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Ph.D. degree in Social Work

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DETERMINANTS OF STIGMA: A COMPARISON OF HEALTH, MENTAL HEALTH, AND DRUG USE CONDITIONS

By

Brian Kenneth Ahmedani

A DISSERTATION

Submitted to
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ABSTRACT

DETERMINANTS OF STIGMA: A COMPARISON OF HEALTH, MENTAL HEALTH, AND DRUG USE CONDITIONS

By

Brian Kenneth Ahmedani

Introduction: Psychiatric conditions are among the leading causes of the global burden of disease, but stigma has been cited as a barrier to treatment engagement. The literature discusses several dimensions of stigma including peril, course, origin, stability, aesthetics, controllability, pity, concealability, and disruptiveness. These dimensions are consistent with the most prominent 'level' of stigma – social stigma, but stigma can also be internalized (self-stigma) or held among health professionals (health professional stigma). *Purpose:* The aim of this dissertation is to assess the determinants of stigma, comparing variation by different health, mental health, and drug use conditions. Chapter one discusses theory, epistemology, and literature review, while chapters two and three assess social stigma and self-stigma, respectively. The fourth chapter aims to understand health professional stigma and the fifth chapter provides a more specific discussion, implications, and conclusions for the first four chapters. *Methods*: Chapters two and three use data from the World Mental Health Surveys (WMHS; n=123,332), and chapter four assesses future social workers and physicians (n=222) on one university campus. *Results*: Family members held the most social stigma towards their relatives with psychiatric conditions as compared to general physical health conditions, while individuals with mood disorders experienced more self-stigma compared to those with no mood or AOD disorders. Health professionals were least willing to treat individuals with nicotine and alcohol dependence as compared to depression ($p<0.05$). *Discussion &*

Implications: All three 'levels' of stigma impact the lives of individuals with psychiatric conditions. While more research is needed in these areas, health professionals, including social workers, must consider the implications of stigma in research, education, policy, and practice.

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DEDICATION

This dissertation is dedicated to God and all of the people that supported me throughout my entire doctoral program.

Most importantly, my wife, Dana Ahmedani, has been the most supportive person in my life.

My entire doctoral program would not have been possible without her support, guidance, love, encouragement, and dedication to help me achieve my goals.

I also want to thank my young twins, Jacob and Delyla, who were an inspiration for me to finish this dissertation.

The constant love, support, and encouragement that I received from my family has been incredible.

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CHAPTER ONE

STIGMA: LITERATURE, THEORY, AND EPISTEMOLOGY

Statement of the Problem

In 2001, the World Health Organization (WHO) reported that an estimated 25 percent of the worldwide population is affected by a mental or behavioral disorder at some time during their lives. This mental and behavioral health issue is believed to contribute to 12 percent of the worldwide burden of disease and is projected to increase to 15 percent by the year 2020 (Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). Within the United States, mental and behavioral health conditions affect approximately 57 million adults (National Institute of Mental Health [NIMH], 2006). Despite the high prevalence of these conditions, recognized treatments have shown effectiveness in mitigating the problem and improving individual functioning in society. Nonetheless, research suggests that (1) individuals who are in need of care often do not seek services, and (2) those that begin receiving care frequently do not complete the recommended treatment plan (Corrigan, 2004). For example, it has been estimated that less than 40 percent of individuals with severe mental illnesses receive consistent mental health treatment throughout the year (Kessler, Berglund, Bruce, Koch, Laska, Leaf, et al, 2001).

There are several potential reasons for why, given a high prevalence of mental health and drug use conditions, there is much less participation in treatment. Plausible explanations may include that those with mental health or drug use conditions are disabled enough by their condition that they are not able to seek treatment, or that they are not able to identify their own condition and therefore do not seek needed services. Despite these viable options, there is another particular explanation that is evident throughout the literature. The U.S. Surgeon General (1999) and the WHO (2001) cite stigma as a key barrier to successful treatment engagement, including seeking and sustaining participation in services. The problem of stigma is widespread, but it often manifests in several different forms. There are also varying ways in which it develops in society.

In order to understand how stigma interferes in the lives of individuals with mental health and drug use conditions, it is essential to examine current definitions, theory, and research in this area. In this chapter, the definitions and dimensions of stigma will be discussed as a basis for understanding the theory and epistemology of the three main levels of stigma (social stigma, self-stigma, and health professional stigma) that will be the focus for the three individual manuscripts in this dissertation. The purpose of the dissertation and the main research questions will be explained in greater detail followed by a description of each subsequent chapter.

Stigma Definitions & Dimensions

The most established definition regarding stigma is represented in Erving Goffman's (1963) seminal work: *Stigma: Notes on the Management of Spoiled Identity.* Goffman (1963) states that stigma is "an attribute that is deeply discrediting" that reduces someone "from a whole and usual person to a tainted, discounted one" (p. 3). The stigmatized, thus, are perceived as having a "spoiled identity" (Goffman, 1963, p. 3). In the social work literature, Dudley (2000) portrayed Goffman's definition of stigma as stereotypes or negative views attributed to a person or groups of people when their characteristics or behaviors are viewed as different from or inferior to societal norms.

Due to its use in social work literature, Dudley's (2000) version of Goffman's definition provides an excellent stance from which to develop an understanding of stigma.

It is important to recognize that most conceptualizations of stigma do not focus specifically on mental health or drug use disorders (e.g., Crocker, Major, & Steele, 1998; Goffman, 1963). Stigma can also be relevant in other contexts such as race, gender, and sexual orientation. Thus, it is important to provide a definition of mental disorders, which also include drug use disorders, so that it can be understood in relationship to stigma. While each mental health and drug use disorder has a precise definition, the often cited and widely used Diagnostic and Statistical Manual of Mental Disorders (4th Ed., Text Revision [DSM-IV-TR]; American Psychiatric Association [APA], 2000) offers a specific definition of mental disorder which will be used to provide meaning to the concept. In this text, a mental disorder is a "clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or disability or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom," which results from "a manifestation of a behavioral, psychological, or biological dysfunction in the individual" (APA, 2000, p. xxxi).

This definition provides a consistent base from which to begin understanding how stigma impacts individuals with mental health and drug use disorders. The first important step is to understand the constructs underlying the concept of stigma. These constructs detail the multiple pathways through which stigma can develop. Building from Goffman's initial conceptualization, Jones and colleagues (1984) identified six dimensions of stigma. These include concealability, course, disruptiveness, peril, origin, and aesthetics (Feldman & Crandall, 2007; Jones et al, 1984). In addition, Corrigan and colleagues (2001; 2000) identified dimensions of stability, controllability, and pity. It is important to understand that these dimensions can either present independently or simultaneously to create stigma. Further, stigma is more than a combination of these elements impacting each person individually, since stigma is believed to be common in society (Feldman & Crandall, 2007).

The first dimension of stigma is *peril* – otherwise known as dangerousness. *Peril* is often considered the fundamental base of stigma development, and it is often cited in the research literature (Corrigan, et al, 2001; Feldman & Crandall, 2007; Angermeyer & Matschinger, 1996). In this instance, the general public perceives those with mental disorders as frightening, unpredictable, and strange (Lundberg, Hansson, Wentz, & Bjorkman, 2007).

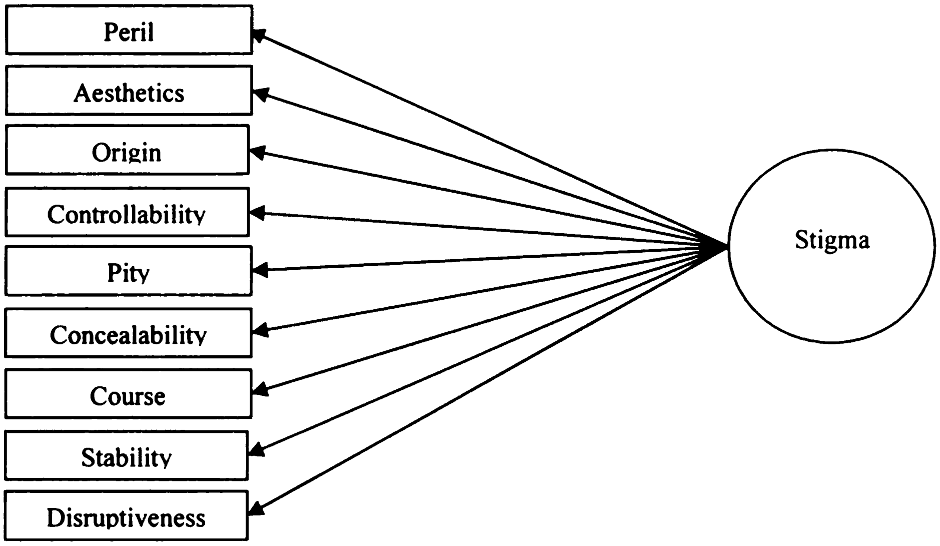
Corrigan (2004) also suggests that fear and discomfort arise as a result of the social cues attributed to individuals. Social cues can be evidenced by psychiatric symptoms, awkward physical appearance or social-skills, and through labels (Corrigan, 2004; Link, Cullen, Frank, & Wozniak, 1987). This particular issue parallels the dimension of *aesthetics* or the displeasing nature of mental disorders (Jones, et al, 1984). When society connects perceived behaviors that do not adhere to the expected social norms, discomfort can be created. This often leads to the generalization of the connection between abnormal behavior and mental illness, which may result in labeling and avoidance. This also demonstrates why society continues to avoid those with mental and behavioral disorders whenever possible (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003).

Another dimension of stigma that is often discussed in the research on stigma is *origin.* As in the definition provided earlier, mental and behavioral disorders are believed to have a biological factor in their origin (APA, 2000). This has direct implications for the dimension of *controllability* (Corrigan, et al, 2001). Within this dimension, it is often believed in society that mental and behavioral disorders are personally controllable and if individuals cannot get better on their own, they are seen to lack personal effort (Crocker, 1996), are blamed for their condition, and seen as personally responsible (Corrigan, et al, 2001).

A recent report by Feldman and Crandall (2007), found that individuals with disorders such as pedophilia and cocaine dependence were much more stigmatized than those with disorders such as post-traumatic stress disorder. This supports the *controllability* hypothesis in which pedophilia and cocaine dependence could be viewed as more controllable in society than a disorder believed to be caused by a traumatic experience. It also supports the *pity* dimension, in which disorders that are pitied to a greater degree are often less stigmatized (Corrigan, et al, 2000; Corrigan, et al, 2001). In this case, individuals within a culture or society may have more sympathy for disorders that are perceived as less controllable (Corrigan, et al, 2001).

Concealability, or visibility of the illness, is a dimension of stigma that parallels *controllability*, but also provides other insight into the stigmatization of mental and behavioral disorders. Crocker (1996) suggests that stigmatized attributes such as race can be easily identified, and are less concealable, allowing society to differentiate based on the visibility of the person. This is supported by research that shows that society attributes more stigmatizing stereotypes towards disorders such as schizophrenia, which generally have more visible symptoms, compared to others such as major depression (Angermeyer & Matschinger, 2005; Lundberg, et al, 2007).

