalent

mental illness was among the university student population. One individual in the combination condition noted an increase in mental health knowledge and stated that "mental disorders are far more prevalent that I thought. I thought mental disorders usually occurred because of traumatic childhood experience, but now I know it usually occurs in adolescents and young adults." Seven individuals in the combination and education conditions noted that after listening to the lectures they realize that their current difficulties may be mental health problems rather than normal university stress. Although fewer participants' responses related to the other variables in this study, several participants in both groups expressed they were more likely to seek counselling following the intervention. Additionally, 7.8% of individuals in the combination condition and 5.8% of individuals in the education condition reported that they had a decrease in perceived stigma related to seeking mental health services or more favourable attitudes towards mental health services following the intervention. Thus, there is further support that the combination and education interventions impacted attitudes, intentions, and knowledge related to mental health services. The qualitative data also mirrors the quantitative data in that more participants in the combination condition spoke about the dependent variables in their responses to the open ended questions in comparison to the education condition.

Overall, the results of this study suggest that education combined with a social influence component is a more effective intervention than education alone or a control lecture. The combination condition participants had higher intentions to seek counselling and better mental health literacy than the control condition. Exploratory analysis also suggested that combination condition also had more positive attitudes towards seeking

mental health services. The education condition, on the other hand, only differed from the control condition on mental health literacy. This is consistent with previous research. Research examining educational interventions that did not incorporate a contact or social influence component produced mixed results. For example, Sharp and colleagues' (2006) forty minute mental health education lecture resulted in improved attitudes towards seeking mental health services but no change in overt help-seeking. Another study utilizing an educational handout had the opposite effect in that it resulted in a change in intentions to seek mental health services but no change in attitudes (Hobson, 2008). The present study provides support for adding a social influence component to interventions aimed at improving mental health literacy and attitudes related to seeking mental health services.

Impact of the Social Influence Component on Educational Intervention

The addition of a social influence component may have increased the effectiveness of the education intervention at changing attitudes and intentions to seek mental health services in several ways. One way is that contact with a mental health service user resulted in the change in attitudes. Contact with mental health consumers has been used frequently in interventions aimed at reducing stigma related to mental illness. According to Rüsch, Angermeyer, and Corrigan (2005), interventions that combine education and contact with individuals with mental illness have the most potential of affecting mental illness stigma. As contact with mental healthcare consumers impacts mental illness stigma, it stand to reason that contact could also result in more favourable attitudes towards seeking mental health services. There is support that contact with mental health consumers impacts attitudes related to seeking mental health services.

For example, Buckley and Malouff (2005) found that individuals who listened to first-hand accounts from mental health service users had more positive attitudes related to seeking mental health services than the control group. Thus, the combination condition may have impacted attitudes, because the participants had contact with a mental health service user.

Another way in which the social influence component may have impacted attitudes and intentions to seek mental health services is by engaging the participants with the speaker's personal narrative. Chang (2008) found that a narrative advertisement aimed at improving mental health literacy related to depression was more effective at increasing willingness to seek help for depression compared to an argument based advertisement. The narrative advertisement was rated as more engaging and perceived as more vivid than the argument based advertisement. Thus, the social influence component of the current study's intervention may have resulted in improved attitudes and intentions to seek mental health services because the personal narrative of the speaker provided a more engaging educational experience.

A final way that the social influence component may have impacted attitudes and intentions is by providing the participants with social proof that seeking mental health services is an acceptable behaviour for university students. Social verification is often used by people to verify the validity of their own attitudes (Festinger, 1954). Social influence is the result of an individual's desire to agree with members of a relevant social group in order to validate their attitudes (Hogg & Turner, 1987). Thus, an individual will change his or her attitudes and behaviours in order to be consistent with those people as perceived as belonging to a relevant social group. Therefore, participants in the current

study may have changed their attitudes related to seeking mental health services in a direction consistent with the message communicated by the speaker because of a need to hold socially validated attitudes.

Limitations of Study 2

There are several limitations that could have impacted the current study. The study utilized a sample of introduction to psychology students that participated in order to obtain course credit. As credit is based on attendance rather than performance, the participants may have not been motivated to pay sufficient attention to the lectures. Several participants admitted to losing attention during the intervention. Although the interventions were provided in a lecture format similar to lectures the participants would be exposed to in their classes, a few participants reported that the intervention was not engaging enough for them to maintain their attention. Thus, the experiment may have been impacted by participants not attending appropriately to the message being communicated in the lectures. Another limitation is related to the experimental nature of the study. When asked to write down their thoughts about the study, a couple participants stated that they did not believe the speaker was credible, because deception was used in previous experiments in which they participated. As sources with higher credibility tend to be more persuasive than low-credibility sources (Pornpitakpan, 2004), the effectiveness of the intervention may have been impacted by participants perceiving the speaker as not believable.

Implications of Study 2 Results

The present study provides evidence that a brief educational lecture can increase mental health literacy among university students. Developing interventions such as the

one developed in this study is important to assist the university student population. Many university students do not receive appropriate levels of mental health care. As research suggests that mental health literacy is positively associated with mental health service use and intentions to seek mental health services (Rüsch et al., 2011), increasing university students' mental health literacy may result in improved mental health service utilization. Additionally, improved mental health literacy among university students may increase the likelihood that they will be identified by their physician as needing mental health treatment. Haller, Sanci, Sawyer, and Patton (2009) found a positive association between young people's perception that they had a mental illness and identification of emotional distress by their general practitioner. Thus, when students are able to recognize emotional distress and psychological symptoms, they are more likely to receive mental health service because their doctor is more likely to identify the need for these services. Improving mental health literacy among university students can also impact service utilization by increasing the likelihood that students will refer their peers to mental health services. If students have a better understanding of mental illness and psychological services, they will be capable of recognizing mental illness in their classmates and making appropriate help-seeking suggestions. Vogel and colleagues (2007) found that approximately three quarters of their sample of college students were prompted to seek services by someone they knew. Similarly, friends and fellow students were identified as the number one source from which students learned about mental health services (Yorgason, Linville, & Zitzman, 2008). Thus, fellow students appear to play an important role in the help-seeking process. The need for mental health literacy improvement among university students is further illustrated by research that found that

two thirds of students who disclosed that they were experiencing suicidal ideation chose to tell a peer before anyone else (Drum, Brownson, Burton Denmark, & Smith, 2009). This study also found that only about one half of the individuals who disclosed that they had suicidal ideation were advised to seek mental health services by the first person they told. As students often disclose their mental health issues to peers, it is important for these peers to be educated enough to refer these students to needed mental health services.

The results of this study suggest that the intervention utilized in the combination condition was associated with improved mental health literacy, attitudes towards seeking mental health services, and intentions to seek mental health services. Thus, this project adds to literature regarding educational interventions aimed at improving mental health literacy and intentions to seek mental health services by providing evidence that a social influence component should be utilized in such interventions.

Chapter Four: General Discussion

There is evidence that post-secondary students who are experiencing mental health related issues are not receiving appropriate levels of mental health services (e.g., Blanco et al., 2008; Eisenberg, Hunt, Speer, & Zivin, 2011). The present research project consisted of two studies that tested interventions designed to increase intentions to seek mental health services among university students. Both studies examined interventions that sought to improve intentions by reducing barriers that prevent post-secondary students from seeking mental health services, specifically perceived stigma and low levels of mental health literacy. The first study examined a social influence intervention aimed at reducing perceived stigma associated with seeking mental health services. The second study examined an educational intervention that was designed to improve mental health literacy. The second study also examined the effect of combining a social influence component with the educational intervention. The results of both studies suggest that utilizing a combination of social influence and educational approaches is the most effective method of increasing intentions to seek mental health services.

Mental Health Service Utilization Barriers among University Students

Perceived stigma. A variety of factors have been identified as barriers that inhibit post-secondary students from seeking mental health services. Attitudes related to seeking out help for mental health concerns have been associated with willingness to seek mental health services (Vogel, Wade, & Hackler, 2007). One attitude that has received much attention is perceived stigma related to seeking mental health services. In fact, stigma associated with seeking metal health services was identified by a systematic review of the literature as the most prominent barrier for adolescents and young adults

(Gulliver, Griffiths, & Christensen, 2010). The results of the second study of the current research project suggested that participants had somewhat positive attitudes overall towards seeking mental health services. Study 1 and 2 found that indifference to stigma scores were slightly above the midpoint of the scale suggesting that students did not perceive much stigma associated with utilizing mental health care. As self-stigma has been found to play a mediating role in the link between perceived stigma and willingness to seek mental health services (Vogel, Wade, & Hackler, 2007), self-stigma was also assessed in Study 1 before and after the experimental intervention. Self-stigma related to seeking help, which refers to the internalization of negative stereotypes associated with seeking mental health services, was found to be slightly below the midpoint for the SSOSH scale at pretest. Thus, participants predominantly did not perceive that help-seeking would have an overly negative impact on their self-perception. Due to the fact that both perceived stigma and self-stigma were not high for most participants, stigma may not be a prominent barrier impacting these students' help-seeking behaviours.

Although this study did not find high levels of stigma associated with help-seeking among the participants, these results do not suggest that stigma does not inhibit post-secondary students from seeking mental health services. The average scores suggest that most individuals did not hold stigmatizing attitudes; however, some participants did hold negative attitudes in that respect. Additionally, this study only examined perceived stigma and self-stigma. Griffiths and colleagues (2004) identified another form of stigma that they called personal stigma. They noted that personal stigma refers to a specific individual's stigmatizing attitudes. This form of stigma is differentiated from perceived stigma, which is the belief a person has about other people's stigmatizing attitudes. Self-

stigma, on the other hand, is the application of personal stigma to the self. Personal stigma has been found to be negatively associated with seeking help for mental health concerns among college students (Eisenberg, Downs, Golberstein, & Zivin, 2009). Thus, although this study did not find high levels of perceived stigma among most of the participants, personal stigma could still be impacting some participants' willingness to seek mental health services.

Mental health literacy. Another barrier that has been identified as impacting mental health care utilization among post-secondary students is mental health literacy. Mental health literacy refers to the "knowledge and beliefs about mental disorders which aid their recognition, management, and prevention" (Jorm et al., 1997, p.182). In a study conducted by Eisenberg, Golberstein, and Gollust (2007), low levels of mental health literacy, specifically the inability to perceive a need for mental health care and lack of knowledge regarding the availability and effectiveness of treatment, was associated with university students not receiving mental health services. The second study within the current research project provided evidence that university students could benefit from further mental health education. On average, participants at pretest were only able to name about two of the possible nine symptoms of depression. The average number of Generalized Anxiety Disorder (GAD) symptoms identified by university students was .97. The symptom primarily identified was anxiety, which is stated in the name of the disorder. Thus, participants do not appear to have had much familiarity with the diagnosis of GAD. In fact, many participants wrote down symptoms of depression when trying to identify GAD symptoms. This lack of knowledge regarding GAD is similar to research by Coles and Coleman (2010) that found that recognition rates of panic disorder

and GAD were less than recognition rates of depression. They also found that vignettes describing a person with GAD were labeled as life stress rather than GAD and only 6% of their sample attributed the GAD vignette to mental illness. Reavley and Jorm (2011) found that although almost 75% of young people in their sample were able to identify a depression vignette correctly, rates of recognition of anxiety disorders were lower. Specifically, vignettes of PTSD and social phobia were only identified correctly by 34.3% and 3.0% of participants, respectively. Thus, the findings of the current study and the aforementioned studies suggest that mental health literacy related to anxiety disorders is poorly developed in the general population.