Figure 1.1: The dimensions of stigma



The final three dimensions, *course, stability, and disruptiveness*, also may have some similarities among each other as well as compared to the others presented. *Course* and *stability* question how likely the person with the disability is to recover and/or benefit from treatment (Corrigan, et al, 2001; Jones, et al, 1984). Further the *disruptiveness* dimension assesses how much a mental or behavioral disorder may impact relationships or success in society. While disorders are frequently associated with an increased risk for poverty, lower socioeconomic status, and lower levels of education (Kohn, Dohrenwend, & Mirotznik, 1998), the stability and disruptiveness of the conditions have implications as to whether an individual will be able to hold down a successful job and engage in healthy relationships, as evidenced by differences in stigma based on social class status. This demonstrates that if disorders are less disruptive, in which case they are more stable, they are perceived as less stigmatizing (Corrigan, et al, 2001). This also expresses that some flexibility exists within each type of mental or behavioral disorder, as each diagnosed person is not stigmatized to the same extent (Crocker, 1999). Figure 1.1 depicts stigma as a latent variable constructed from the dimensions discussed above.

Levels of Stigma: Theory & Epistemology

Illustrating the constructs underlying the formation of stigma helps us understand three specific levels of stigma – social stigma, self-stigma, and professional stigma – which will be the focus of each chapter of this dissertation. In this context, 'levels' does not refer to a hierarchy of importance for these varied stigmas, but rather to represent different social fields of stigma that can be differentiated from each other. In addition, further definition and theory behind these three 'levels' of stigma must be presented. First, stigmatized attitudes and beliefs towards individuals with mental health and drug use disorders are often in the form of social stigma, which is structural within the general public. Second, social stigma, or even the perception that social stigma exists, can become internalized by a person resulting in what is often called self-stigma. Finally, another, less studied level of stigma is that which is held among health professionals toward their clients. Since health professionals are part of the general public, their attitudes may in part reflect social stigma; however, their unique roles and responsibility to 'help' may create a specific barrier. The following theories are presented as an aid to understanding how each level of stigma may develop in society. The remainder of the dissertation is divided into chapters that focus on 'outcomes' for these three levels of stigma.

Social Stigma

The first, and most frequently discussed, level is social stigma. Social stigma is structural in society and can create barriers for persons with a mental or behavioral disorder. Structural means that stigma is a belief held by a large faction of society in which persons with the stigmatized condition are less equal or are part of an inferior group. In this context, stigma is embedded in the social framework to create inferiority. This belief system may result in unequal access to treatment services or the creation of policies that disproportionately and differentially affect the population. Social stigma can also cause disparities in access to basic services and needs such as renting an apartment.

Several distinct schools of thought have contributed to the understanding of how social stigma develops and plays out in society. One of the leading disciplines of stigma research has been social psychology. Stigma development in most social psychology research focuses on social identity resulting from cognitive, behavioral, and affective processes (Yang, Kleinman, Link, Phelan, Lee, & Good, 2007). Researchers in social psychology often suggest that there are three specific models of public stigmatization. These include socio-cultural, motivational, and social cognitive models (Crocker & Lutsky, 1986; Corrigan, 1998; Corrigan, et al, 2001). The socio-cultural model suggests that stigma develops to justify social injustices (Crocker & Lutsky, 1986). For instance, this theoretically occurs to identify and label individuals with mental and behavioral illnesses as unequal. Second, the motivational model focuses on the basic psychological needs of individuals (Crocker & Lutsky, 1986). This may be explained by suggesting that since persons with mental and behavioral disorders are often in lower socio-economic groups, they are inferior. Finally, the social cognitive model attempts to make sense of basic society using a cognitive framework (Corrigan, 1998), such that a person with a mental disorder would be labeled in one category and differentiated from a non-ill person.

Most psychologists including Corrigan and colleagues (2001) prefer the social cognitive model to explain and understand the concept of stigma. One such understanding of this perspective – Attribution Theory – is related to three specific dimensions of stigma including stability, controllability, and pity (Corrigan, et al, 2001) that were discussed earlier. Using this framework, a recent study by these researchers found that the public stigmatizes mental and behavioral disorders to a greater degree than physical disorders. In addition, this research found stigma variability based on the public's "attributions." For example, cocaine dependence was perceived as the most controllable whereas 'mental retardation' was seen as least stable and both therefore received the most severe ratings in the corresponding category (Corrigan, et al, 2001). These findings suggest that combinations of attributions may signify varying levels of stigmatized beliefs.

Sociologists have also heavily contributed to the stigma literature. These theories have generally been seen through the lens of social interaction and social regard. The first of these theorists was Goffman (1963) who believed that individuals move between more or less 'stigmatized' categories depending on their knowledge and disclosure of their stigmatizing condition. These socially constructed categories parallel Lemert's (2000) discussion on social reaction theory. In this theory, two social categories of deviance are created including primary deviance, believing that people with mental and behavioral disorders are not acting within the norms of society, and secondary deviance, deviance that develops as a result of society's stigmatizing attitudes. Similarly, research demonstrating that higher levels of stigmatization are attributed towards individuals with more "severe" disorders (Angermeyer & Matschinger, 2005) also resembles these hierarchical categories and the disruptiveness and stability dimensions of stigma.

Furthermore, Link and Phelan clearly illustrated the view of sociology towards stigma in their article titled *Conceptualizing Stigma*, which was published in the *Annual Review of Sociology* (2001). Link and Phelan (2001) argue that stigma is the co-occurrence of several components including labeling, stereotyping, separation, status loss, and discrimination. In this article, labeling develops as a result of a social selection process to determine which differences matter in society. Differences such as race are easily identifiable and allow society to categorize people into groups. Labels connect a person or group of people to a set of undesirable characteristics, which can then be stereotyped. This labeling and stereotyping process gives rise to separation. Society does not want to be associated with unattractive characteristics and thus hierarchical categories are created. Once these categories develop, the groups who have the most undesirable characteristics may become victims of status loss and discrimination. The entire process is accompanied by significant embarrassment by the individuals themselves and by those associated with them (Link & Phelan, 2001).

While social psychology and sociology are the primary contributors to the stigma literature, other disciplines have provided insight as well. Communications, Anthropology, and Ethnography all seem to favor theories that revolve around threat. In Communications literature, stigma is the result of an "us versus them" approach (Brashers, 2008). For example, the use of specific in-group language can reinforce in-group belongingness as well as promote out-group differentiation (Brashers, 2008). This is referenced in research on peer group relationships such that youth often rate interactions with their same-age peers more positively than with older adults (whether family members or not) (Giles, Noels, Williams, Ota, Lim, Ng, et. al., 2003). This can also be applied to those with mental disorders in that individuals in the out-group (mental disorders) are perceived less favorably than the non-ill in-group.

Anthropology and Ethnography also prefer the identity model. From this perspective, the focus is on the impact of stigma within the lived experience of each person. Stigma may impact persons with mental illnesses through their social network, including how it exists in the structures of lived experiences such as employment, relationships, and status. Further, the impact of stigma is a response to threat, which may be a natural or tactical self-preservation strategy. However, it only worsens the suffering of the stigmatized person (Yang, et al, 2007). It is important to note that while many disciplines have been leaders in social stigma theory, social work literature has been mostly void of discussion on this topic.

Self-Stigma

Crocker (1999) demonstrates that stigma is not only held among others in society but can also be internalized by the person with the condition. Thus, the continued impact of social/public stigma can cause an individual to feel guilty and inadequate about his or her condition (Corrigan, 2004). In addition, the collective representations of meaning in society – including shared values, beliefs, and ideologies – can act in place of direct public/social stigma in these situations (Crocker & Quinn, 2002). These collective representations include historical, political, and economic factors (Corrigan, Markowitz, and Watson, 2004). Thus, in self-stigma, the knowledge that stigma is present within society, can have an impact on an individual even if that person has not been directly stigmatized. Nonetheless, Crocker (1999) highlights that individuals are able to internalize stigma differently based on their given situations. This suggests that personal self-esteem may or may not be as damaged by stigma depending on individual coping mechanisms (Crocker & Major, 1989).

Similarly, other theories have provided insight into the idea of self-stigma. In modified labeling theory, the expectations of becoming stigmatized, in addition to actually being stigmatized, are factors that influence psychosocial well-being (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989). In this context, it is primarily the fear of being labeled that causes the individual to feel stigmatized. Similarly, Weiner (1995) proposed that stigmatized beliefs provoke an emotional response. This can be interpreted from the standpoint of the affected individual, such that he or she may feel stigmatized and respond emotionally with embarrassment, isolation, or anger.

Health Professional Stigma

It may seem unlikely that social workers and other health professionals would carry stigmatized beliefs towards clients, especially those whom they know are affected by a variety of barriers to treatment engagement. Nonetheless, recent literature is beginning to document the initial impact of health professional stigma (Nordt, Rössler, & Lauber, 2006; Volmer, Mäesalu, & Bell, 2008). In one way, stigma by health professionals may develop very much the same as the social stigma evident in the general public. Nonetheless, some indications suggest that health professional stigma may also develop in a unique way. For instance, social workers and other health professionals, similar to persons in the general public, experience their own mental health and drug use problems and often have friends or family members who experience these same issues

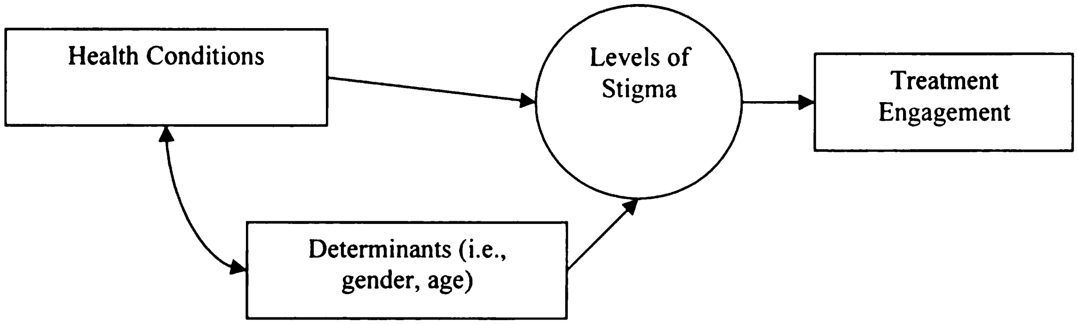
(Siebert, 2004; Fewell, King, & Weinstein, 1993). They may also self-select into a helping profession due in part to these experiences (Stanley, Manthorpe, & White, 2007). When social workers and other health professionals deal with mental health and drug use problems they may experience burnout and/or become more or less likely to recognize similar problems among their clients (Siebert, 2003).

The countertransference that could develop as a result of past experiences may impact clients who may be vulnerable when participating in treatment and may not have the appropriate resources to determine when they are not being treated adequately (Siebert, 2004). Clients may also be disenfranchised by the treatment process and become more likely to end current treatment and less likely to seek treatment in the future. This creates a barrier to the overall well-being of individuals by preventing adequate treatment, but it also may impact the acknowledgement of their disorder. Overall, health professionals may not provide adequate intervention, early detection, or community referral options for individuals with mental or behavioral disorders (Gassman, Demone, & Albilal, 2001; Tam, Schmidt, & Weisner, 1996), because of their own stigmatizing beliefs and personal histories (Siebert, 2004; 2005).

Purpose of the Study

The theoretical discussion of stigma above provides significant insight into the development and portrayal of stigma at its various levels and how stigma may inhibit treatment engagement. It purposely focused on the definitions and dimensions that comprise the specific levels of stigma including social stigma, self-stigma, and health professional stigma that will be further investigated in this dissertation. In addition to the theory and epistemology of stigma development, several research studies document its widespread and pervasive nature. While stigma is considered a major barrier to mental and behavioral health care engagement, it is not always a factor for every person in the same way. Therefore, the main aim of this dissertation seeks to illuminate the determinants, or predictors, of these three levels of stigma. Since stigma is a contributor to reasons that individuals do not engage or successfully complete treatment, it is important to assess the potential impact of the determinants of different levels of stigma on treatment engagement. This dissertation builds upon current research in each area in order to further understand the determinants of stigma comparing individuals that have a mental or behavioral disorder or other health condition. Figure 1.2 is a conceptual model of the main aim of this dissertation.

Figure 1.2: Conceptual model



Major Research Questions

The main research question in each manuscript (chapter) will address two areas: 1) determinants underlying stigmatized attitudes and beliefs, and 2) the differences in stigma based on the health condition of the individual being stigmatized. In the first two manuscripts (chapters 2 and 3), cross-national data from the World Mental Health Surveys are used to make comparisons. The third manuscript assesses health professional stigma using a sample of medical and social work students from a large midwestern university in the United States. Further, the subsequent questions will also be discussed throughout this dissertation and specifically addressed in Chapter five.

I. What are the similarities and differences between determinants of social stigma, self-stigma, and health professional stigma?

II. What is the relationship between the three levels of stigma and treatment engagement?

III. Do outcomes regarding levels of stigma support current theory in the field?

IV. How does this research on stigma influence future social work macro- and micro-focused practice, education and training, public policy, and research?

Multiple Manuscript Dissertation

This dissertation will focus on social stigma, self-stigma, and health professional stigma to further understand the indicators of these types of stigma associated with health, mental health, and drug use disorders. In order to understand these relationships, this dissertation will focus on two uniquely different samples. The World Mental Health Surveys will be used to investigate determinants of social stigma and self-stigma in the context of their connection to mental health and drug use disorders. This population-based analysis is supported and strengthened by these large multi-national samples. The relationships between mental health and drug use disorders and health professional stigma will be examined using recent smaller samples of social workers and physicians. These samples include a total of 222 health professional students on a large midwestern university campus in the United States.

Analysis for these three studies will be conducted using a three-step, "explore, analyze, explore" approach. The first explore step involves descriptive analysis on the proportions and distributions of the main variables of interest and other covariates. The second step entails the use of inferential statistics including basic t-tests as well as more advanced techniques such as forms of logistic and linear regressions as well as generalized linear models (including generalized estimating equations). The final exploration step includes post-estimation techniques that probe findings from the main analyses.

The analyses in this dissertation will be conducted using a variety of statistical and analytic packages. The majority of the analyses will use Stata version 11.0, PASW/SPSS version 16.0, and Mplus version 5.0. Throughout this dissertation, study estimates will be stressed with an emphasis on 95% confidence intervals. P-values will also be presented as an aid to interpretation of the results. The main elements of each chapter in this Multiple Manuscript Dissertation are outlined below along with an abstract of the chapter.

Chapter 2: Manuscript 1 – Social Stigma

Family Embarrassment of Health and Psychiatric Conditions: Results from the WHO World Mental Health Surveys

The realization of social stigma has been well documented in the research literature in several different ways. For example, one study showed that people with mental health and drug use conditions were portrayed as dangerous and violent in the media. An estimate suggested that 73% of characters in TV dramas with mental illnesses were depicted as violent (Sayce, 2000). In a systematic content analysis of 325 articles and books published between 1985 and 2005, the media were shown to perpetuate stigmatized attitudes by using misinformed characterizations of those with mental illnesses and portraying them as peculiar, different, and dangerous (Klin & Lemish, 2008). Another study suggested that when individuals view those with mental and behavioral disorders as violent in the media, they are more likely to hold stigmatizing beliefs afterward (Dietrich, Heider, Marschinger, & Angermeyer, 2006).

Social stigma can also be viewed by public perceptions about whether individuals with mental health disorders should even seek treatment. One indicator of this can be demonstrated by a study assessing 1,444 respondents in the General Social Survey about their willingness to support funding for mental health treatment. The assessment was based on two Likert scale questions asking how much the government should spend on health and mental health care ("Much More" to "Much Less"). The results indicated that the public supported government funding for general physical health treatment to a far greater degree than for mental health care (McSween, 2002). These public perceptions are also present in a study of 1,737 adults in the United Kingdom Omnibus Surveys, which showed that respondents believed 19% of individuals with depression, 52% with alcohol addiction, and 47% with drug addiction could "pull themselves together" without help (Crisp, 2000). These epidemiological studies show that the public often does not support mental health in the same way as physical health, occasionally does not support treatment at all, and may support treatment for different disorders at unequal levels.

The second chapter of this multiple manuscript dissertation is based on an analysis of World Mental Health Survey data and assesses social stigma utilizing a social systems perspective and more specifically, the family system. This analysis estimates the burden felt by family members of those with varying health conditions. The family burden item of interest in this analysis is used as an estimate of social stigma, since families are an important subsystem of a person's larger social system. Family stigma has also been used in previous research on social stigma (Lee, Lee, Chiu & Kleinman, 2005). For example, in a recent study comparing stigma among diabetes and schizophrenia patients in Hong Kong (n=480), the largest percentage of stigma was found towards patients with schizophrenia compared to diabetes. This suggests that stigma may vary based on health condition status. In addition, stigma was higher among family members as compared to friends and co-workers (Lee, et al, 2005). This further indicates that family stigma may be one of the most pertinent forms of social stigma in which to conduct further study. The family burden question in this analysis that estimates social stigma is the amount of embarrassment that an individual feels due to their family members' illness (general medical or mental health/drug use conditions). This manuscript will focus on health condition differences in embarrassment, which will fill a gap in the current literature on social stigma.

Chapter 3: Manuscript 2 – Self-Stigma

Self-Stigma and Psychiatric Treatment Delay:

Results from the WHO World Mental Health Surveys

Self-stigma is a concept that is much different than social stigma. As mentioned earlier, self-stigma is an individual's internalization of the social stigma, either directly apparent or not, that is evident in the greater society. Current research has demonstrated that there are different ways to measure self-stigma. For example, a sample of 1,150 primary care patients were asked whether they would be concerned about getting a job, changing to a new health insurance policy, or maintaining friendships if their depression history was disclosed (Roeloffs, Sherbourne, Unutzer, Fink, Tang, & Wells, 2003).

Answers including “a lot” or “some” were considered positive for stigma, while answers of “a little” or “none” were negative. Individuals who answered “don’t know” were excluded from analysis. Results indicated that 77% believed that stigma may negatively influence their ability to gain employment, 59% for health insurance eligibility, and 22% for friendships.

Another relevant study assessed perceived stigma comparing respondents with chronic physical conditions with those meeting criteria for depressive or anxiety disorders (Alonso, et al, 2008). The sample included 80,737 participants from 17 World Mental Health Survey locations in 16 countries. Respondents answered questions on the Composite International Diagnostic Interview (CIDI). Perceived stigma was defined as a positive response to two questions on the CIDI: Embarrassment (How much embarrassment did you experience because of your health problems over the past 30 days) and Discrimination Experiences (How much discrimination or unfair treatment did you experience because of your health problems during that past 30 days). In total, 13.5% of participants met criteria for perceived stigma. Perceived stigma was higher in developing countries (22.1%) than developed countries (11.7%). Individuals who met criteria for a depressive or anxiety disorder were nearly two times more likely to have perceptions of stigma than those who did not meet criteria. Individuals with both an anxiety and depression diagnosis were even more likely to experience perceptions of stigma. Within the United States only sample, 16.9% of respondents with a mental disorder reported perceptions of stigma compared to 10% of those with a chronic physical condition. Similarly, in New Zealand, 16% of those with a mental disorder perceived stigma, while 8.1% with a physical condition felt stigmatized.

Further, in a recent study of illicit drug users (n=1008) about stigma related to their drug use and overall health, perceptions of stigma were associated with poorer mental health. Discrimination was also associated with lower ratings of physical health. In this study, participants were recruited from the street and asked about their drug use, health, and perceptions of stigma (self-stigma). Stigma, in this context, was measured discrimination due to alienation and perceived devaluation (Ahern, Stuber, & Galea, 2007).

In the third chapter of this dissertation, self-stigma is estimated by analyzing World Mental Health Survey services section data about the reasons individuals delay help seeking. More specifically, the question of interest will be whether individuals delayed help-seeking because they were concerned that others would find out that they were in treatment. Differences in 'concern' as compared by health condition diagnosis will be the central focus in this analysis.

Chapter 4: Manuscript 3 – Health Professional Stigma

Willingness to Treat Drug Dependence and Depression:

Comparisons of Future Health Professionals

The third manuscript of this multiple manuscript dissertation focuses on health professional stigma. Health professional stigma may be similar to social stigma, but may differ based on a history of personal/behavioral conditions. It may also affect clients or prospective clients in a different way by disenfranchising them during the treatment or treatment seeking process.

Chapter 5: Dissertation Discussion, Implications, and Conclusions

The final chapter is designed to link the previous chapters of the dissertation together. The following is an outline for the fifth chapter.

1) Overview
2) Determinants of Stigma
3) Levels of Stigma & Treatment Engagement
4) Research & Theory
5) Overall Study Limitations
6) Implications for Social Work Practice, Education, Policy, and Research
7) Conclusions

CHAPTER TWO

MANUSCRIPT ONE

ABSTRACT

Purpose: The aim of the current study is to assess the differences in embarrassment among family members toward individuals with health and psychiatric conditions in an international sample. *Methods*: Family embarrassment and health conditions were assessed by self-report among a subsample of respondents who participated in the World Mental Health Surveys. These population based surveys were conducted in 24 countries with $n=123{,}332$ participants to measure demographic information, psychiatric conditions, overall health, family burden, and other related information. *Results*: Family embarrassment was present among 33.9% of participants. Respondents who acknowledged having a family member with a psychiatric condition only were more likely to be embarrassed than those with relatives who had a general physical health condition only ($p<0.001$), even when adjusting for age, sex, marital status, income, and education. Lower levels of education ($p<0.001$) and income ($p=0.007$) were also associated with an increase in family embarrassment. *Conclusions*: These results indicate that families are more embarrassed by individuals with psychiatric conditions as compared to general physical health conditions. More culture and country specific research and interventions are needed to target embarrassment among family members, who can be an important asset in supporting patient treatment engagement.