Study 2 also found that in addition to a lack of knowledge regarding symptoms of mental illness participants were not very familiar with the etiology of mental illness. Most participants were only able to identify one of the four factors associated with the onset of depression. They were also lacking knowledge regarding the treatment of mental illness. Very few students were able to name any psychological approaches or indicate where students could receive mental health services. Thus, the participants in this study demonstrate that students have low levels of mental health literacy. This study contributes to the literature as it provides an assessment of mental health literacy utilizing recall questions. Previous research has assessed mental health literacy through recognition tasks that assess the participant's ability to identify what is wrong with a person depicted in a vignette (e.g., Coles & Coleman, 2010; Dahlberg, Waern, & Runeson, 2008; Jorm et al., 1997; Reavley & Jorm, 2011). The current study provides assessment of mental health literacy when no cues are available to help individuals retrieve information about mental illness.

Effectiveness of Interventions Aimed at Increasing Intentions to Seek Mental Health Services

Social influence intervention. The first study examined a social influence intervention that targeted the barrier of perceived stigma related to seeking mental health services. It was hypothesized that hearing ingroup sources, speakers identified as fellow University of Manitoba students, talk about their non-stigmatizing experience would lead to increased indifference to perceived stigma, decreased self-stigma, and increased intentions to seek mental health services. The results of the study found that the participants who listened to the ingroup speakers did not differ significantly on these dimensions in comparison to participants who listened to outgroup speakers or a control topic. These results are similar to research that suggests that contact with treatment users alone does not decrease mental illness stigma (Eisenberg, Downs, & Golberstein, 2012). This study contributes to literature related to stigma reduction, as it provides evidence that interventions aimed at changing levels of perceived stigma require more than indirect contact with service users to be effective.

Although indirect contact with service users was not effective at changing attitudes and intentions for the overall sample, the results of the first study demonstrated that the intervention impacted a specific subgroup of the sample. Participants who identified that someone closed to them had received mental health services and who had listened to the ingroup speakers had higher intentions to seek mental health services in comparison to the outgroup and control group conditions. This finding is not surprising as the effectiveness of a persuasive argument has been found to be related to the number of people constituting the source of influence (Cialdini & Trost, 1998). Thus, the ingroup

speakers added to the social proof that seeking mental health services is an acceptable behaviour. The first study points to the possibility that increased disclosure of mental health service use might impact the perceived acceptability of help-seeking among university students. Further research examining the impact disclosure of counselling use has on acceptability of service use among peers is needed to verify this link.

Education and combination interventions. The second study set out to increase intentions to seek mental health services by increasing mental health literacy through an educational intervention with and without a social influence component. It was hypothesized that participants who were exposed to an intervention that combined education and social influence would have higher intentions to seek counselling, knowledge related to mental health, and attitudes towards seeking mental health services in comparison to those participants that were exposed to the education or control conditions. A significant difference was found between the combination condition and the control condition across all three dependent measures. It should be noted that the significant difference in attitudes was only supported through exploratory analysis that controlled for pretest scores. Although there was no significant difference between the participants in the education only and combination conditions, education alone did not appear to be as effective as the combination condition due to the fact that a significant difference between the education and control conditions was only found with respect to mental health knowledge.

According to Thornicroft (2012) there are five steps that contribute to the delay to seek treatment for mental health concerns. First, there is a lack of recognition of the development of symptoms. Second, the individual recognizes but misinterprets his or her

symptoms. Third, the correct interpretation of these symptoms occur, however the individual inappropriately seeks self-help or assistance from informal help sources. Fourth, the individual is not aware that there is treatment for his or her difficulty that is available, acceptable, and effective. Finally, the person judges that the risks outweigh the benefits of treatment. Once all these steps are overcome the person seeks treatment. The educational intervention used in the second study of this research project provided information that could help individuals progress through or forego these aforementioned steps. The educational component of the intervention provided information about symptoms of mental illness to help students recognize and interpret symptoms correctly. The lecture also provided information about treatment types and availability. Additionally, a social influence component was used to increase the perceived acceptability of treatment. Given that the combination condition of the intervention provided information to address the steps outlined by Thornicroft, it is not surprising that this condition had higher intentions to seek counselling compared to the control condition. Additionally, the social influence component may have made the combination condition more effective, as it provided social proof that seeking services is an acceptable behaviour for university students and addresses the acceptability barrier stated in the fourth step.

Combining the findings of both studies provides a clearer picture as to what types of interventions are effective at improving university students' willingness to seek counselling. These findings are consistent with research regarding anti-stigma campaigns. Rüsch, Angermeyer, and Corrigan (2005) suggested that interventions that combine education and contact with individuals with mental illness have the most

potential of affecting mental illness stigma. An anti-stigma intervention entitled "In Our Own Voice," which utilized education, direct and indirect contact with mental health consumers, and participant discussion, was found to result in improved knowledge of mental illness and attitudes towards mental illness (Wood & Wahl, 2006). As a combination approach has been found to be successful at changing attitudes and knowledge in the related field of mental illness stigma, it makes sense that such an approach would be effective in improving knowledge and attitudes related to seeking mental health services and subsequently impacting intentions to seek counselling.

Significance and Implications of Results

The current research project provides further support for the existence of a mental health service gap among university students as only 12.5% and 5.3% of participants with severe scores on a self-report measure of depression, anxiety, and stress were using mental health services at the time of the study. The gap between service need and service use is of particular concern among the student population, because most mental disorders emerge before the age of 24 (Kessler et al., 2005), which is the common age range for students in post-secondary institutions. Longer delays between the onset of mental illness and treatment has been associated with worse outcomes, such as higher suicidality, poorer response to some pharmacological treatments, greater symptom severity, increased number of episodes of mental illness, and increased rates of comorbidity (Altamura et al., 2008; Altamura et al., 2010; Post et al., 2010). Thus, post-secondary students who are experiencing the onset of a mental illness could benefit from seeking services as waiting can negatively impact the course of this illness. Additionally, seeking treatment is beneficial as it is negatively associated with the likelihood of attempting

suicide among college students (Drum, Brownson, Burton Denmark, & Smith, 2009). Finally, the importance of post-secondary students seeking mental health services when needed is further highlighted by the fact that psychological distress has been associated with poor academic outcomes (Eisenberg, Golberstein, & Hunt, 2009; Pritchard & Wilson, 2003). Given that many university students do not seek services that could benefit their long-term mental health and academic success, effective interventions are needed to increase mental health services utilization rates for this population.

The present research project contributes to the literature examining interventions designed to improve mental health service use. There is limited research examining interventions aimed at improving mental health literacy of young people (Kelly, Jorm, & Wright, 2007). Most educational interventions in the past have targeted secondary school students, while there are few well-evaluated interventions utilizing post-secondary students. As university students are at risk of developing mental health disorders which can impact their academic performance, this project provides much needed insight into how to improve intentions to seek mental health services among individuals from this at risk population. Additionally, this project provides evidence that a brief intervention can impact intentions to seek mental health services, attitudes, and mental health literacy. Most educational interventions related to improving knowledge regarding mental illness that are cited in the literature have been time consuming, taking 30 minutes to several hours. The current project demonstrates that an intervention that takes less than 15 minutes to disseminate can impact intentions to seek mental health services, knowledge, and attitudes. The brevity of this intervention makes it easier and more affordable to implement in comparison to lengthier interventions.

Limitations

The two studies utilized in the current research project share several limitations. One limitation is that the nature of the samples prevents the results from being extended to the general university student population. The samples used in both studies were comprised of students from the Introduction to Psychology course at the University of Manitoba. Given that the participants were from a specific course at a specific university, there is no way to know if these findings apply to students at other universities or in other courses. A majority of the students were in University 1, which is a faculty for first year students. Thus, the samples are comprised of many students early on in their academic career and the results may not extend to students that are further along the academic spectrum.

A second limitation of the study is that it is based on self-report data which is prone to bias. As the participants were informed of the purpose of the study prior to completing the study, demand characteristic of the study could have impacted how participants responded and affected the results.

A final limitation is that the studies only measured intentions to seek help and did not measure overt help-seeking. Therefore, it cannot be concluded that the combination intervention had an effect on actual utilization of mental health services. Although the study cannot speak to the effect the intervention had on actual help-seeking, theory suggests that increasing intentions has an impact on behaviours. According to the theory of planned behaviour, behaviour is determined by an individual's intentions to engage in the behaviour and the individual's perceived behavioural control over the behaviour (Ajzen, 1991). This theory suggests that the stronger an individual's intentions are the

more likely that person is to engage in the behaviour provided the behaviour is under the person's volitional control. The performance of the behaviour is also impacted by the perceived ease or difficulty the individual associates with performance of the behaviour. As the theory of planned behaviour suggests that increasing intentions impacts behaviour, it stands to reason that intervention in the study could impact actual help-seeking. Additionally, the lecture provided information about accessibility and acceptability of counselling services, which could have increased the perception that seeking counselling services is under participants' control and easier than anticipated due to the availability of free services. Further research is needed to examine the impact the combination intervention utilized in Study 2 has on actual help-seeking.

Future Directions

The current research project takes a significant step towards clarifying how to develop interventions aimed at improving mental health service use among university students. The main finding of this project was that a combination of social influence and educational approaches has the most potential of improving intentions to seek mental health services, as each of these components do not appear to be effective enough independently. Although this project provides valuable insight into an intervention aimed at improving intentions to seek mental health services, further research is needed before such an intervention can be implemented. As mentioned above, research is needed to determine the intervention's impact on actual help-seeking as this variable was not assessed. Also, as the samples used consisted of a very specific group of students, additional investigation is needed to determine the effectiveness of the intervention with regards to a wider range of students. Further research is also required to determine what

types of information should be included in the intervention. One participant indicated on her questionnaire that she was already familiar with much of the information presented except for the information about GAD, the types of treatment, and where university students can seek mental health services. An extensive assessment of university students' mental health literacy would help identify areas of strength and weakness within their knowledge of mental illness and treatment. This information could help design an intervention that focuses on areas in which students are lacking information. According to Bell and colleagues (2010), it is important to understand people's preference for how information aimed at encouraging them to seek mental health care is presented since people react differently to different types of messages. It is important to tailor the information to informational needs and preferences of the specific audience. For example, Hammer and Vogel (2010) found that a brochure about counselling was more effective at changing attitudes when it was tailored towards their male audience. Therefore, more research is needed to understand the needs and preferences of university students in order to develop a better tailored intervention.

Additional research is also required to examine whether the effects of the intervention are robust. Although group differences existed with regards to mental health knowledge at follow-up, there was a decrease in mental health knowledge scores from posttest to follow-up. Further investigation is needed to determine if these group differences remain after a longer interval of time. It may be necessary to use repeated exposure to the intervention in order to produce longer lasting effects. Kaplan, Vogel, Gentile, and Wade (2012) conducted a study that found that a video intervention aimed at increasing positive perceptions of counselling only produced lasting effects with multiple

exposures to the intervention. Thus, additional research should examine whether repeated exposures to the intervention impacts the strength and longevity of the intervention's effects.

A final direction for future research relates to the implementation of the intervention. Eisenberg, Hunt, and Speer (2012) suggested that the main strength of educational and anti-stigma campaigns for university students is their potential to reach a large number of students. The intervention has the possibility of being implemented in a number of ways, such as in class, on a university website, disseminated through email, etc. One participant suggested that the intervention should be incorporated as part of orientation. Further analysis is needed to determine when and how this information should be disseminated to best reach the university student population.