CHAPTER TWO

FAMILY EMBARRASSMENT OF HEALTH AND PSYCHIATRIC CONDITIONS: RESULTS FROM THE WHO WORLD MENTAL HEALTH SURVEYS

Introduction

Twenty-five percent of the worldwide population is affected by a mental health condition at some time during their lives (World Health Organization [WHO], 2001). In addition, mental health conditions are among the leading causes of disability adjusted life years (years of life lost and years lived with a disability) and the worldwide burden of disease (Buka, 2008; WHO, 2004a; Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). Unfortunately, psychiatric treatment access and engagement is frequently less than adequate. Estimates from the United States suggest that there is an eight year median lag-time between the onset of depression and treatment participation, while the average treatment participation lag is between 5-6 years for alcohol and drug specific conditions (Wang, Berglund, Olfson, Pincus, Wells, & Kessler, 2005). These findings suggest that there may be obstacles to effective treatment access and engagement.

The WHO (2001) and United States [U.S.] Surgeon General (1999) suggest that stigma is one of the barriers that prevent access to services and engagement in the treatment process. Stigma can be thought of as feelings that you have about yourself (self-stigma) and feelings others have about you or your condition (social stigma; Crocker, 1999). This particular study focuses on social stigma or the structural attitudes and beliefs of society, or persons in society, which are attributed to individuals with specific conditions or other differences that are perceived as negative and different from the 'norm' (Dudley, 2000; Goffman, 1963). Social stigma is also evident in multiple forms throughout society. For example, social stigma has been demonstrated in the media through the negative portrayal of psychiatric patients on television and the misinformed characterizations of afflicted persons in articles and books (Sayce, 2000; Klin & Lemish, 2008; Dietrich, Heider, Marschinger, & Angermeyer, 2006). Individuals with mental illnesses are regularly perceived as dangerous or violent and are frequently avoided in society (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003). One particular stigmatizing feature of mental illness is that societies throughout the world often believe individuals can control their own conditions (Corrigan, River, Lundin, Penn, Uphoff-Wasowski, Campion, et al., 2001; Corrigan, River, Lundin, Wasowski, Campion, Mathisen, et al, 2000), and should be able to 'pull themselves together' without help (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000).

The attitudes and beliefs of the general public are often much more stigmatizing towards individuals with mental health conditions compared to those with general physical conditions. For instance, Corrigan and colleagues (2000) found that conditions such as psychosis and cocaine addiction are more stigmatized than cancer. Evidence of the disparity in attitudes between health and mental health conditions is also portrayed in community support for health care. In the United States, the general public supports government funding for general physical health care to a greater degree than for mental health treatment (McSween, 2002). Similarly, in Australia, public wide health promotion and prevention campaigns are more prevalent for general physical health conditions such as cancer and Heart Disease than for mental health conditions such as depression and schizophrenia (Jorm, Barney, Christensen, Highet, Kelly, & Kitchener, 2006). Weiss and Ramakrishna (2005) recommended that a future research agenda for international health should focus on comparing stigma associated with different conditions and in different settings. While these comparisons have occurred to some extent in the field of self-stigma (i.e., Alonso, Buron, Bruffaerts, He, Posada-Villa, Lepine, et. al., 2008), much more research is needed.

While most research on social stigma focuses on the ‘general public’, there are other forms that may be as, or even more, important to assess regarding their influence on an individuals’ treatment access or engagement. One unique form of social stigma that is less observed in the literature is the kind attributed by the family towards an individual with a psychiatric condition. Using the social systems perspective with the individual as the focal system, it is clear that families are generally the closest subsystems of society to the individual’s system (Robbins, Chatterjee, & Canda, 2005). Thus, it is not surprising that the attitudes and beliefs of the family may be an influential factor in the decision making and overall well-being of an individual. The embarrassment and fear of community rejection felt by family members may subsequently prevent an individual from seeking needed treatment (Stier & Hinshaw, 2007; Wahl, 1999).

More specifically, mental illnesses, unlike most general physical health illnesses, can create a unique burden on family members. Family members may feel that their reputations are diminished causing them to isolate as well as risk losing relationships with their friends (Lefley, 1989). In essence, family members’ may feel stigmatized by society because they are associated with a person with a mental illness (Corrigan, Watson, Miller, 2006). While this stigma may be directly attributed (social stigma) or perceived (self-stigma), family members report being blamed for the individuals’ illnesses and experience feelings of shame and embarrassment (Corrigan, et al, 2006). One way that family members indicate their embarrassment is by concealing the individuals' illnesses (Phelan, Bromet, & Link, 1998). Parents, siblings, children, and even extended family members can experience these feelings and react accordingly (Hinshaw, 2005). This process of feeling stigmatized, as a result of having a relationship with a person with a psychiatric condition, is a part of social stigma known as 'stigma by association' (Ostman & Kjellin, 2002).

Unfortunately, when family members feel shame and embarrassment they may in turn blame, or stigmatize, the person with the illness. For instance, a study in Sweden found that 18% of relatives thought that their family member with a psychiatric condition would be better off dead and 40% believed that they themselves developed a mental illness from their association with their afflicted family member (Ostman & Kjellin, 2002). Reports from individuals with psychiatric conditions in Hong Kong also suggest that stigma attributed by family members onto the person with mental illness is more substantial than from friends or co-workers (Lee, Lee, Chiu & Kleinman, 2005). Combined, this supports the social systems perspective presented earlier, and attests to why stigmatizing attitudes from family members may be even more important than from other segments of society.

Similar to the general public, limited research suggests that stigma attributed by family members may also differ based on type of condition. Lee and colleagues (2005) found that family stigma was greater towards individuals with schizophrenia than towards those with Diabetes. In this study, individuals with schizophrenia felt that they were disliked or despised by family members whom also wanted to conceal their psychiatric conditions (Lee, et al, 2005). These family reactions may be an indication of embarrassment (Phelan, et al, 1998), which is a reflection of several dimensions of stigma including dangerousness (peril), concealability, aesthetics, and pity (Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Corrigan, et al, 2000; Corrigan, et al, 2001). Embarrassment has also been used in other previous research and theory as a proxy for recognizing how stigma is evident in society (Link & Phelan, 2001; Alonso, et al, 2008; Alonso, Buron, Rojas-Farreras, de Graaf, Haro, de Girolamo, et al, 2009). Nonetheless, large, cross-national population studies assessing embarrassment among family members (family embarrassment) have not been found in the literature.

Purpose of the Study

The main aim of the current study is to assess 'family embarrassment' as a proxy for social stigma in representative populations of multiple countries using the World Mental Health Surveys. Furthermore, this study aims to assess family embarrassment by type of health condition (general physical health and psychiatric) to determine if differences exist. Additional covariates such as age and sex (Peluso & Blay, 2009) as well as others including marital status, education, and income are also investigated.

Methods

At this point, the World Mental Health Surveys (WMHS) consist of survey data from over 120,000 participants in 24 countries in several regions of the world including Africa (Nigeria and South Africa), the Americas (Brazil, Columbia, Mexico, and the United States), Asia (China, Japan, India, Iraq, Israel, Lebanon, and Turkey), Europe (Belgium, Bulgaria, France, Germany, Ireland, Italy, the Netherlands, Romania, Spain, and Ukraine), and Oceania/South Pacific (New Zealand). The initial protocol consisted of two independent surveys in the People's Republic of China (Beijing and Shanghai). In this study, the data are combined from those two sites to create one estimate for the

People's Republic of China. A more through discussion of the survey development is available in the literature (Kessler & Üstün, 2004); however, briefly, the World Mental Health version of the WHO Composite International Diagnostic Interview (CIDI 3.0) was used to assess psychiatric conditions, treatment, and other demographic information in a fully structured interview format. The sample sizes consisted of between 2,357 participants in Romania to 12,992 in New Zealand. Country-specific sample sizes are shown in table 2.1. The institutional review boards responsible for each country/site specific data collection reviewed and approved the protocol and continue to monitor the progress of the study (see, Appendix A).

The survey was administered in two parts. Part I, which consisted of screening questions and the assessment of demographic information, some psychiatric conditions, and basic health, was given to each person that agreed to participate (overall 70.5% participation; Alonso, et al, 2008; Kessler & Üstün, 2004). All participants who reported having a history of specific psychiatric symptoms as well as a subsample (approximately 25%) of those who did not were asked to participate in Part II. The content of the second section varied, but typically included additional questions on psychiatric symptoms and family burden (Kessler & Üstün, 2004).

Health Conditions

Questions regarding health conditions among family members were asked in the family burden section of the WMHS. Participants who were invited to complete the family burden section were then asked a question about the number of close living family members including their spouse/partner, parents, children, and brothers and sisters. If participants acknowledged having close living family members, then they were directed to the health condition questions. Participants were asked, “Do any of your close family members have any of the following health conditions?” (WHO, 2004b; see, Appendix B). The health conditions included: 1) cancer, 2) heart problems, 3) serious memory problems, 4) mental retardation, 5) permanent physical disabilities such as blindness or paralysis, 6) other chronic physical illnesses, 7) alcohol or drug problems, 8) depression, 9) anxiety, 10) schizophrenia or psychosis, 11) manic-depression, and 12) other serious mental health problems.

Participants answering “Yes” to any condition were asked a specific question about ‘family burden.’ The question stated, “The next questions are about how your life is effected by the health problems of your [RELATIVE/relative(s)]. Taking into consideration your time, energy, emotions, finances, and daily activities, would you say that (his/her/their) health problems effect your life a lot, some, a little, or not at all?” If respondents answered ‘a lot’ or ‘some’ to the previous question, then they were routed into a series of questions including the family embarrassment item that is being used to assess social stigma in this study. If individuals did not have a family member with a health condition or did not acknowledge being effected by the health condition, then they were not asked about embarrassment.

Individuals could say ‘yes’ or ‘no’ to all, some, or at least one of the 12 conditions in order to be asked the additional family burden items. Thus, the health conditions were grouped into three categories: 1) general physical health only (items 1-6), 2) mental health and alcohol or drug problems only (MH-AOD; items 7-12), and 3) both general physical health and MH-AOD, to determine if variation in family embarrassment exists between conditions. Table 2.1 provides country specific and total sample estimates for participants who acknowledged having a family member with a health condition, stratified by health condition category.

Table 2.1: Sample description of family embarrassment, MH-AOD conditions, and general health condition by country in the World Mental Health Surveys.