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Appendix A

Pre-manipulation Questionnaire

This questionnaire is meant to be completed anonymously. Please do not sign your name or in any other way reveal your identity. If you cannot or prefer not to answer a question please leave it blank.

Please fill in the blank for the following questions regarding demographic information.

1) What is your age? ____________

2) What is your gender? _______________

3) What is your marital status? _________________________

4) What faculty are you enrolled in? __________________________

5) What is your ethnicity? __________________________

6) Do you belong to a religion? _______________

If yes, please specify the religion: ________________

7) Are you employed? ______________________

If yes, please specify your occupation: _________________

For the following questions please circle the number that corresponds with your response.

8) Have you ever been to see a mental health professional (e.g., psychologist, psychiatrist, social worker)?

1 - Yes
2 - No

9) If you answered yes to the previous question, did you find this helpful?

1 - Yes
2 - No

10) Are you currently receiving services from a mental health professional (e.g., attending psychotherapy sessions)?

1 - Yes
2 - No

11) Have you ever been diagnosed with a mental disorder?

1 - Yes
2 - No

12) Have your close friends or family ever gone to see a mental health professional?

1 - Yes
2 - No

How much do you agree with the following statements? Please circle the number that corresponds with your answer.

13) I consider myself to be a typical University of Manitoba student.

Disagree 1 2 3 4 5 Agree

14) I believe my attitudes and values are similar to those of most U of M students.

Disagree 1 2 3 4 5 Agree

15) Being a University of Manitoba student is currently an important part of my identity.

Disagree 1 2 3 4 5 Agree

Appendix B

Post-Manipulation Questionnaire

Please take the next few minutes to write down what you can remember about what the speakers said.

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Please take the next few minutes to write down any thoughts you have after listening to the speakers talk about their personal experiences.

For the following questions please circle the number that corresponds with your response.

1) Have you ever met either of the speakers before?

1 - Yes
2 - No

How much do you agree with the following statements? Please circle the number that corresponds with your answer.

2) I consider the male speaker to be attractive.

Disagree 1 2 3 4 5 Agree

3) The male speaker seems like a typical University of Manitoba student.

Disagree 1 2 3 4 5 Agree

4) The male speaker spoke quietly.

Disagree 1 2 3 4 5 Agree

5) I could identify with the male speaker.

Disagree 1 2 3 4 5 Agree

6) The male speaker seemed likeable.

Disagree 1 2 3 4 5 Agree

7) The male speaker communicated effectively.

Disagree 1 2 3 4 5 Agree

8) I consider the female speaker to be attractive.

Disagree 1 2 3 4 5 Agree

9) The female speaker seems like a typical University of Manitoba student.

Disagree 1 2 3 4 5 Agree

10) The female speaker spoke quietly.

Disagree 1 2 3 4 5 Agree

11) I could identify with the female speaker.

Disagree 1 2 3 4 5 Agree

12) The female speaker seemed likeable.

Disagree 1 2 3 4 5 Agree

13) The female speaker communicated effectively.

Disagree 1 2 3 4 5 Agree

Appendix C

Follow-up Questionnaire

For the following questions please circle the number that corresponds with your response.

1) Have you heard anyone talk about the study?

1 - Yes
2 - No

2) Have you talked to anyone about the study?

1 - Yes
2 - No

3) Have you seen any posters or commercials about reducing mental illness stigma?

1 - Yes
2 - No

4) Have you ever been to see a mental health professional?

1 - Yes
2 - No

5) If you answered yes to the previous question, did you find that you were discriminated against or stigmatized by others for seeking mental health services?

1 - Yes
2 - No

Appendix D

Consent Form

Research Project Title: The Effect of Social Influence on Reducing Perceived Stigma Related to Seeking Mental Health Services

Researcher: Kimberly J. Kiley, PhD student from the Department of Psychology

Supervisor: Dr. David Martin, Professor from the Department of Psychology

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

You are invited to participate in a research study conducted by Kimberly Kiley, a PhD student from the Psychology Department of the University of Manitoba, as part of her doctoral thesis. This study is concerned with reducing perceived stigma related to seeking mental health services, which is the belief that people are devalued and discriminated against for seeking psychological assistance. This study is in three parts. The first portion of the study should take about 25 minutes and you will receive 1 experimental credit for your participation. This portion of the study will require you to fill out a questionnaire containing questions related to demographics, mental health service use, university group membership, your level of emotional distress, intentions to seek counseling, and attitudes towards seeking mental health services. The questionnaire will also ask if you have ever been diagnosed with a mental disorder and include detailed questions about your personal history of mental health care. Upon completion of the questionnaire you will be randomly assigned to the remaining two experimental sessions.

The second portion of the study will occur approximately one week from today. This session will involve listening to video-recorded testimonials about seeking therapy or being more environmentally friendly. After listening to the video, you will be asked to write down the main points you recall from the testimonials and reflect on the topic you just heard. There will also be questions about the speaker, as well as questions about intentions to seek counseling and attitudes towards seeking mental health services. This portion of the study will take about 45 minutes and you will receive 2 experimental credits.

The final portion of the study will occur three weeks after today’s session. This portion of the study will take about 20 minutes and you will receive 1 experimental credit. This session will involve filling out questionnaires containing questions on attitudes towards seeking mental health services, intentions to seek counseling, your personal history of mental health care, and exposure to anti-stigma media campaigns.

If you attend all three sessions you will be entered into a draw to win one of four $20 bookstore gift cards. This draw will take place once the data collection is complete and the winners will be contacted via email. The odds of winning a gift card is approximately 1 in 50.

It should be noted that there are some questions that are of a personal nature in the questionnaires you willed be asked to fill out, but they are necessary for the study. If you prefer not to answer a particular question, please leave it blank.

I would like to make you aware of the fact that participating in this study is associated with some risk. You will be responding to questions that are sensitive in nature. These questions are very personal, as they ask for details about your mental health and past mental health care experiences. You may also listen to testimonials about personal experiences with mental health issues and seeking psychological assistance. As a result of the personal nature of many of the elements of this study, some participants may experience emotional stress. You should consider this risk before you decide to participate in this study.

Participation in this study is voluntary. There will be no negative consequences if you choose not to participate. At any time, you are free to end your participation for any reason without explanation and without loss of course credit. If you wish to discontinue your participation, simply inform the researcher that you wish to withdraw from the study. The researcher will ensure that you receive credit for all the sessions you attended and you will not be penalized for missing any future sessions. If after participating in a portion of the study you chose to discontinue your participation, you will be asked if you would like your

previously completed questionnaires to be included in the data set or destroyed.

You will be asked to write your student number on the front page of your questionnaire packages in order to match up all three sessions' questionnaires. A number of safeguards will be put in place to keep your responses confidential. After the completion of each session, all the questionnaires will be kept in a locked filing cabinet in the researcher's home office. The sign in sheet with your names and student numbers will be kept in a locked filing cabinet in the research supervisor's office. Once the follow-up sessions are complete, the questionnaires will be matched up and the front pages on which you wrote your student number will be removed and shredded. Data entry will not commence until the front pages of the questionnaires have been removed. The questionnaires will be kept in a locked filing cabinet. Questionnaires and consent forms will be destroyed by July 2011, once a summary of the study's results has been sent out to interested participants.

All information will be held in the strictest confidence. Only the researchers will have access to the questionnaires. The results of this study will only be presented as group data (e.g., mean score). The results of this study will be used in a PhD. thesis paper, and may be referred to in journal articles and presentations at psychological conferences.

You will be filling out questionnaires regarding your level of emotional distress and answering questions regarding mental health knowledge and seeking mental health services. Filling out these types of questions may lead you to consider seeking mental health services. If you are in crisis or require emergency assistance for mental health related concerns, please call the Klinic Crisis line at 204-786-8686 or the toll free Manitoba Suicide Line at 1-877-435-7170. If you are need of mental health services you can contact the Student Counselling and Career Centre at 474-8592.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

If you have any questions or concerns about the following study please feel free to contact the researcher, Kimberly Kiley, at the Department of Psychology at the University of Manitoba or by e-mail or Dr. David Martin at the Department of Psychology at the University of Manitoba

This research has been approved by the Psychology/Sociology Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat. A copy of this consent form has been given to you to keep for your records and reference.

If you choose to participate in this study, please sign and date both copies of the consent form.

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Participant's Signature Date

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Researcher and/or Delegate's Signature Date

If you wish to receive a summary of the study's result, please provide your email or mailing address. These results will be sent out around June 2011. If not, please do not provide your address.
Email or Mailing Address (if interested in receiving summary of results):

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Appendix E

Outgroup Script

Hi. Hi. My name is Ashley. I'm a student at the Culinary Institute of Virginia. I've lived my entire life in the state of Virginia. I agreed to be videotaped talking about my personal experience with therapy. Before I get started I just feel I need to say that I am not crazy. I consider myself to be a typical university student. I pulled off decent grades in high school. But my first term here, my grades were far from stellar. I had a lot going on in my personal life and I couldn't really focus properly on my studies. When I got my final grades after the first term, I was really concerned. They pretty much sucked. I realized there is no way that I could keep going the way I was. I wasn't really sure what to do about it though. I thought about going to see a psychologist but I was worried about what other people would think of me if they found out I was getting psychological help. When the second term started nothing had really changed. Personal stuff was still getting in the way and I was getting really stressed about school. So I decided to suck it up and schedule an appointment with a psychologist. I started seeing this psychologist once a week. It turned out to be really helpful. I got to talk about what was going on with me and deal with the issues that kept getting in the way of my school work. So seeing the therapist seemed to be doing the trick but I was pretty nervous about someone finding out about it. I hid it from my friends and family. I was usually pretty careful about hiding where I was going when I went to see my therapist. I would have managed to keep it a secret except one day I was chatting with some friends and I accidentally said something about my therapist's office. I felt like time had stopped as I knew I couldn't take it back. My secret was out in the open. So I ended up coming clean about my psychological issues and my going to see someone for it. I was completely

shocked that I wasn't the only one of my friends to have gone to see a mental health professional. One of my friends had seen a psychiatrist for several months. My other friends were completely okay with my seeing a therapist. It wasn't a big deal to them. They acted like seeing a therapist was like seeing any other doctor. So it turned out I was all worried for no reason at all. I am glad that I went to see a therapist and found out that my friends don't think that I am crazy for it.

Hi. My name is Eric, and I also live in Virginia and attend the Culinary Institute of Virginia. My experience with therapy was a little different from Ashley's. For me I wasn't experiencing difficulties with my grades but someone close to me had passed away and I was having a hard time dealing with it. I found that I wasn't going out any more. I didn't want to see anyone or do anything. I was really irritable. I came to the realization one day that if I kept this up I was going to have no one in my life, because I was pushing everyone away. When I was trying to figure out what to do to cope, therapy was not my first choice. I had always believed that therapy was for people who were weak and people would like less of me if I was going to therapy to deal with my problems. So at first I just thought I could just ride it out. I was bound to feel better eventually. But as time went on things weren't getting better. One day a buddy of mine expressed they were concerned about me and suggested I go see a therapist. I was surprised that he would suggest that I see a therapist. He ended up telling me that he had had some personal problems and had been seeing a therapist for a couple of weeks. I was honestly shocked. Of all my friends this guy was the toughest guy I know. So it got me to thinking that if my buddy could go, then so could I. I still think of him as tough so why would other people view me as weak. So I started seeing a psychologist to deal with

my grief. It really helped. I slowly started feeling like my old self again. I really have my friend to thank for the way I feel now. I would never have gone to have seen a psychologist if it wasn't for him. Because of him I felt like going to therapy wasn't a sign of weakness but something normal people do. So that is Ashley and my experiences with therapy. Thanks for listening.

Ingroup Script

Hi. My name is Ashley. I am a student here at U of M. I agreed to talk about my personal experience with therapy. Before I get started I just feel I need to say that I am not crazy. I consider myself to be a typical university student. I pulled off decent grades in high school. But my first term here, my grades were far from stellar. I had a lot going on in my personal life and I couldn't really focus properly on my studies. When I got my final grades after the first term, I was really concerned. They pretty much sucked. I realized there is no way that I could keep going the way I was. I wasn't really sure what to do about it though. I thought about going to see a psychologist but I was worried about what other people would think of me if they found out I was getting psychological help. When the second term started nothing had really changed. Personal stuff was still getting in the way and I was getting really stressed about school. So I decided to suck it up and schedule an appointment with a psychologist. I started seeing this psychologist once a week. It turned out to be really helpful. I got to talk about what was going on with me and deal with the issues that kept getting in the way of my school work. So seeing the therapist seemed to be doing the trick but I was pretty nervous about someone finding out about it. I hid it from my friends and family. I was usually pretty careful about hiding where I was going when I went to see my therapist. I would have managed

to keep it a secret except one day I was chatting with some friends and I accidentally said something about my therapist's office. I felt like time had stopped as I knew I couldn't take it back. My secret was out in the open. So I ended up coming clean about my psychological issues and my going to see someone for it. I was completely shocked that I wasn't the only one of my friends to have gone to see a mental health professional. One of my friends had seen a psychiatrist for several months. My other friends were completely okay with my seeing a therapist. It wasn't a big deal to them. They acted like seeing a therapist was like seeing any other doctor. So it turned out I was all worried for no reason at all. I am glad that I went to see a therapist and found out that my friends don't think that I am crazy for it.

Hi. My name is Eric, and I am also a U of M student. My experience with therapy was a little different from Ashley's. For me I wasn't experiencing difficulties with my grades but someone close to me had passed away and I was having a hard time dealing with it. I found that I wasn't going out any more. I didn't want to see anyone or do anything. I was really irritable. I came to the realization one day that if I kept this up I was going to have no one in my life, because I was pushing everyone away. When I was trying to figure out what to do to cope, therapy was not my first choice. I had always believed that therapy was for people who were weak and people would like less of me if I was going to therapy to deal with my problems. So at first I just thought I could just ride it out. I was bound to feel better eventually. But as time went on things weren't getting better. One day a buddy of mine expressed they were concerned about me and suggested I go see a therapist. I was surprised that he would suggest that I see a therapist. He ended up telling me that he had had some personal problems and had been seeing a

therapist for a couple of weeks. I was honestly shocked. Of all my friends this guy was the toughest guy I know. So it got me to thinking that if my buddy could go, then so could I. I still think of him as tough so why would other people view me as weak. So I started seeing a psychologist to deal with my grief. It really helped. I slowly started feeling like my old self again. I really have my friend to thank for the way I feel now. I would never have gone to have seen a psychologist if it wasn't for him. Because of him I felt like going to therapy wasn't a sign of weakness but something normal people do. So that is Ashley and my experiences with therapy. Thanks for listening.

Control Group Script

Hi, my name is Ashley. I would like to talk to you about my personal efforts to be environmentally friendly. I was actually raised in a very environmentally minded household. My parents were always trying to reduce the impact our family had on the environment. Growing up it was not always easy to be "green" because there were not as many eco conscious initiatives and programs as there are now. Take for example recycling. I was taught to throw anything that was recyclable in the garbage. Some places I went, like the mall or school, did not always have recycling programs for all the recyclable products I was using. In order to recycle these items, I would have to keep them with me and put them in the recycling when I got home. As you can imagine it was not always convenient to keep these items with me until that time. It is now easier to recycle as there are more and more places with recycling bins. Another example about how it was harder to be eco-friendly when I was younger relates to eating food that does not use chemicals, like pesticides, in their production. Organic foods are becoming more and more available but this was not always the case. My food selection was often quite

limited, as there was a lack of organic options at my local grocery store. Now it does not take much effort to eat eco-friendly foods, because they are widely available. There are also a variety of other "green" products that are now available at retailers, such as eco-friendly cleaners and reusable items. The availability of these items makes it easier for me to reduce the impact I have on the environment.

So let me tell you about some of the things I do so that are environmentally friendly. Like I said before, I recycle, eat organic foods, and use "green" products whenever possible. I also compost so that I can reduce the amount of refuse I am sending to the landfills. I make every effort to be energy efficient. That includes buying energy star appliances and compact fluorescent light bulbs since they are energy efficient and I turn off lights, computers, and other electronic items when I am not using them. I also walk or bike most places so that I reduce my carbon emissions. If I must take a vehicle, I try to carpool or take the bus. I find being environmentally conscious does not take a lot of effort. It used to be a lot more difficult, but now there are so many "green" choices that it makes being environmentally friendly easy.

Hi, my name is Eric. Unlike Ashley, I was not always very environmentally aware. I never really made much of an effort to reduce my environmental impact. In the last few years I watched some documentaries about the impact the human race is having on our planet and climate. It made me realize that there is a need to be eco-friendly because our carbon emissions and other pollution are having an effect on our environment. If as a society as whole we do not start taking care of our planet, there may be some devastating consequences. So after coming the realization that changes are needed, I started looking for ways that I could be more environmentally friendly. Some

things I could do were pretty obvious. I started recycling as much as possible. I also reduce my plastic bag usage by using reusable shopping bags and bringing my lunch with me to school or work in a reusable lunch bag instead of plastic or paper bags. I also tried to reduce the length of my showers to conserve water since I used to take really long showers in the past. I also went online to David Suzuki's website and found some really helpful suggestions. I never really thought that my eating habits could affect the environment, but it according to this website the food choice that we all make can impact the environment. Meat production is pretty energy inefficient and results in the production of greenhouse gases. I can't say that I could ever be a vegetarian but I try to go meat-free at least one day per week to the amount of meat I eat, which reduces my environmental impact. I also try to eat locally grown food. Importing food from other places takes a lot of transport which results in carbon emissions. By reducing the amount of transportation needed to get your food from the farm to your plate, you are also reducing your carbon footprint. The website also had a link for Canadian government's Auto Smart ratings which helped me buy a vehicle that was the most fuel efficient. I actually found it pretty easy to start making eco-friendly choices and I would recommend that every one of you tries to be environmentally responsible. Thanks for listening.

Appendix F

Debriefing Form

Thank you for your participation in this study. The purpose of this study is to determine whether or not intentions to seek mental health services can be increased and perceived stigma related to psychotherapy can be reduced using social influence Although epidemiological surveys indicate that approximately 30% of the general population is afflicted with a mental disorder within a given year, not nearly as many individuals seek psychological help (e.g. Bland, Newman, & Orn, 1997; Regier, et al., 1993). There are a number of different barriers that inhibit people from seeking psychological services. One of these barriers is the attitude that seeking psychological help is stigmatizing. Perceived stigma appears to be a poignant barrier for those individuals in need of but not receiving mental health services (Stefl & Prosperi, 1985). Thus, reducing perceived stigma attitudes may result in increased service utilization.

The aim of this current study is to determine if social influence can be used to reduce perceived stigma related to psychotherapy amongst a group of university students. This proposed study will have university students listen to speakers discuss either their non-stigmatizing experiences with seeking mental health services (experimental groups) or their attempts to reduce their environmental impact (control group). The experimental groups speakers will also identify themselves as either an ingroup speaker (fellow university student) or an outgroup speaker (culinary students from Virginia). Perceived stigma and intention to seek mental health services were measured immediately before the intervention, immediately after the intervention and in a follow-up session three weeks after the intervention. As self-categorization theory suggests that people may change their attitudes to coincide with those attitudes of similar others, it is hypothesized that the participants listening to the ingroup speakers express that they were not stigmatized for seeking mental health service will report less perceived stigma as compared to those participants who listened to the outgroup speakers or the speakers discussing their efforts to be more environmentally friendly.

There was a form deception in this study. You were led to believe that the testimonials you were presented were authentic. However, it should be noted that the speakers were actually actors and the testimonials were scripted. This deception regarding the authenticity of the testimonials was necessary to achieve adequate experimental control. Scripts and actors allowed the researcher to have control over the material presented and how it was presented, which ensured that no extraneous or conflicting information was present in the testimonials.

As you have responded to questions about mental health service use and may have listened to speakers discuss seeking mental health services, you may start considering seeking mental health services. As a University of Manitoba student, you have access to mental health services. The Student Counselling and Career Centre (474-8592) offers University of Manitoba students counseling for academic, vocational, emotional, personal or social concerns.

If you would like further information about the study, please do not hesitate to contact me by email. Once again thank you for participating in the study. I'd also like to remind you that all your responses will remain confidential. In order to ensure confidentiality, questionnaires and data will be held in a locked cabinet.

Sincerely,
Kimberly Kiley

References

Bland, R. C., Newman, S. C., & Orn, H. (1997). Help-seeking for psychiatric disorders. *Canadian Journal of Psychiatry, 42,* 935-942.

Regier. D. A., Narrow, W. E., Rae, D. S., Manderscheid, R. W., Locke, B. Z., & Goodwin, F. K. (1993). The de facto US mental and addictive disorders service system. Epidemiologic catchment area prospective 1-year prevalence rates of disorders and services. *Archives of General Psychiatry, 50,* 85-94.

Stefl, M. E., & Prosperi, D. C. (1985). Barriers to mental health service utilization. *Community Mental Health Journal, 21,* 167-178.

Appendix G

Pre-manipulation Questionnaire

This questionnaire is meant to be completed anonymously. Please do not sign your name or in any other way reveal your identity. If you cannot or prefer not to answer a question please leave it blank.

Please fill in the blank for the following questions regarding demographic information.

1) What is your age? ____________

2) What is your gender? _______________

3) What is your marital status? ________________________

4) What faculty are you enrolled in? _________________________

5) What is your ethnicity? _________________________

6) Do you belong to a religion? _______________

If yes, please specify the religion: ________________

7) Are you employed? _____________________

If yes, please specify your occupation: _________________

For the following questions please circle the number that corresponds with your response.

8) Have you ever been to see a mental health professional?

1 - Yes
2 - No

9) If you answered yes to the previous question, did you find this helpful?

1 - Yes
2 - No

10) Have you ever been diagnosed with a mental disorder?

1 - Yes
2 - No

11) Have your close friends or family ever gone to see a mental health professional?

1 - Yes
2 - No

How much do you agree with the following statements? Please circle the number that corresponds with your answer.

14) I consider myself to be a typical University of Manitoba student.

Disagree 1 2 3 4 5 Agree

15) I believe my attitudes and values are similar to those of most U of M students.

Disagree 1 2 3 4 5 Agree

16) Being a University of Manitoba student is currently an important part of my identity.

Disagree 1 2 3 4 5 Agree

Please write down your answers to the following questions.

17) What are the possible symptoms of depression?

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18) What are the possible symptoms of generalized anxiety disorder?

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19) What main factors are thought to be associated with the onset of depression?

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20) What five categories do most approaches to psychotherapy fall into?

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21) Where can a University of Manitoba student go to receive psychotherapy?

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Appendix H

Post-Manipulation Questionnaire

Please take the next few minutes to write down the main points you can remember from the lecture.

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Please take the next few minutes to write down any thoughts you have after listening to the lecture.

For the following questions please circle the number that corresponds with your response.

1) Have you ever met the lecturer before?