		Respondent (Resp.) has at least one relative with one of the following mutually exclusive condition groups:			Among All Resp.:	Among Family Emb. Resp.:
Country	Total Sample Size, n	General Physical Health only, n(%)	MHAOD -only, n(%)	General Phys. Health & MHAOD, n(%)	Family Embarrassment (Emb.) Resp., n(%)	Family Emb., n(%)
Africa						
Nigeria	6,752	85 (1)	52 (1)	66 (1)	38 (1)	22 (58)
South Africa	4,351	N/A	N/A	N/A	N/A	N/A
The Americas						
Brazil	5,037	812 (16)	708 (14)	539 (11)	685 (14)	389 (57)
Columbia	4,426	224 (5)	112 (3)	75 (2)	216 (5)	45 (21)
Mexico	5,826	307 (5)	213 (4)	162 (3)	261 (5)	93 (36)
USA	9,836	764 (8)	406 (4)	555 (6)	624 (6)	94 (15)
Asia						
China	12,335	1,270 (10)	163 (1)	75 (1)	678 (6)	115 (17)
Japan	3,417	N/A	N/A	N/A	N/A	N/A
India	2,992	39 (1)	109 (4)	7 (0.2)	55 (2)	41 (75)
Iraq	4,332	1,117 (26)	69 (2)	150 (4)	411 (10)	220 (54)
Israel	4,859	1,258 (26)	177 (4)	216 (5)	908 (19)	204 (23)
Lebanon	2,857	186 (7)	19 (1)	34 (1)	100 (4)	26 (26)
Turkey	5,155	195 (4)	12 (0.2)	10 (0.2)	79 (2)	5 (6)
Europe						
Belgium	2,419	154 (6)	36 (2)	58 (2)	74 (3)	33 (45)
Bulgaria	5,318	290 (6)	29 (1)	42 (1)	168 (3)	163 (97)
France	2,894	174 (6)	65 (2)	58 (2)	123 (4)	97 (79)
Germany	3,555	284 (8)	43 (1)	49 (1)	106 (3)	17 (16)
N. Ireland	4,340	632 (15)	263 (6)	210 (5)	346 (8)	51 (15)
Italy	4,712	245 (5)	29 (1)	38 (1)	88 (2)	64 (73)
Netherlands	2,372	506 (21)	116 (5)	145 (6)	205 (9)	26 (13)
Romania	2,357	81 (3)	13 (1)	9 (0.4)	211 (9)	154 (73)
Spain	5,473	247 (5)	63 (1)	44 (1)	163 (3)	19 (12)
Ukraine	4,725	N/A	N/A	N/A	N/A	N/A
Oceania						
New Zealand	12,992	N/A	N/A	N/A	N/A	N/A
All Countries	123,332	8,870 (7)	2,697 (2)	2,542 (2)	5,539 (5)	1,878 (34)

Family Embarrassment

Family embarrassment was assessed as a subsequent question once an individual acknowledged 1) having at least one family member with at least one health condition and 2) feeling effected by their family member(s) condition(s). Participants were asked, "How much do (his/her/their) health problems cause you embarrassment?" (WHO, 2004b; see, Appendix B). The possible response options for this question were 'a lot', 'some', 'a little', and 'not at all.' Answers of 'a lot', 'some', or 'a little' were considered as family embarrassment (i.e., positive for social stigma). Table 2.1 includes the country specific and total sample size of participants who were asked the family embarrassment item as well as the proportion who acknowledged having embarrassment towards a family member with any condition.

Analyses

All countries with equivalent question structure and usable data for 'embarrassment' and 'health condition' in the World Mental Health Surveys are used in this study. South Africa, Japan, Ukraine, and New Zealand did not ask either the 'family embarrassment' or the 'health condition' question and therefore they were excluded from the analyses. Initial analyses for this study involved a basic descriptive statistical approach to assess the distributions of each variable of interest. Fischer's exact methods were used to understand bivariable relationships between family embarrassment and several categorical covariates including health condition, sex, education, income, and marital status. The main analysis involved a pooled (multi-country) conditional logic regression using family embarrassment as the dependent variable adjusting for covariates of interest including health condition group (general physical health only, MH-AOD only, and both general physical health and MHAOD), sex, age (continuous), education (0-11, 12, 13-15, and 15+ years), income (low, low average, high average, high), and marital status (married/cohabiting, previously married, and never married). Post-estimation analyses included a variance inflation factor analysis to rule out multi-colinearity as a problem in the main analysis. Also, a pooled (multi-country) logistic regression was used to probe into whether differences in the main results may have been influenced by the gating protocol in the WMHS. In this analysis, individuals were compared on the family burden item that operates as a gate between the questions on family health conditions and the item on family embarrassment. Individuals who did not acknowledge burden were not subsequently asked the embarrassment question. Study estimates are presented along with a focus on 95% confidence intervals and p-values for interpretation.

Results

Table 2.1 shows the proportion of participants who acknowledged having a family member with a health condition as well as those who were embarrassed by their relatives' conditions, stratified by country. In total, 7.2% (n=8,870) of participants had a family member with a general physical health condition only, 2.2% (n=2,697) with a MH-AOD condition only, and 2.1% (n=2,542) had both a general physical health and MH-AOD condition. The proportion of people who reported having a relative with a general physical health condition was highest in Israel (25.9%; n=1,258) and lowest in both India (1.3%; n=39) and Nigeria (1.3%; n=85). Similarly, the proportion of participants with MH-AOD only as well as both MH-AOD and general physical health conditions were experienced most by relatives in Brazil and least by those in Turkey.

The family embarrassment sample size remained small across countries. Of those who had a family member with a mental health condition – only n=5,539 were in this pooled sample and were asked about embarrassment. Among those asked, 33.9% (n=1,878) of participants were embarrassed about their family members' health condition. A proportion of the sample embarrassed by a family member varied by country; from 97.0% (n=163) in Bulgaria to 6.3% (n=5) in Turkey. Due to the large variation in estimates, the family embarrassment multi-country data were pooled to provide one multi-national group to be used in subsequent analyses.

Table 2.2: Frequency and proportion of family embarrassment by socio-demographic characteristics in a sample from the World Mental Health Surveys.

			Family Embarrassment	
	Sample, n	No Embarrassment, n	n (%)	*p*-value (Fisher's exact)
Total	5,539	3,661	1,878 (33.9)	
Condition				<0.001
General Health	3,162	2,351	811 (25.7)	
Mental Health, Alcohol, or Drug Use (MH-AOD)	942	470	472 (50.1)	
Both General Health and MH-AOD	1,244	763	481 (38.7)	
Sex				0.306
Female	3,431	2,250	1,181 (34.4)	
Male	2,108	1,411	697 (33.1)	
Education				<0.001
0-11 years	2,742	1,517	1,225 (44.7)	
12 years	859	648	211 (24.6)	
13-15 years	990	760	230 (23.2)	
+ 15 years	766	586	180 (23.5)	
Income				<0.001
Low	934	549	385 (41.2)	
Low Average	1,084	716	368 (34.0)	
High Average	1,144	777	367 (32.1)	
High	828	544	284 (34.3)	
Marital Status				0.170
Married/Cohabiting	3,970	2,639	1,331 (33.5)	
Previously Married	708	446	262 (37.0)	
Never Married	861	576	285 (33.1)	

Fisher's exact methods were used to compare bivariable frequency and proportion estimates of the participants' demographic characteristics by family embarrassment, as shown in table 2.2. There were no differences based on sex or marital status. Nonetheless, there were differences based on health condition, education, and income. The highest degree of family embarrassment was held towards relatives with MH-AOD only conditions (50.1%; n=472), which was almost double the proportion of embarrassment held toward relatives with general physical health conditions only (25.7%, n=811; exact $p<0.001$). More embarrassment was held toward individuals with MH-AOD only conditions than those with both MH-AOD and general physical health conditions. Furthermore, the highest levels of family embarrassment were also held among those in the lowest income group (low; exact $p<0.001$) and those with the lowest education level (0-11 years; exact $p<0.001$).

In table 2.3, a conditional logistic regression analysis is presented comparing pooled (multi-national) family embarrassment as the dependent variable by health condition adjusting for age, sex, education, income, and marital status. Individuals were more likely to be embarrassed by relatives with MH-AOD only conditions ($\beta=1.5$; $p<0.001$; CI=1.3, 1.7) as well as those with both MH-AOD and general physical health conditions ($\beta=0.82$; $p<0.001$; CI=0.6, 1.0) compared to relatives with general physical health only conditions. Similar to the bivariable results, MH-AOD only family embarrassment was higher than the MH-AOD and general physical health condition group, even while adjusting for the additional covariates.

Although not presented in table 2.3, the conditional logistic regression analysis also produced significantly robust estimates based on the education level and income group of the participants. Participants with higher levels of education (β= -0.17; p<0.001; CI= -0.3, -0.1) and more income (β= -0.10; p=0.007; CI= -0.18, -0.03) held less embarrassment toward their relatives with health conditions. There were no differences in level of family embarrassment based on the sex, age, or marital status of the participant.

Table 2.3: Pooled (multi-country) conditional logistic regression analysis assessing the strength of association between family embarrassment and health condition, with covariate adjustment for age, sex, education, income, and marital status in the World Mental Health Surveys.

	Coef. (β)	SE	*p*-value	95% CI
Relative's Condition (general health only = ref.)				
MH-AOD condition only	1.502	0.113	<0.001	1.280, 1.724
General Health and MH-AOD	0.825	0.101	<0.001	0.627, 1.022

Table 2.4: Post-estimation variance inflation factor analysis of covariates from the main conditional logistic regression analysis.

Covariate	VIF	1/VIF
Income	6.1	0.2
Age	5.1	0.2
Education	4.2	0.2
Marital Status	3.6	0.3
Sex	1.6	0.6
MH-AOD only	1.3	0.8
MHAOD & General Health	1.4	0.7
Mean VIF	3.3	

Finally, the results from the conditional logistic regression analysis provided intrigue regarding the covariates of interest and the WMHS gating protocol. In table 2.4, the variance inflation factor (VIF) was measured to determine whether covariates were influencing each other in the model. The results of the VIF show that multi-colinearity can be ruled out in the model (i.e., all VIF scores were below 10). Also, in the post-estimation phase of this study, bivariable logistic regressions were used to probe into differences between those who were gated into and away from the family embarrassment item as a result of the gating protocol in the WMHS. In these analyses, family burden was the dependent variable, comparing health condition status and the other covariates of central interest. The results in table 2.5 show that family burden does not differ between general physical health and MH-AOD condition groups ($p<0.05$). To the contrary, individuals with family members who have general physical health and MH-AOD conditions were more likely to acknowledge burden than the general physical health only or MH-AOD only groups ($p<0.05$), and thus were more likely to participate in the family embarrassment item. Furthermore, individuals who were older, female, or married/cohabiting were more likely to be gated into the family embarrassment question ($p<0.05$). The highest income group was less likely to be gated in ($p<0.05$), and there were no differences based on education level ($p>0.05$).