1 - Yes
2 - No

How much do you agree with the following statements? Please circle the number that corresponds with your answer.

2) I consider the lecturer to be attractive.

Disagree 1 2 3 4 5 Agree

3) The lecturer seems like a typical University of Manitoba student.

Disagree 1 2 3 4 5 Agree

4) The lecturer spoke quietly.

Disagree 1 2 3 4 5 Agree

5) I could identify with the lecturer.

Disagree 1 2 3 4 5 Agree

6) The lecturer seemed likeable.

Disagree 1 2 3 4 5 Agree

7) The lecturer communicated effectively.

Disagree 1 2 3 4 5 Agree

Please write down your answers to the following questions.

8) What are the possible symptoms of depression?

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9) What are the possible symptoms of generalized anxiety disorder?

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10) What main factors are thought to be associated with the onset of depression?

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11) What five categories do most approaches to psychotherapy fall into?

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12) Where can a University of Manitoba student go to receive psychotherapy?

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Appendix I

Follow-up Questionnaire

For the following questions please circle the number that corresponds with your response.

1) Have you heard anyone talk about the study?

1 - Yes
2 - No

2) Have you talked to anyone about the study?

1 - Yes
2 - No

3) Have you seen any mental health education posters or commercials?

1 - Yes
2 - No

4) Have you ever been to see a mental health professional?

1 - Yes
2 - No

Please write down your answers to the following questions.

5) What are the possible symptoms of depression?

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6) What are the possible symptoms of generalized anxiety disorder?

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7) What main factors are thought to be associated with the onset of depression?

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8) What five categories do most approaches to psychotherapy fall into?

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9) Where can a University of Manitoba student go to receive psychotherapy?

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Appendix J

Scoring Guide for Mental Health Knowledge Questions

1) What are the possible symptoms of depression?

One point will be given for each of the following:

- Depressed mood
- Loss of pleasure or interest
- Change in weight or appetite
- Change in sleep
- Fatigue or loss of energy
- Sense of worthlessness or guilt
- Diminished ability to think or concentrate, distractibility, indecisiveness
- Psychomotor agitation or retardation
- Suicidal thoughts

2) What are the possible symptoms of generalized anxiety disorder?

One point will be given for each of the following:

- excessive anxiety and worry.
- inability to control their worrying
- restless
- easily fatigued
- difficulty concentrating
- irritable
- experiencing muscle tension
- sleep disturbance

3) What main factors are thought to be associated with the onset of depression?

One point will be given for each of the following:

- biological factors
- life experience
- problems with close attachments
- cognitive habits.

4) What five categories do most approaches to psychotherapy fall into?

One point will be given for each of the following:

- Psychodynamic
- Cognitive
- Behaviour
- Humanistic
- Holistic

5) Where can a University of Manitoba student go to receive psychotherapy?

Two points will be received for answering the University Counseling Centre or psychological service centre.

One point will be given for any other therapy provider such as private psychologist or psychiatrist.

Appendix K

Consent Form

Research Project Title:	Mental Health Education to Increase Likelihood of Seeking Mental Health Services
Researcher:	Kimberly J. Kiley, PhD student from the Department of Psychology
Supervisor:	Dr. David Martin, Professor from the Department of Psychology

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

You are invited to participate in a research study conducted by Kimberly Kiley, a PhD student from the Psychology Department of the University of Manitoba, as part of her doctoral thesis. This study is concerned with examining the effect of mental health education lectures on intentions to seek mental health services and attitudes. This study is in three parts. The first portion of the study should take about 25 minutes and you will receive 1 experimental credit for your participation. This portion of the study will require you to fill out a questionnaire containing questions related to demographics, mental health service use, university group membership, your level of emotional distress, mental health knowledge, intentions to seek counseling, and attitudes towards seeking mental health services. The questionnaire will also ask if you have ever been diagnosed with a mental disorder and include detailed questions about your personal history of mental health care. Upon completion of the questionnaire you will be randomly assigned to the remaining two experimental sessions.

The second portion of the study will occur approximately one week from today. This session will involve listening to a video-recorded lecture on mental health information or climate change. After listening to the lecture, you will be asked to write down the main points you recall from the lecture and reflect on the topic you just heard. There will also be questions about the speaker, as well as questions about mental health knowledge, intentions to seek counseling, and attitudes towards seeking mental health services. This portion of the study will take about 45 minutes and you will receive 2 experimental credits.

The final portion of the study will occur three weeks after today's session. This portion of the study will take about 20 minutes and you will receive 1 experimental credit. This session will involve filling out questionnaires containing questions on mental health knowledge, attitudes towards seeking mental health services, intentions to seek counseling, your personal history of mental health care, and exposure to mental health media campaigns.

If you attend all three sessions you will be entered into a draw to win one of four $20 bookstore gift cards. This draw will take place once the data collection is complete and the winners will be contacted via email. The odds of winning a gift card are approximately 1 in 50.

It should be noted that there are some questions of a personal nature in the questionnaires you willed be asked to fill out, but they are necessary for the study. If you prefer not to answer a particular question, please leave it blank.

I would like to make you aware of the fact that participating in this study is associated with some risk. You will be responding to questions that are sensitive in nature. These questions are very personal, as they ask for details about your mental health and past mental health care experiences. As a result of the personal nature of this study, some participants may experience emotional stress. You should consider this risk before you decide to participate in this study.

Participation in this study is voluntary. There will be no negative consequences if you choose not to participate. At any time, you are free to end your participation for any reason without explanation and without loss of course credit. If you wish to discontinue your participation, simply inform the researcher that you wish to withdraw from the study. The researcher will ensure that you receive credit for all the sessions you attended and you will not be penalized for missing any future sessions. If after participating in a portion of the study you chose to discontinue your participation, you will be asked if you would like your previously completed questionnaires to be included in the data set or destroyed.

You will be asked to write your student number on the front page of your questionnaire packages

in order to match up all three sessions' questionnaires. A number of safeguards will be put in place to keep your responses confidential. After the completion of each session, all the questionnaires will be kept in a locked filing cabinet in the researcher's home office. The sign in sheet with your names and student numbers will be kept in a locked filing cabinet in the research supervisor's office. Once the follow-up sessions are complete, the questionnaires will be matched up and the front pages on which you wrote your student number will be removed and shredded. Data entry will not commence until the front pages of the questionnaires have been removed. The questionnaires will be kept in a locked filing cabinet. Questionnaires and consent forms will be destroyed by July 2011, once a summary of the study's results has been sent out to interested participants.

All information will be held in the strictest confidence. Only the researchers will have access to the questionnaires. The results of this study will only be presented as group data (e.g., mean score). The results of this study will be used in a PhD. thesis paper, and may be referred to in journal articles and presentations at psychological conferences.

You will be filling out questionnaires regarding your level of emotional distress and answering questions regarding mental health knowledge and seeking mental health services. Filling out these types of questions may lead you to consider seeking mental health services. If you are in crisis or require emergency assistance for mental health related concerns, please call the Klinic Crisis line at 204-786-8686 or the toll free Manitoba Suicide Line at 1-877-435-7170. If you are need of mental health services you can contact the Student Counseling and Career Centre at 474-8592.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

If you have any questions or concerns about the following study please feel free to contact the researcher, Kimberly Kiley, at the Department of Psychology at the University of Manitoba or by e-mail or Dr. David Martin at the Department of Psychology at the University of Manitoba.

This research has been approved by the Psychology/Sociology Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat. A copy of this consent form has been given to you to keep for your records and reference.

If you choose to participate in this study, please sign and date both copies of the consent form.

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Participant's Signature Date

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Researcher and/or Delegate's Signature Date

If you wish to receive a summary of the study's result, please provide your email or mailing address. These results will be sent out around June 2011. If not, please do not provide your address.
Email or Mailing Address (if interested in receiving summary of results):

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Appendix L

Education Lecture

Many people believe that mental disorders are rare and there can be stigma associated with being mentally ill as it is seen as abnormal. However, research indicates that mental illness is more common than the general public thinks. Studies that examine how many cases of mental disorders occur within a population have found that on average nearly 30% of people interviewed have suffered from a mental disorder within the year prior to the interview. One study found that 53% of university students had experienced depression during their degree completion and 9% had considered committing suicide. Thus, mental disorders are present among the university population. It is also interesting to note that the university population is at increased risk of developing mental disorders or psychological distress. Research has shown that most mental disorders emerge between the ages of 15 and 24. A majority of university students fall within this age range suggesting that some university students are experiencing or have recently experienced the onset of a mental disorder. Research has also suggested that university students experience elevated levels of psychological distress. One study published in 2001 found that elevated levels of psychological distress were more prevalent among Canadian undergraduates than individuals of the same age within the general population. Thus, university students appear to be more susceptible to developing psychological distress or mental illness. The development of mental illness or psychological distress can very detrimental to university students as psychological distress can have a negative impact on an individual's academic career. Research has suggested that some of the major causes of drop out in the 1st year of university studies

are emotional in nature. It has also been found that self-reported mood ratings are better predictors of academic performance than intelligence. Therefore, university students are vulnerable to experiencing psychological distress, and this distress can have a detrimental effect on their academic performance. Given these facts it seems important that university students be somewhat educated in mental health issues and treatment of these issues. So I will briefly go over some information about depression and generalized anxiety disorder, two disorders that are commonly found among the university population. I'll also briefly touch on what can cause mental illness and then go over a little about psychological treatment.

As I mentioned, of the mental disorders that afflict university students, depression is one of the more common mental disorders. A major depressive episode lasts at least 2 weeks and mainly consists of depressed mood and loss of interest or pleasure. So in other words, someone with depression feels sad or hopeless. They feel that they do not care anymore, are socially withdrawn, and neglect things that they used to enjoy. There are also a variety of symptoms that accompany depressed mood and loss of interest. A change in appetite is also common in people experiencing depression. They may feel that they must force themselves to eat or they may have an increased appetite or amount of cravings. The change in appetite is also accompanied by weight change. People with depression also experience sleep problems. They may sleep much more or a lot less than previously. Decreased energy level is also another symptom that is associated with depression. So depressed people may feel like activities require a lot of effort and that they are fatigued without engaging in any physical exertion. Depressed individuals also have a tendency to have a sense of worthlessness or guilt. They evaluate themselves

negatively and blame themselves a lot. Depression can also impact a person's ability to think. Individuals with depression may be indecisive, distractible, have memory and concentration problems. Another symptom of depression is thinking suicidal thoughts. Finally, depression can also consist of psychomotor agitation or retardation. Psychomotor agitation refers to when a person feels restless and cannot stay still. Psychomotor retardation, on the other hand, refers to when a person has slowed speech, thinking, and movements. So as you can tell depression is a complex disorder with many possible symptoms.

Now I am going to briefly talk about another type of disorder that is present in the university student population, generalized anxiety disorder. There are a number of different anxiety disorders. These include: panic disorder, social anxiety, phobias, obsessive compulsive disorder, and generalized anxiety disorder. As I do not have time to describe all the types of anxiety disorders, I will simply describe the symptoms associated with generalized anxiety disorder. This mental disorder involves excessive anxiety and worry. Individuals with generalized anxiety disorder experience distress due to constant worrying and an inability to control their worrying. It should also be noted that the anxiety and worry is to an extent that these people have difficulty functioning in their everyday lives. Just as depression had a multitude of possible associated symptoms, generalized anxiety disorder does also. Individuals with this mental illness often feel restless and can be easily fatigued. Another symptom is that the individual can have difficulty concentrating. Generalized anxiety disorder can also result in the affected individual being irritable and experiencing muscle tension. Finally, generalized anxiety

disorder can also consist of sleep disturbance. People with generalized anxiety disorder can have difficulty falling asleep, staying asleep or have restless unsatisfying sleep.