Discussion

The results from this study show that family members were most embarrassed by relatives with MH-AOD only conditions compared to those with general physical health only conditions. Embarrassment among MH-AOD only relatives was higher than for those who had relatives with both MH-AOD and general physical health conditions as well. Perhaps the most interesting finding was that over 50% of participants who had family members with MH-AOD only conditions were at least a little embarrassed. This is nearly two times the proportion of embarrassment held towards individuals with general physical health only conditions and almost 12% more than those with both MH-AOD and general physical health conditions. Since embarrassment has been used as a proxy for stigma in previous research and theory, these results suggest that general physical health conditions may be less stigmatized by family members than MH-AOD conditions, which is consistent with other literature on family stigma and self-stigma (Lee, et al, 2005; Corrigan, et al, 2000).

Table 2.5: Post-estimation pooled bivariable logistic regression analyses assessing family burden, by health condition, age, sex, marital status, education, & income.

	Coef. (β)	SE	*p*-value	95% CI
Relative's Condition (ref. = general health only)				
MH-AOD condition only	-0.05	0.05	0.248	-0.14, 0.04
General health and MH-AOD	0.54	0.05	<0.001	0.45, 0.63
Age	0.003	0.001	0.008	0.001, 0.005
Sex (ref. = female)	-0.34	0.03	<0.001	-0.40, -0.27
Education (ref. = 0-11yrs)				
12 years	0.09	0.05	0.076	-0.01, 0.19
13-15 years	0.07	0.05	0.133	-0.02, 0.16
15 + years	0.08	0.05	0.127	-0.02, 0.18
Income (ref. = low)				
Low average	-0.06	0.06	0.300	-0.17, 0.05
High average	-0.07	0.06	0.227	-0.18, 0.04
High	-0.17	0.06	0.004	-0.29, -0.05
Marital Status (ref. married/cohabiting)				
Previously married	-0.19	0.05	<0.001	-0.29, -0.09
Never married	-0.10	0.05	0.031	-0.20, -0.01

Furthermore, these results show a statistically robust association between family embarrassment and both income group and education level, but not for sex, age, or marital status. These relationships were a bit puzzling. Recent literature in the United States suggested almost the direct opposite, showing that there was a statistically robust association between demographic categories of sex and age and attitudes of the general public towards treatment seeking for mental illness, but not for levels of education or income (Mojtabai, 2007). Unfortunately, we were not able to isolate cultural and country differences due to the effect of pooling. Nonetheless, the current study was among participants worldwide. In addition, family embarrassment as a proxy for stigma may produce different results than attitudes of the general public towards psychiatric treatment seeking. Research does suggest that males and individuals with lower levels of education do experience increased levels of stigma (Alonso, et al, 2008). It is interesting that embarrassment among family members may be greater based on the participants' levels of income and education, as opposed to the levels of the afflicted individual.

The post-estimation analysis was used to probe further into whether health condition groups were more or less likely to answer questions about family embarrassment. These analyses showed that the MH-AOD and general physical health condition group were more likely to experience 'family burden' as compared to the groups who had family members with only MH-AOD or only general physical health conditions. There were no differences between the groups who had family members with only MH-AOD or only general physical health conditions. These results do suggest that the general physical health and MH-AOD combined group was more likely to participate in the family embarrassment item. Nonetheless, the finding from the main analysis showing that family embarrassment was higher for the MH-AOD only group as compared to the general physical health condition only group was likely not influenced by the WMHS gating protocol, as there were no differences between the two groups on who continued on to the embarrassment item.

While the results in this study are intriguing, they must be interpreted in the context of several limitations. First, not all individuals who participated in the study were asked questions about family burden, including health conditions and embarrassment. While the family burden section was in Part I of the WMHS in some countries (i.e., Brazil), it was included in Part II in most other countries. Since only those who acknowledged having an MH-AOD related condition, and a subsample of those who did not, we were not able to assess those who did not participate in the family burden section. It is almost certain that individuals who did not participate in Part II have family members with health conditions. This suggests that the current sample is comprised of a disproportionate number of people who have had a psychiatric condition.

Similarly, another important consideration regarding stigma involves the very nature of the concept. If participants feel that it may be embarrassing or stigmatizing to have a family member with a specific health condition, then they may be less likely to report the condition at all. In this scenario, individuals who answered ‘no’ to having a family member with a health condition would also not have been asked the embarrassment item due to the gateway limitation above. This may be the reason that a much greater proportion of participants acknowledged having a family member with a health condition than with a mental health condition.

Nonetheless, given this information, the results are even more interesting. Typically, research suggests that individuals who have had a mental illness or participated in psychiatric treatment are less likely to have negative attitudes towards mental illness (Mojtabai, 2007). In addition, directed educational interventions to improve knowledge and exposure to those with mental illnesses are both recommended ways to mitigate stigmatizing attitudes (Corrigan, et al, 2001). It is surprising then that a sample comprised of a disproportionately high number of individuals with mental illnesses would still stigmatize family members with MH-AOD conditions to a greater degree than general physical health conditions.

Another important limitation is that embarrassment was a single item response question used to measure stigma. While embarrassment has been used in other research (Alonso, et al, 2008; Alonso, et al, 2009), it was typically paired with a discrimination item to estimate stigma. On the other hand, theory and conceptualization around embarrassment suggest that it can be a marker of stigma, or several of the dimensions of stigma (Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Corrigan, et al, 2000; Corrigan, et al, 2001; Link & Phelan, 2001). Furthermore, the large population multi-national structure of the WMHS made it difficult to devote multiple items specifically to family stigma. In some circumstances, the benefits of reduced cost, time, and burden of interpretation make one item questions a good option to measure constructs (Bowling, 2005). Nevertheless, it may be difficult to compare the results of social stigma multi-item scales used in other studies (i.e., Corrigan, et al, 2000) due to the single-item question nature used in this assessment.

Furthermore, there are several limitations that are consistent with most cross-sectional, multi-national studies. First, while significant attention was paid to the cross-cultural translation of questions in the WMHS (Alonso, et al, 2008), there may have been some difference in the understanding of each item in each country. This is an important limitation across all items in the WMHS. The cross-cultural differences in survey participation may have also influenced the variability in the level of response within and between countries even though approximately 70% participated in total. Further, in some countries (i.e., People's Republic of China) the surveys were centered in high population areas. The attitudes of more rural-based participants may be different and may have altered the results.

Originally, one of the objectives of this research was to use the multi-country data to make between country specific cultural comparisons of family embarrassment. The limited sample sizes in many countries motivated the use of one pooled conditional logistic regression. While the conditional (fixed effects) logistic regression in this analysis grouped individuals by country, allowing each person to be compared with another person in their same group (i.e., country), country specific estimates are not produced. Furthermore, it is likely that there are differences within and between countries with respect to individuals' varied race/ethnicity and cultural groups that were not captured in this epidemiological study. Despite limitations such as these, to this date, we have not found other large population, multi-national studies assessing family embarrassment as a proxy for social stigma towards individuals with general physical health and psychiatric conditions. Thus, these results are an important contribution to the current literature.

Implications

The results from this study have important implications as we seek to understand social stigma around the world. Particularly, this study focused on family embarrassment as a proxy for social stigma, which to our knowledge has not been done in a large multi-national context. Since social stigma is evident in multiple ways in society, it is important to measure and understand this construct accordingly. Consistent with the literature, this study indicates that families, similar to society, are embarrassed by their relatives who have mental health conditions to a far greater degree than those who have general physical health conditions. The higher levels of family embarrassment are consistent with country specific policy and public relations campaigns that put more emphasis on targeting general physical health conditions as opposed to psychiatric conditions. This provides an interesting connection between family attitudes and beliefs and those of the general public. It seems that if the general public were less stigmatizing towards psychiatric related conditions, then these conditions may also be less embarrassing to family members. The opposite may be true as well. If family members were less embarrassed by their relatives, then afflicted individuals may be more likely to seek the treatment they need, which in turn may lead to better outcomes and mitigate the burden of psychiatric conditions.

Nonetheless, family embarrassment continues to be an important factor for individuals with psychiatric conditions. While this appears to be one of the first large scale measures of family embarrassment, research has documented the problem for at least two decades (Lefley, 1989). Some of this embarrassment may be the result of the continued connection between mental illnesses and violence/danger. One estimate suggests that this relationship has actually increased over a 40 year period, despite a greater understanding of mental illness in many cultures (Phelan & Link, 1998). The social stigma dimension of dangerousness (peril; Jones, et al, 1984) is also one of the most stigmatizing stereotypes of psychiatric conditions.

Families may also be blamed by society for their relatives' psychiatric conditions. This blame can bring about embarrassment and shame. Unfortunately, the embarrassment is also a sign that families may conceal their relatives' illnesses. All of these circumstances can cause an afflicted person to avoid seeking treatment or engaging in the treatment process. Since an individuals' closest subsystem of their overall social system is often the family, it may be extremely difficult for them to seek services when their family members are embarrassed.

One strategy for dealing with stigma in society is through targeted anti-stigma campaigns (Thornicroft, Brohan, Kassam, & Lewis-Holmes, 2008; Corrigan, et al, 2001). These campaigns, including the network of the World Psychiatric Association, have centered on groups such as medical personnel, police, and journalists (Thornicroft, et al, 2008). Nonetheless, targeted campaigns may not be enough on their own unless paired with other systematic changes (Pinfold, Huxley, Thornicroft, Farmer, Toulmin, & Graham, 2003).

The results of the current study may suggest that one alternative or complementary way to reduce stigma is through the family and this strategy may be just as important as a large-scale initiative. Family specific anti-stigma initiatives have the opportunity to reduce family subsystem level barriers by changing the attitudes and beliefs of the family, who are often an afflicted individual's closest support network. Targeted anti-stigma family initiatives may be able to operate on multiple levels, such as through government and system level changes, large scale campaigns targeting the family, direct interventions, and even by recognizing family needs when individuals do come in for treatment. Thornicroft and colleagues (2008) suggest that in the future practitioners need to pay more attention to family members' experiences of discrimination and stigma. Theoretically, by supporting an individual's support system (i.e., the family) the individual may be more likely to engage in the treatment process and thus may have an increased opportunity to get better. Interventions that support the family have already shown promise towards increasing treatment engagement among the afflicted person (Copello, Velleman, & Templeton, 2005; Adeponle, Thombs, Adelekan, & Kirmayer, 2009; Glynn, Cohen, Dixon & Niv, 2006).

Conclusions

It is clear that embarrassment may be a major factor for families and their relatives with psychiatric conditions to a greater degree than for those with general physical health conditions. Family embarrassment may lead to the concealment of an individual's condition and pose a barrier to psychiatric treatment engagement. Thus, it is important to develop and market interventions targeted toward mitigating stigma and embarrassment among family members. While this task is imperative, future research is still needed to determine the most effective family interventions. Even though some interventions exist, their effective use in multiple countries and cultures deserves more attention. In addition, more research on family embarrassment as a proxy for social stigma is needed in different settings. While this study provides a solid base for future work, more precise measures of family embarrassment are needed in order to more accurately understand the concept and its relationship to different health conditions. It may also be essential to garner a better understanding of country and culture specific differences. A more accurate localized, culturally appropriate, representation of the problem is needed to develop more specific targeted interventions, even though the disparity in attitudes between health and psychiatric conditions appears to be a problem on a global level.