Now that I have briefly gone over the symptoms associated with some mental disorders, I will now provide you with a short introduction to some information regarding the causation of mental disorders. Although we do not exactly what causes each mental disorder, there are some theories regarding how or why people develop some mental illnesses. The predominant mental disorder causation theory is the vulnerability-stress model. This model for understanding why people develop mental disorders suggests that mental illnesses are caused by biological factors, personality traits and thought patterns and their interaction with stress. Both individuals with and without a genetic predisposition towards developing a mental illness can develop a mental illness depending on the stressors in their environment. The individual with a genetic predisposition towards developing a mental illness may be more susceptible than someone who is not predisposed as it will require less stress to initiate the onset of a disorder. However, someone without a family history of a mental disorder can develop a disorder with the right amount of stress. Therefore, there are a number of factors that can cause mental illness. To illustrate this point, I will talk about the causes of depression. There are four main factors thought to be associated with the onset of depression: biological factors, life experience, problems with close attachments and cognitive habits. Research has found that there is a biological component to depression. Twin studies suggest that depression may be heritable. Depression has also been found to be associated with an imbalance of neurotransmitters, specifically serotonin and norepinephrine. Alterations to several neuropeptides, cerebral blood flow, and brain

structure as well as hormonal disturbances have all been linked to depression. Therefore, depression onset may be related to biological factors. A number of life experiences have also been found to be linked with depression such as rejection, stressful situations, sexual abuse, poverty, unemployment, and violence. Problems with close attachments have also been proposed as a possible cause for depression as disruptions of close relationships and loss of friends and social networks have been associated with the onset of depression. Finally, cognitive habits have also been implicated as a cause for depression. Specific ways of negative thinking such as pessimistic attitudes and rumination have been associated with depression. So as you can see, there are many different reasons a person can develop a mental disorder such as depression and it is likely that most mental disorders are the result of a combination of causes not just one.

Although a number of people suffer from mental disorders, many of these people do not seek psychological treatment. A study published in 2005 found that of individuals who meet diagnostic criteria for a mental disorder, 59% were not receiving services to treat this disorder. Therefore, a majority of people who have mental disorders do not seek treatment. This fact is unfortunate, as psychotherapy overall has been found to be effective. Therapy has even been found to improve survival time among cardiac and cancer patients and improve people's health status.

Mental disorders can be treated with medication, therapy or a combination of both. Medications have been found to be helpful in treating disorders, such as depression, anxiety, and schizophrenia, by reducing the symptoms associated with these disorders. The main classes of drugs used in the treatment of mental disorders are antipsychotic drugs, antidepressant drugs, and tranquillizers. Medications used to treat

mental disorders can be prescribed and monitored by psychiatrists, but family doctors can also prescribe these medication. Many people, particularly with depression or anxiety, seek assistance from their physicians when they are experiencing emotional difficulties and use medication to treat their symptoms.

There are a number of different kinds of therapy available. Approaches to psychotherapy tend to fall into five different categories: psychodynamic, behavioural, cognitive, humanistic, and integrative. Psychodynamic therapy works on changing problematic thoughts and behaviours by understanding the unconscious dynamics of personality including defenses and conflicts. Behavioural therapy focuses on changing problematic behaviours through techniques based on learning theory. Cognitive therapy, on the other hand, works on changing problematic behaviours and feelings through changing thoughts. The humanistic approach to therapy focuses on people's natural inclination to strive toward self-fulfillment and aims to empower clients to maximize their potential. Finally, integrative therapy combines elements of different approaches and is tailored based on a specific client's needs. Two specific types of psychotherapy that are frequently used are cognitive-behavioural therapy and client-centered therapy. Cognitive-behavioural therapy, CBT for short, examines thoughts and behaviours and teaches clients to challenge negative thoughts and change self-defeating behaviours. CBT involves examining the evidence there is to support a person's irrational beliefs and helping the client to consider other ways of thinking about their situation. This form of therapy can also involve examining the environment to see what may be reinforcing a person's problems. Client-centered therapy, also known as non-directive therapy, involves the therapist listening to the client in an accepting and non-judgmental manner

in order to help the client to learn to accept him or herself. This approach to therapy is focused on the here and now rather than the past or trying to understand why a person is behaving in a certain way. The goal is for the client to build self-esteem and find more productive ways of seeing problems. Although there are a number of approaches to therapy, many therapists take an integrative approach, changing their approach to therapy to suit the specific client. What all psychological treatment has in common is that the therapists must treat their clients in an ethical manner. In Canada, each province has a governing body that regulates the practice of psychology ensuring that clients are treated in an ethical and dignified manner. One particular ethical issue that is regulated is that psychologists are to ensure that therapy is kept confidential. That is to say that a therapist will not disclose what a person says in therapy except unless someone's safety is at stake, if they are subpoenaed by court or if someone vulnerable is being harmed.

Two reasons many people do not seek appropriate psychological treatment are that they cannot afford psychological treatment or they do not know where to go for treatment. As university students you should be aware that you have access to free psychological services through the university's Student Counselling and Career Centre. The centre provides services that are designed to facilitate the personal, social, academic, and vocational development of students. Students can receive individual and group counseling free of charge at the Student Counselling and Career Centre, which is located on the fourth floor of University Centre.

Thank you for your time. I hope this brief lecture provided you with some background information about mental health and related services.

Education Lecture PowerPoint Slides

Mental Health Education Lecture

Mental Illness: The Numbers

- What the studies say:
  - Within a one year period, on average 30% of people suffer from a mental illness.

Mental Illness and University

- Most mental disorders emerge between the ages of 15 and 24.
- University students have elevated levels of psychological distress.
- Psychological distress can impact academic performance.

Depression: The Symptoms

- Depressed mood
- Loss of interest
- ↓ in appetite and/or weight change
- Sleep problems
- ↓ in energy level
- Sense of worthlessness or guilt
- Diminished ability to think or concentrate, or indecisiveness
- Suicidal thoughts
- Psychomotor agitation or retardation

Generalized Anxiety Disorder: The Symptoms

- Excessive worry and anxiety
- Restlessness
- Fatigue
- Difficulty concentrating
- Irritability
- Muscle tension
- Sleep disturbance

What Causes Mental Illness?

The Vulnerability Stress Model

Biological factors
+
Personality traits
+
Thought Patterns
+
Stress

= Mental Illness

Possible Causes for Depression

- Biological factors
- Life experiences
- Problems with close attachments
- Cognitive habits

5 Categories of Psychotherapy

- Psychodynamic
- Behavioural
- Cognitive
- Humanistic
- Integrative

Where to Go for Therapy

- Student Counseling Centre
  - 4th floor of University Centre
  - ***FREE*** of charge for students

Appendix M

Combination Lecture Introduction

Hi. My name is Laura. I am a student here at U of M. Before I go into the lecture I wanted to tell you a little bit about why I agreed to give this lecture. When I first started university I had a lot going on in my personal life, and I couldn't really focus properly on my studies. When I got my final grades after the first term, I was really concerned. They were really awful. I was not used to this, as my grades had always been okay in high school. I realized there is no way that I could keep going the way I was. I wasn't really sure what to do about it though. I thought about going to see a psychologist, but I was worried about what other people would think of me if they found out I was getting psychological help. So I kept putting off seeing anyone about my problems. When the second term started nothing had really changed. Personal stuff was still getting in the way, and I was getting really stressed about school. So I decided to suck it up and schedule an appointment with a psychologist. I started seeing this psychologist once a week. I hadn't been sure about what to expect from therapy, because all I knew about therapy was what I'd seen on television. It turned out therapy was really helpful. I got to talk about what was going on with me and deal with the issues that kept getting in the way of my school work. My therapist wasn't judgmental and gave me a safe place to talk about things I wouldn't talk to other people about. So seeing the therapist seemed to be doing the trick, but I was pretty nervous about someone finding out about it. I hid it from my friends and family. I was usually pretty careful about hiding where I was going when I went to see my therapist. I would have managed to keep it a secret except one day I was chatting with some friends, and I accidentally said

something about my therapist's office. I felt like time had stopped, because I knew I couldn't take it back. So I ended up coming clean about my psychological issues and my going to see someone for it. I was completely shocked that I wasn't the only one of my friends to have gone to see a mental health professional. One of my friends had seen a psychiatrist for several months. My other friends were completely okay with my seeing a therapist. It wasn't a big deal to them. They acted like seeing a therapist was like seeing any other doctor. So it turned out I was all worried for no reason at all. I feel like had I known more about the therapy and mental illness and wasn't so scared about what others thought maybe I wouldn't have put it off so long. That is why I agreed to do this lecture. I thought that if other people could get more information about therapy and mental illness, therapy would not be as scary for others as it had been for me.

Appendix N

Control Lecture

This lecture will focus on climate change. I will be discussing the evidence that the global climate is changing and the causes of the current global warming trend. I will also briefly touch on what the future may hold if little action is taken to slow the current warming trend. Finally, I will outline how a single person can play a role in slowing global warming.

It is difficult nowadays to avoid hearing some discussion of climate change or global warming. Discussions focusing on the environment used to be reserved mostly for scientists and grassroots environmentalists. However, this topic has grown to be a global topic. Politicians can no longer run for office without some mention of a "green" initiative in their platform as many of their constituents have some level of concern regarding the environment. Documentaries and popular culture movies have also reflected that interest has shifted in the environment's direction, as a number of storylines have addressed climate change in some way.

As a lot of attention has been given to the climate change topic, many of you may be wondering if climate change is a legitimate cause for concern or simply a passing trend. To address this question let's look at what climate change is and what evidence exists, if any, to support that climate change is occurring.

In general climate change refers to long-term change in average weather conditions over time. When people discuss climate change recently, they are referring to a global warming trend and the associated weather changes, such as changes in precipitation and winds.

So is the earth's climate getting warmer? There is scientific evidence that suggests that a warming trend is occurring. The recorded mean air temperature at the earth's surface has been rising. In the last century two distinct warming trends were evident. The global temperature started rising in about 1910 and continued until 1940. The second warming trend started in the late 1970s and has been continuing ever since. In the last 100 years there has been a global temperature increase in 1 degree Celsius and the rate of increase in the last three decades is 0.27 degrees Celsius per decade. Thus, most of the warming has occurred in the last 30 years. Satellite measurements of surface temperature also suggest a warming trend on a global scale. Satellite measurements of the surface temperature of the earth has been increasing since first recorded in 1979, and the warming has been recorded everywhere except in the eastern Pacific, Southern ocean and parts of Antarctica. This temperature increase can also be found using measurements within the Earth's crust. Temperature dissipates slowly into soil and rock, thus a temperature record can be found below the Earth's surface. Bore holes drilled into the earth have shown that there has been a warming trend over the last 500 years, but half of that warming has occurred in the last 100 years.

Thus, it is unlikely that an increase in global temperature is attributed to measurement error as this trend has been seen in recorded air temperature, satellite measurements, and subsurface thermal profiles. If that is not enough evidence to suggest that the global warming trend is not related to measurement error, look at glacial melt activity for further verification. Glaciers from different parts of the world and different meteorological systems are melting suggesting that the warming trend is global. Also,

satellite data since 1978 suggest that the arctic sea ice extent has decreased by 2.7% per decade annually with a more rapid decrease in the summer of 7.4% per decade.

Sea levels are also indicative of an increase in global temperature. Increases in sea levels are the result of glacial and permafrost melt and thermal expansion, which refers to the fact that water expands when it is heated. Sea levels are increasing at a rate of about 2.6 mm per year.

Other climate change indicators are an increase in atmospheric water vapour and change in precipitation patterns, which are both expect when a global warming trend occurs.

Climate change evidence is also visible in Canada, not just on a global scale. Like global conditions, Canada's glacier cover has been decreasing. Glaciers are currently receding in British Columbia at rates that have not occurred in the last 8000 years. Also, the Canadian arctic has lost ice mass. Between 1995 and 2000, the arctic in Canada lost the equivalent of 25 km3 per year of ice mass. Another sign of global warming in Canada is reduced snow and ice cover. There is evidence that the annual extent and duration of snow and ice cover have decreased in the last few decades. Permafrost conditions have also changes. There is an increase in the temperature of the surface of the permafrost. Also the summer thaw penetration started increasing in the 1990s. In Canada there is also an earlier onset of spring events such as earlier spring runoff and earlier plant phenology.

As we have just discussed, there is evidence that the global climate is changing. Let's look at why it is changing. Climate change has occurred throughout the earth's history. There is evidence of past warming and cooling trends such as the ice age and the

warming period thereafter. There are a number of natural processes that can lead to climate change, such as volcanic eruptions that can cause aerosol and carbon dioxide emissions, a change in the earth's orbit, and changes in solar output. The current warming trend is not being attributed to these causes, as there is no evidence to support these natural causes at the present time. For example, there is no detectable change in solar or volcanic activity that can account for the current global warming trend. The warming trend is also atypical for a natural process as it is occurring at a rapid rate; one that is more rapid than the warming period which followed the last glacial period. As natural processes cannot account for global warming, another cause has been linked to this trend. This cause is the greenhouse effect.

The term greenhouse effect was coined because the atmosphere mimics the glass of a greenhouse. A greenhouse lets energy pass through the glass in form of sunlight. This energy is absorbed by plants and soil, which then convert the energy into heat. This heat warms the greenhouse, because it is trapped in by the glass. The greenhouse effect of the atmosphere is very similar. About 30% of the radiation from the sun reflects off of the atmosphere and earth's surface and 20% is absorbed by the atmosphere. The remaining radiation is absorbed by the Earth's land and water, where it is converted into heat. Like the glass of the greenhouse, some atmospheric gases known as greenhouse gases keep the heat from escaping by absorbing it and radiating some of it back towards the Earth's surface. The greenhouse effect is a natural process because some greenhouse gases are naturally occurring. Scientists estimate that our climate would be 33 degrees Celsius colder if it were not the natural greenhouse effect.

As you may remember, I stated earlier that the current climate change cannot be attributed to a natural cause. Although the greenhouse effect occurs naturally, current climate change is related to greenhouse gas emissions caused by human activity. Atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have markedly increased since the start of the industrial revolution suggesting human activity is to blame for these concentrations. For example, Antarctic ice records show that methane concentrations in the atmosphere used to range between 400-700 ppb and now the atmosphere contains 1775 ppb. Although carbon dioxide concentration cycle naturally with the seasons, the level of carbon dioxide has been found to be steadily increasing and is greater now than it has been in the last 800,000 years. There are a number of human activities that produce greenhouse gas emissions. Methane emissions come from agriculture, landfills, and natural gas emissions. Human activities that result in carbon dioxide emissions are the burning of fossil fuels, cement production, deforestation, and biomass burning. Similarly, nitrous oxide emissions are due to agriculture and fossil fuel burning.

So why is the current warming trend linked to an increase in greenhouse gas emissions. First, the physics make sense. Greenhouse gases absorb radiant heat and reemit this energy. Thus, increase in concentrations of these gases logically should result in more absorption and remission of heat produced by the Earth's surface. Second, no other external cause has been implicated, such as solar output. Finally, warming cannot be due to internal meteorological variables as the phenomenon is global and not isolated to one region.

Now that we have established that global warming is occurring and why, let's turn our attention to why this trend might be a concern. We have already started seeing the impacts of global warming as I mentioned earlier. It is difficult to ascertain exactly what the current global warming trend will be in the future, however projections have been made. Increases in forest fires, heat waves, droughts, flooding, storm intensity, and coastal erosion are anticipated consequences. Additionally, as sea levels are rising approximately 2.6 mm per year, it is estimated that sea levels will increase by 20- 60 cm by 2100. This rise may seem inconsequential, but some forecasters suggest that a 50 cm rise in sea level would affect 11% of the population of China as they live in areas that are within 10 m of the current sea level. Thus, global warming could necessitate the relocation of people living in coastal areas. Global warming will affect coral reefs. Coral reefs are sensitive to temperature change. For example, the El Nino effect in 1997-98 destroyed 16% of the world's coral reefs. Thus, global warming could destroy coral reefs and the affect the sea creatures that are dependent on them. It is also projected that climate change will result in water stress due to decreased runoff and droughts caused by higher global temperatures. There is also a risk of species extinction due water stress and loss of habitat, such as destruction of reefs and shrinking of the arctic. There is also reason to believe that increased mortality will occur due to heat waves, floods, and droughts. What will all the effects of global warming be? There is no way to be sure. What we can be sure of is that global warming will not be consequence free. It will have a large impact on the environment and society.

The last subject I will address is what we can do to help slow global warming. It is hard to see how a single person can affect a global phenomenon. The truth is one

person's actions alone will not make a difference. However, the combined effect of many people making positive environmental changes can have an impact. So what changes can you make? You can reduce your household energy consumption. Here are a few energy saving suggestions:

- Replace your light bulbs with energy efficient ones.
- Prevent heat loss at home by applying weather stripping or improving your insulation. If these two heat loss reducing suggestions are not practical, getting drapes or blinds that cover your windows completely can help.
- Use a clothesline or drying rack to dry your clothes instead of a clothes dryer.
- Only use your clothes washer, dishwasher, and clothes dryer when you have full loads.
- Turn off lights, appliances, and electronic devices when you are not using them.
- Use more energy efficient appliances.

This next suggestion may surprise you but changing your diet can help with climate change. More water, land, and energy are required in the production and processing of meat. So by going meat free at least one day per week can be beneficial environmentally speaking. Also try eating local. Buying foods produced locally limits the amount of transportation needed to get your food thereby reducing greenhouse gas emissions. Other ways to reduce your greenhouse gas emissions are to make environmentally responsible transportation choices.

- Buy a vehicle that is fuel efficient and has low carbon emissions.
- Buy a home that is close to your daily destinations in order to reduce your travel time.

- If you drive a car, try walking, biking, carpooling, or taking transit to get to one of your regular destinations each week.

A final way that you can impact climate change is to stay informed and take action. Keep apprised of any environmental initiatives so that you can support them. Support political candidates that are environmentally concerned. Encourage your friends and family to become more environmentally aware.

Thank you for your time. I hope this lecture on climate change was informative.

Control Lecture PowerPoint Slides

Climate Change Lecture

Evidence of Global Warming

- Warming trend found in:
  - Global air temperature
  - Satellite measurements of Earth's surface temperature
  - Subsurface thermal profile

Supporting Evidence of Global Warming

- Glacial melt
- ↓ in sea ice
- ↑ of sea levels
- ↑ of atmospheric water vapours
- Change in precipitation patterns

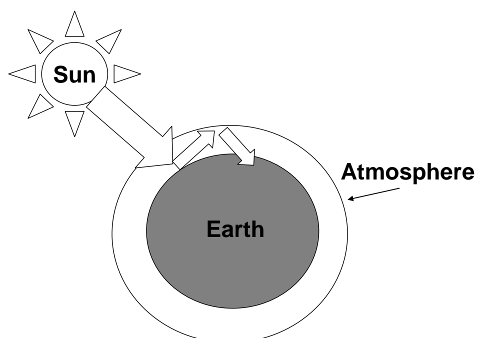
Climate Change Evidence in Canada

- ↓ in ice mass
- ↓ in annual snow cover and extent
- ↑ in temperature at surface of permafrost
- Earlier onset of spring events

Climate Change: Is it Natural?

- Not likely
  - No natural cause can be found
  - Current climate change rate is atypical for natural process

Greenhouse Effect



Greenhouse Effect: Are We to Blame?

- ↑ in carbon dioxide, methane and nitrous oxide since start of the industrial revolution.
- Human activities linked to greenhouse gas emissions.

Possible Impacts of Climate Change

- ↑ in forest fires, heat waves, droughts, flooding, storm intensity & coastal erosion
- Rise in sea levels
- Destruction of coral reefs
- Water stress
- Extinction of animal species
- ↑ mortality rate

What Can You Do About Climate Change?

- Reduce your energy consumption
- Change your diet
- Reduce greenhouse gas emissions
- Stay informed and take action

Appendix O

Debriefing Form

Thank you for your participation in this study. The purpose of this study is to determine whether or not intentions to seek mental health services can be increased and perceived stigma related to psychotherapy can be reduced using social influence Although epidemiological surveys indicate that approximately 30% of the general population is afflicted with a mental disorder within a given year, not nearly as many individuals seek psychological help (e.g. Bland, Newman, & Orn, 1997; Regier, et al., 1993). There are a number of different barriers that inhibit people from seeking psychological services. One of these barriers is the attitude that seeking psychological help is stigmatizing. Perceived stigma appears to be a poignant barrier for those individuals in need of but not receiving mental health services (Stefl & Prosperi, 1985). Thus, reducing perceived stigma attitudes may result in increased service utilization.

The aim of this current study is to determine if social influence can be used to reduce perceived stigma related to psychotherapy amongst a group of university students. This proposed study will have university students listen to speakers discuss either their non-stigmatizing experiences with seeking mental health services (experimental groups) or their attempts to reduce their environmental impact (control group). The experimental groups speakers will also identify themselves as either an in-group speaker (fellow university student) or an out-group speaker (culinary students from Virginia). Perceived stigma and intention to seek mental health services were measured immediately before the intervention, immediately after the intervention and in a follow-up session three weeks after the intervention. As self-categorization theory suggests that people may change their attitudes to coincide with those attitudes of similar others, it is hypothesized that the participants listening to the in-group speakers express that they were not stigmatized for seeking mental health service will report less perceived stigma as compared to those participants who listened to the out-group speakers or the speakers discussing their efforts to be more environmentally friendly.

There was a form deception in this study. You were led to believe that the testimonials you were presented were authentic. However, it should be noted that the speakers were actually actors and the testimonials were scripted. This deception regarding the authenticity of the testimonials was necessary to achieve adequate experimental control. Scripts and actors allowed the researcher to have control over the material presented and how it was presented, which ensured that no extraneous or conflicting information was present in the testimonials.

As you have responded to questions about mental health service use and may have listened to speakers discuss seeking mental health services, you may start considering seeking mental health services. As a University of Manitoba student, you have access to mental health services. The Student Counselling and Career Centre (474-8592) offers University of Manitoba students counseling for academic, vocational, emotional, personal or social concerns.

If you would like further information about the study, please do not hesitate to contact me by email. Once again thank you for participating in the study. I'd also like to remind you that all your responses will remain confidential. In order to ensure confidentiality, questionnaires and data will be held in a locked cabinet.