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CHAPTER THREE

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ABSTRACT

Background: Psychiatric disorders are among the most debilitating conditions, but levels of treatment engagement in this population are low. Stigma may be a barrier to service participation. One type, self-stigma, is assessed by proxy as individuals' 'concern' about others finding out as a reason for psychiatric treatment delay. *Methods*: The aim of this study is to assess 'concern' by type of condition (mood and AOD disorders) using the World Mental Health Surveys. Structured interviews were conducted in 24 countries, with over 120,000 participants. One item, 'concern', evaluated reasons for delayed treatment in a smaller sub-sample of n=2,802 and 12-month mood and AOD disorders were measured via the WHO WMHS CIDI 3.0. *Results*: 'Concern' was present among over 26 percent of participants. In the main conditional logistic regression analysis, individuals with mood disorders, but no AOD disorders, were more likely to self-stigmatize ($p<0.001$). There were no associations between 'concern' and AOD disorders, but no mood disorders, or co-morbid mood and AOD disorders ($p>0.05$). Age was associated with lower 'concern' ($p<0.001$). *Limitations*: This was a multi-national cross-sectional study, among the first of its type, but small sub-sample sizes limited cross-country comparisons, and was a barrier to understanding cultural differences.

Conclusions: Self-stigma remains an obstacle to treatment seeking for individuals with psychiatric conditions. Additional research is needed to assess self-stigma in varied cultural contexts. Clinical and macro-level interventions are needed to mitigate self-stigma.

CHAPTER THREE

SELF-STIGMA AND PSYCHIATRIC TREATMENT DELAY: RESULTS FROM THE WHO WORLD MENTAL HEALTH SURVEYS

Introduction

Mental health and drug use conditions are pervasive and cause significant burden around the world (World Health Organization [WHO], 2001; Buka, 2008; WHO, 2004a; Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). Projections suggest that unipolar major depression, in particular, is expected to be the second leading cause of disability adjusted life years and the global burden of disease in 2020 and 2030 (Murray & Lopez, 1997; Mathers & Loncar, 2006). depression is also the leading cause of years of life lived with a disability (Lopez, Mathers, Ezzati, Jamison, & Murray, 2006). In addition, nearly 4 percent of people may experience a 12-month diagnosis for an alcohol or drug use disorder (Kessler, Chiu, Demler, & Walters, 2005). While some research suggests that individuals with mental health or drug use conditions are more likely to seek treatment today, as compared to ten years ago, only an estimated 41 percent of a nationally representative United States sample said that they would definitely be willing to seek psychiatric treatment if needed (Mojtabai, 2007). Unfortunately, low levels of mental health treatment seeking also persist in countries all around the world (Hämäläinen, Isometsä, Laukkala, Kaprio, Poikolainen, Heikkinen, et al, 2004; Parikh, Lesage, Kennedy, & Goering, 1999).

The literature suggests that stigma may be one reason there are higher levels of mental health related conditions, but much lower levels of treatment engagement (WHO, 2001; United States Surgeon General, 1999; Corrigan, River, Lundin, Wasowski, Campion, Mathisen, et al., 2000). Social stigma, or the negative attitudes and beliefs held by the general public attributed toward an afflicted individual, is often the focus of discussions about stigma (Lee, Lee, Chiu, & Kleinman, 2005; Goffman, 1963). Nonetheless, individual responses to social stigma can vary, suggesting that stigma is a larger problem that must be assessed by also looking at internalized perceptions to these structural attitudes (Crocker, 1999). In this circumstance, the structural attitudes or collective historical, political, and economic representations of meaning in society – including shared values, beliefs, and ideologies – are internalized by the afflicted individual in a process called self-stigma (Crocker & Quinn, 2002; Corrigan, Markowitz, and Watson, 2004; Crocker, 1999). It is believed that people develop their perceptions about mental health related conditions early in life as a result of these collective representations in society (Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). Then, when a person develops a mental health condition, they are subject to their established perceptions of their own conditions. This can lead to significant embarrassment and shame (Link, Yang, Phelan, & Collins, 2004). Demonstrating this sequence of stigma development, Cooper and colleagues (2003) found that individuals, who held stigmatizing attitudes towards those with mental health conditions, were also less likely to consider future treatment seeking. Thus, the issue of self-stigma is an important barrier for individuals attempting to seek or engage in mental health treatment options.

Some research has attempted to assess the problem of self-stigma. For example, primary care patients with a history of depression were concerned that stigma may interfere in their ability to gain employment, become eligible for health insurance coverage, and establish and maintain friendships (Roeloffs, Sherbourne, Unutzer, Fink, Tang, & Wells, 2003). Similarly, illicit drug users have reported perceptions of devaluation and alienation, which correspondingly were associated with a decrease in their overall ratings of personal mental and physical health (Ahern, Stuber, & Galea, 2007). Nonetheless, only limited research on self-stigma has been conducted with large population, multinational samples. Among these studies, Alonso and colleagues (2008) found that nearly 14 percent of respondents felt embarrassed and discriminated against, and these feelings were twice as likely if individuals met criteria for depression or anxiety compared to those with no mental health diagnosis. Furthermore, a large sample European study found that nearly 15 percent of individuals with a 12-month mental health condition perceived stigma. These feelings were associated with lower overall quality of life as well as an increase in both societal and workplace limitations (Alonso, Buron, Rojas-Farreras, de Graaf, Haro, de Girolamo, et al, 2009).

Despite these initial findings, various proxies have been used to measure self-stigma in several different contexts, including via perceived discrimination, embarrassment, shame, and concern as a barrier to healthy relationships, job seeking, insurance coverage, and health care (Roeloffs, et al, 2003; Alonso, et al, 2009; Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, & Meyers, 2001; Gabriel & Violato, 2009). While each of these issues is important, the focus of this paper in about the large gap between the onset of individuals' mental health conditions and their initial treatment seeking behavior, which can be a median of eight years for individuals with mood disorders and 5-6 for those with drug use disorders (Wang, Berglund, Olfson, Pincus, Wells, & Kessler, 2005). This problem is more remarkable considering that treatment options have shown effectiveness, even in middle and low income countries (Patel, Araya, Chatterjee, Chisholm, Cohen, Silva, et al, 2007). One specific contributor to this treatment gap, though, is estimated to be an individual's concern regarding others finding out that he/she is seeking psychiatric treatment (Mojtabai, 2009). Research in Germany has also assessed this 'concern' about treatment seeking as a representation of self-stigma, and came to similar conclusions (Schomerus, Matschinger, & Angermeyer, 2009). Even though these were both large sample studies, fewer multi-country epidemiological studies have been conducted.

In addition, there may be differences in self-stigma based on an individual's type of condition (Alonso, et al, 2008; Kelly & Jorm, 2007). Nonetheless, most health condition comparison research of this type has existed in social stigma literature. In this context, the public frequently stigmatizes individuals with mental health conditions to a greater degree than general health conditions, with drug use disorders typically stigmatized the most (Feldman & Crandall, 2007; Corrigan, et al, 2000). It would then seem that individuals with drug use conditions would also carry more self-stigma than those with other conditions such as depression. Some research indicates that individuals with anxiety and/or mood disorders perceive more stigma than general health conditions (Alonso, et al, 2008). Unfortunately, there are few studies comparing self-stigma among individuals with mood and drug use disorders. Thus, it seems important to place a greater research emphasis in this area, particularly in a multi-national sample.

Purpose of Study

The main aim of the current study is to assess self-stigma, conceptualized as concern about others finding out as a reason for delayed psychiatric treatment seeking, among individuals in multiple countries using the World Mental Health Surveys

[WMHS]. This study also aims to compare individuals with different mental health conditions on their level of self-stigma, controlling for covariates such as age and sex (Mackenzie, Gekoski, & Knox, 2006) in a pooled, multi-country, analysis. This research specifically compares individuals with mood and drug use disorders in an effort to fill a gap in the current literature.

Methods

The specific methods used to conduct the WMHS are described in more detail in the literature (Kessler & Üstün, 2004). Nonetheless, these surveys include data from 24 countries and n=123,332 participants from around the world. Regions, with participating countries, included Africa (Nigeria and South Africa), The Americas (Brazil, Columbia, Mexico, and the United States of America), Asia (People's Republic of China, Japan, India, Iraq, Israel, Lebanon, and Turkey), Europe (Belgium, Bulgaria, France, Germany, Northern Ireland, Italy, the Netherlands, Romania, Spain, and Ukraine), and Oceania/South Pacific (New Zealand). Also, in the original surveys there were two separate sites in the People's Republic of China (Beijing and Shanghai); however, these have been combined to create one group in the current study.

Each country in the WMHS administered the World Mental Health version of the WHO Composite International Diagnostic Interview (CIDI 3.0) to assess the occurrence of psychiatric conditions, treatment participation, demographics, and other related information (Kessler & Üstün, 2004). The sample sizes for each country ranged from n=2,357 participants in Romania to n=12,992 in New Zealand. Table 3.1 shows the specific sample sizes for each participating WMHS country. Survey development, data collection, and study protocol were approved and continue to be monitored by the responsible institutional review board in each country/site (see, Appendix A).

Table 3.1: Sample description of mood disorders, alcohol and drug use (AOD) disorders, and 'concern' about what others would think as a reason for treatment delay in the World Mental Health Surveys.