Sincerely,
Kimberly Kiley

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Table 1

ANOVAs Comparing Experimental Groups on Pretest Scores of Dependent Variable Measures and DASS-21 for Study 1

Variable	Mean	SD	*F*	*p*-value
Indifference to Stigma				
Ingroup	19.49	6.10	.26	.771
Outgroup	20.29	6.48		
Control	20.20	6.78		
SSOSH				
Ingroup	25.22	6.65	1.42	.246
Outgroup	24.37	5.70		
Control	26.38	6.25		
ISCI				
Ingroup	35.92	7.06	3.58	.030*
Outgroup	39.69	7.84		
Control	37.85	7.42		
DASS-21				
Ingroup	24.64	17.99	2.24	.110
Outgroup	30.92	19.41		
Control	24.40	16.79		

Note. SSOSH = Self-Stigma of Seeking Help Scale. ISCI = Intentions to Seek Counselling Inventory. DASS-21 = Depression Anxiety Stress Scales 21.

* $p \leq 0.05$.

Table 2

Levene's Test of Equality of Error Variance for Dependent Variables for Study 1

Variable	*F*	*p*-value
Indifference to Stigma		
Posttest	4.16	.017*
Follow-up	1.36	.260
Transformed Indifference to Stigma		
Posttest	2.93	.056
Follow-up	1.03	.360
SSOSH		
Posttest	1.52	.222
Follow-up	.51	.603
ISCI		
Posttest	1.08	.341
Follow-up	.30	.745

Note. SSOSH = Self-Stigma of Seeking Help Scale. ISCI = Intentions to Seek Counselling Inventory.

* $p \leq 0.05$.

Table 3

Correlations of Dependent Variables with Possible Covariates for Study 1

Variable	Gender		Past Service Use		DASS-21	
	r_s	*p*-value	r_s	*p*-value	r	*p*-value
Indifference to Stigma						
Posttest	.22	.004*	-.26	< .001*	-.08	.284
Follow-up	.24	.002*	-.31	< .001*	-.07	.385
SSOSH						
Posttest	-.15	.053	.31	< .001*	.11	.154
Follow-up	-.19	.013*	.34	< .001*	.05	.525
ISCI						
Posttest	.22	.004*	-.16	.046*	.16	.041*
Follow-up	.12	.120	-.16	.038*	.23	.003*

Note. SSOSH = Self-Stigma of Seeking Help Scale. ISCI = Intentions to Seek Counselling Inventory.
* $p \leq 0.05$.

Table 4

Percentages of Severity Levels on the Subscales of the Depression Anxiety Stress Scales 21 for Participants in Study 1

Levels of Severity	Depression	Anxiety	Stress
Normal	67.7	60.7	69.5
Mild	13.4	8.6	11.0
Moderate	12.2	17.2	12.2
Severe	4.3	6.7	5.5
Extremely Severe	2.4	6.7	1.8

Table 5

Means and Standard Deviations of Dependent Variables for Each Condition for Study 1

	Ingroup		Outgroup		Control Group	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Indifference to Stigma						
Pretest	19.49	6.10	20.29	6.48	20.20	6.78
Posttest	20.93	7.19	21.69	5.95	20.93	6.89
Follow-up	21.44	7.34	21.73	6.37	21.29	6.57
Transformed Indifference to Stigma						
Pretest	1.27	.15	1.27	.20	1.27	.21
Posttest	1.29	.17	1.32	.15	1.29	.19
Follow-up	1.30	.19	1.31	.16	1.30	.17
SSOSH						
Pretest	25.22	6.65	24.37	5.70	26.38	6.25
Posttest	23.95	7.84	23.21	6.73	25.71	7.67
Follow-up	24.11	7.15	22.85	6.89	25.27	7.93
ISCI						
Pretest	35.92	7.06	39.69	7.84	37.85	7.42
Posttest	36.92	7.90	40.15	7.19	37.18	8.25
Follow-up	36.51	7.60	39.63	7.71	36.00	8.19

Note. SSOSH = Self-Stigma of Seeking Help Scale. ISCI = Intentions to Seek Counselling Inventory.

Table 6

ANOVAs Comparing Experimental Groups on Pretest Scores of Dependent Variable Measures and DASS-21 for Study 2

Variable	*M*	*SD*	*F*	*p*-value
IASMHS				
Combination	58.80	13.53	.38	.687
Education	56.61	11.86		
Control	57.79	13.18		
Mental Health Knowledge				
Combination	4.55	1.60	2.71	.070
Education	3.71	2.05		
Control	4.02	1.85		
ISCI				
Combination	37.12	7.64	.03	.969
Education	36.84	6.71		
Control	36.75	8.76		
DASS-21				
Combination	38.24	25.58	1.92	.150
Education	33.38	22.75		
Control	28.88	19.23		

Note. IASMHS = Inventory of Attitudes toward Seeking Mental Health Services. ISCI = Intentions to Seek Counselling Inventory. DASS-21 = Depression Anxiety Stress Scales 21.

Table 7

Levene's Test of Equality of Error Variance for Dependent Variables for Study 2

Variable	*F*	*p*-value
IASMHS		
Posttest	.15	.860
Follow-up	1.43	.244
Mental Health Knowledge		
Posttest	10.36	< .001*
Follow-up	6.84	< .001*
Transformed Mental Health Knowledge		
Posttest	1.09	.340
Follow-up	2.26	.108
ISCI		
Posttest	1.18	.309
Follow-up	.62	.541

Note. IASMHS = Inventory of Attitudes toward Seeking Mental Health Services.
ISCI = Intentions to Seek Counselling Inventory.
* $p \leq 0.05$.

Table 8

Correlations of Dependent Variables with Possible Covariates for Study 2

Variable	Gender		Past Service Use		DASS-21	
	r_s	p-value	r_s	p-value	r	p-value
IASMHS						
Posttest	.16	.042*	-.29	< .001*	.10	.226
Follow-up	.18	.025*	-.29	<.001*	.09	.257
Mental Health Knowledge						
Posttest	.05	.557	-.17	.030*	.20	.012*
Follow-up	.10	.219	-.19	.018*	.22	.007*
ISCI						
Posttest	.06	.438	-.34	< .001*	.33	< .001*
Follow-up	.03	.709	-.26	.001*	.29	< .001*

Note. IASMHS = Inventory of Attitudes toward Seeking Mental Health Services. ISCI = Intentions to Seek Counselling Inventory.
* $p \leq 0.05$.

Table 9

Percentages of Severity Levels on the Subscales of the Depression Anxiety Stress Scales 21 for Participants in Study 2

Levels of Severity	Depression	Anxiety	Stress
Normal	57.9	52.9	57.5
Mild	13.8	7.2	13.1
Moderate	13.2	25.5	15.7
Severe	7.2	3.3	9.8
Extremely Severe	7.9	11.1	3.9

Table 10

Means and Standard Deviations of Dependent Variables by Experimental Group for Study 2

	Combination		Education		Control	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
IASMHS						
Pretest	58.80	13.53	56.61	11.86	57.79	13.18
Posttest	63.35	14.15	58.76	13.79	57.44	13.94
Follow-up	63.10	13.43	57.60	13.97	57.98	14.37
Knowledge Score						
Pretest	4.55	1.60	3.71	2.05	4.02	1.85
Posttest	10.67	3.33	9.52	3.70	3.96	1.74
Follow-up	7.86	2.47	7.06	2.88	3.75	1.70
Transformed Knowledge Score						
Pretest	2.08	.46	1.85	.55	1.95	.48
Posttest	3.22	.54	3.03	.59	1.94	.47
Follow-up	2.77	.46	2.60	.54	1.88	.46
ISCI						
Pretest	37.12	7.64	36.84	6.71	36.75	8.76
Posttest	39.73	7.71	36.63	6.76	34.08	8.92
Follow-up	38.39	7.95	37.46	6.95	33.81	8.12

Note. IASMHS = Inventory of Attitudes toward Seeking Mental Health Services.
ISCI = Intentions to Seek Counselling Inventory.

Figure 1. Flowchart of Study 1 format, participants, and dropouts.

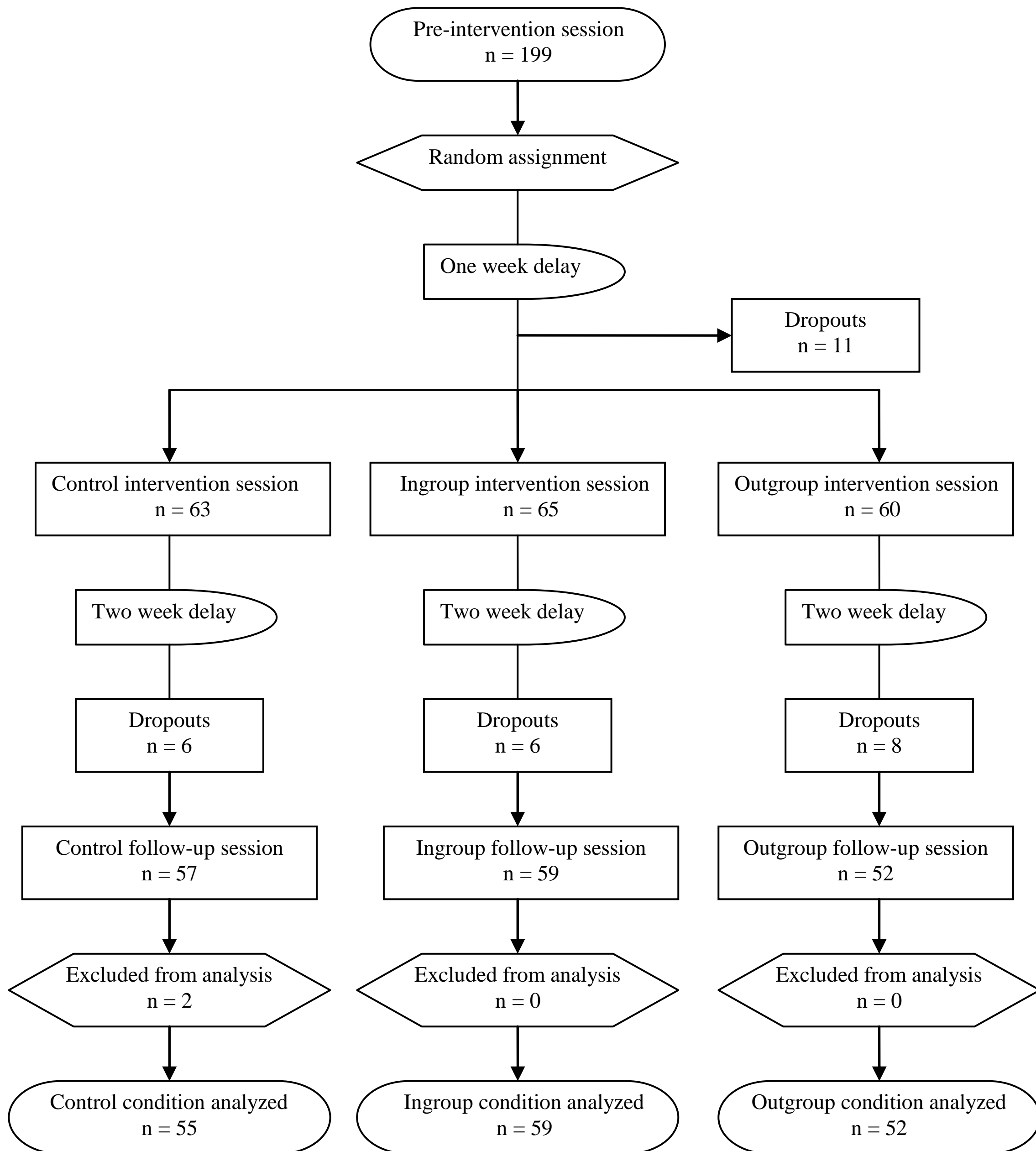

Figure 2. Flowchart of Study 2 format, participants, and dropouts.