		Among Total Sample			Among Total Sample	Among Treatment Delay Sample
Country	Total Sample Size, n	Mood Disorder, no AOD n(%)	AOD Disorder, No Mood, n(%)	Both Mood and AOD Disorders, n(%)	Treatment Delay Sample Size, n	Concern, n(%)
Africa						
Nigeria	6,752	72(1.1)	45(0.7)	4(0.1)	N/A	N/A
South Africa	4,351	201(4.6)	190(4.4)	22(0.5)	N/A	N/A
The Americas						
Brazil	5,037	477(9.5)	131(2.6)	33(0.7)	160	30(18.8)
Columbia	4,426	243(5.5)	89(2.0)	16(0.4)	93	24(25.8)
Mexico	5,826	182(3.9)	83(1.8)	5(0.1)	64	8(12.5)
USA	9,836	678(6.9)	220(2.2)	68(0.7)	715	213(29.8)
Asia						
China	12,335	312(2.5)	60(0.5)	8(0.1)	18	2(11.1)
Japan	3,417	71(2.1)	22(0.6)	2(0.1)	56	15(26.8)
India	2,992	136(4.6)	135(4.5)	22(0.7)	N/A	N/A
Iraq	4,332	184(4.3)	5(0.1)	2(0.1)	7	3(42.9)
Israel	4,859	280(5.8)	61(1.3)	7(0.1)	118	21(17.8)
Lebanon	2,857	136(4.8)	11(0.4)	2(0.1)	N/A	N/A
Turkey	5,155	32(0.6)	0(0)	0(0)	13	0(0)
Europe						
Belgium	2,419	114(4.7)	40(1.7)	9(0.4)	95	18(19.0)
Bulgaria	5,318	154(2.9)	59(1.1)	1(0.02)	N/A	N/A
France	2,894	179(6.2)	38(1.3)	11(0.4)	110	17(15.5)
Germany	3,555	111(3.1)	41(1.2)	9(0.3)	92	18(19.6)
N. Ireland	4,340	397(9.2)	55(1.3)	13(0.3)	234	66(28.2)
Italy	4,712	141(3.0)	8(0.2)	4(0.1)	63	11(17.5)
Netherlands	2,372	128(5.4)	34(1.4)	14(0.6)	149	32(21.5)
Romania	2,357	44(1.9)	19(0.8)	1(0.04)	9	4(44.4)
Spain	5,473	255(4.7)	33(0.6)	13(0.2)	158	14(8.9)
Ukraine	4,725	427(9.0)	199(4.2)	30(0.6)	N/A	N/A
Oceania						
New Zealand	12,992	746(5.7)	427(3.3)	87(0.7)	648	244(37.7)
All Countries	123,332	5,700(4.7)	2,005(1.6)	380(0.3)	2,802	740(26.4)

The WMHS were administered in two parts using a fully structured interview schedule. Generally, part I included screening questions, demographic information, treatment services and the assessment of key psychiatric conditions. The level of participation in Part I of the WMHS was 70.5 percent. Individuals who screened positive for current or past psychiatric symptoms as well as approximately a 25 percent subsample of other respondents were asked to participate in the second part. The content for Part II of the WMHS varied slightly across countries, but generally included questions on employment and family burden as well as additional items assessing psychiatric symptoms (Kessler & Üstün, 2004; Alonso, et al, 2008).

Psychiatric Disorders

Psychiatric disorders were assessed using the WHMS version of the WHO CIDI 3.0 (Haro, Arbabzadeh-Bouchez, Brugha, de Girolamo, Guyer, Jin, et. al., 2006; Kessler & Üstün, 2004). In the current study, mood disorders (major depressive disorder and dysthymia) and alcohol and other drug use disorders (AOD; alcohol abuse/dependence and drug abuse/dependence) were of particular focus for comparison purposes. More specifically, individuals who met criteria for a mood and/or AOD disorder within the 12 months prior to their interview were considered to have the condition, which is also consistent with previous research of this type (Alonso, et al, 2008). Individuals with mood disorders, but no AOD disorders, will be referenced as mood only and those with AOD disorders, but no mood disorders, will be referenced as AOD only.

The diagnostic categories in the WMHS were assessed following criteria and definitions from the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 2000). Different language and culturally adapted versions of the assessments were created in each country after in-depth, cross-cultural comparison work was completed. The assessment items were also calibrated with DSM-IV diagnoses to ensure that each diagnostic category in the WMHS CIDI 3.0 demonstrated consistency. While specific clinical calibration has not been conducted in each country, initial findings from the United States and Europe suggest that the items are appropriately consistent (Haro, et al, 2006; Kessler, Abelson, Demler, Escobar, Gibbon, Guyer, et al., 2004).

Self-Stigma

In this study, one specific item in the services section of the WMHS CIDI 3.0 was used to measure self-stigma. The question associated with this item stated, "I'm going to read a list of reasons for delaying help-seeking and ask you to say 'yes' or 'no' for whether each one was a reason for why you didn't get professional help more quickly than you did?" The specific reason of interest asked participants to respond 'yes' or 'no' to the following statement: "I was concerned about what people would think if they found out I was in treatment" (WHO, 2004b; See Appendix C). This variable will be noted as 'concern' throughout the rest of this discussion.

There were several gates within the survey instrument in the process of asking a participant about 'concern,' and therefore all participants did not answer the question. Once a respondent reached the services section, they were asked a series of items about their treatment service experiences for mental health related conditions. Only participants who acknowledged receiving treatment from a professional in the past year and waited at least four weeks before making the decision to participate in treatment were asked the question about 'concern' (WHO, 2004b; see, Appendix C). Thus, the estimate of 'concern' in this paper may be conservative, as many participants may have received treatment prior to the past year, and thus were not asked the question. In addition, individuals may have refused to seek treatment entirely or to acknowledge to the interviewer that they participated in treatment due to their 'concern.'

Analyses

All respondents who answered the question on 'concern' were included in the analyses. These participants had useable data and answered a culturally-equivalent version of the 'concern' item within the treatment delay portion of the services section in the WMHS. The resulting sample included data from 18 countries, excluding South Africa, Nigeria, Lebanon, Ukraine, Bulgaria, and India, who did not include the item in their surveys. In addition, results from Turkey (n=13) produced all negative outcomes (no concern), thus these data were excluded from the analyses. The final pooled analyses included data from 17 countries.

The analyses for this study were conducted in three steps and followed an 'explore-analyze-explore' format. The first 'explore' phase used basic descriptive analyses, including the frequencies and proportions for each variable of central interest. Second, in the analyze phase, bivariable relationships were explored comparing 'concern' with individual covariates of interest via a series of logistic regressions. Then, in the main analysis, a pooled (multi-country) conditional logistic regression was used to assess 'concern' as the dependent variable by 12-month psychiatric condition status (0=neither mood or AOD disorder, 1=mood disorder only, 2=AOD disorder only; 3=co-morbid mood and AOD disorders) adjusting for age and sex, both covariates of interest. The final post-estimation exploration stage involved a conditional logistic regression to probe differences in 'concern' by individuals' 12-month psychiatric conditions (Major depressive disorder, dysthymia, alcohol abuse, alcohol dependence, drug abuse, and drug

dependence). Study coefficients or odds ratios and *p*-values are presented, with a strong emphasis placed on 95% confidence intervals for interpretation of the results.

Results

Table 3.1 provides the total sample sizes for each country and for those who responded to the 'concern' item as well as frequencies and proportions for individuals with mood disorders, AOD disorders, and 'concern,' stratified by country status. In the total sample, approximately 5 percent (n=5,700) had a 12-month mood disorder, 2 percent (n=2,005) had a 12-month AOD disorder, and 0.3 percent (n=380) had 12-month co-morbid mood and AOD disorders. These proportions remained relatively stable across most countries. Among countries that were used in the pooled analyses, mood disorders ranged from 9 percent (Brazil) to 2 percent (Romania and Japan). Similarly, AOD disorders varied between over 3 percent (New Zealand) to below 1 percent (Iraq and Romania). Among a possible n=2,802 individuals who participated in the treatment delay portion of the services section in the WMHS, over 26 percent (n=740) were concerned about the perception of others. The proportion of individuals with 'concern' ranged from as low as 9 percent in Spain to over 40 percent in Iraq and Romania. The high variation in response on the 'concern' item, along with the low sample sizes in many countries, motivated the subsequent pooled (multi-country) analyses.

In table 3.2, bivariable logistic regressions were used to assess 'concern' by each variable of interest, including demographic covariates and mental health related conditions, without statistical adjustment. In these analyses, increasing age was associated with a reduction in 'concern' (OR=0.98; $p<0.001$; 95% CI=0.98, 0.99); however, there was not a robust relationship between sex and 'concern' (OR=1.07;

p=0.449; 95% CI=0.89, 1.29). Individuals with mood disorders only (OR=1.40; *p*<0.001; 95% CI=1.16, 1.68) and those with AOD disorders only, (OR=1.82; *p*=0.003; 95% CI=1.22, 2.70) had more 'concern.' There was not a relationship between 'concern' and individuals with 12-month co-morbid mood and AOD disorders (OR=1.44; *p*=0.162; 95% CI=0.86, 2.39).

*Table 3.2: Bivariable logistic regression analyses assessing pooled (multi-country) 'concern' by individual psychiatric condition categories, age, and sex in a sample of WMHS participants who delayed psychiatric treatment (n=2,802).**

	Concern, n(%)	Odds Ratio	*p*-value	95% CI
Total	740(26.1)			
Mood Disorders (no AOD)	236(31.3)	1.4	<0.001	1.2, 1.7
Alcohol/Drug (AOD) Disorders (no mood)	42(38.9)	1.8	0.003	1.2, 2,7
Co-morbid Mood & AOD Disorders	23(33.8)	1.4	0.162	0.9, 2.4
Sex		1.1	0.449	0.9, 1.3
Female	513(26.0)			
Male	227(27.4)			
Age (continuous)		0.98	<0.001	0.97, 0.99

*Concern about what others would think if they found out about an individual's treatment seeking

The results of a pooled (multi-country) conditional logistic regression analysis, assessing 'concern' as the dependent variable adjusting for psychiatric condition, age, and sex, is presented in table 3.3. This analysis shows a statistically robust association, in which individuals with a 12-month mood disorder only, had more 'concern' than individuals with no mood or AOD disorder (β=0.40; p<0.001; 95% CI=0.20, 0.58). The association was not robust for 'concern' among individuals with a 12-month AOD disorder only (β=0.36; *p*=0.092; 95% CI= -0.06, 0.77) or for individuals with 12-month co-morbid mood and AOD disorders (β=0.29; *p*=0.278; 95% CI= -0.24, 0.82). Consistent with the bivariable logistic regression results, there was a statistically robust association between 'concern' and age (β= -0.02; p<0.001; 95% CI= -0.02, -0.01), but not between 'concern' and sex (β= 0.08; p=0.423; 95% CI= -0.11, 0.27).

In the post-estimation phase of the analysis, a conditional logistic regression was used to probe findings from the main analysis showing a statistically robust association between 'concern' and the mood disorders group, but not the AOD disorders or co-morbid mood and AOD disorders groups. The results of this post-estimation analysis are presented in table 3.4, in which pooled (multi-country) 'concern' is assessed adjusting for each individual mood and AOD disorder (i.e., 12-month: alcohol abuse, alcohol dependence, drug abuse, drug dependence, major depressive disorder, and dysthymia). In this analysis, only major depressive disorder had a statistically robust association with 'concern' (β= 0.25; p=0.013; 95% CI= 0.05, 0.45). There were no robust associations between 'concern' and the other disorders under study (p>0.05).

*Table 3.3: Pooled conditional logistic regression analysis assessing 'concern' with covariate adjustment for health condition, age, sex, education, income, and marital status in a WMHS sample of participants who delayed psychiatric treatment.**

	Coef. (β)	SE	p-value	95% CI
Psychiatric Disorder (no Mood or AOD = ref.)				
Mood Disorder (no AOD)	0.396	0.097	<0.001	0.203, 0.590
AOD Disorder (no Mood)	0.357	0.212	0.092	-0.058, 0.772
Co-morbid Mood and AOD Disorders	0.293	0.27	0.278	-0.236, 0.823
Age	-0.017	0.003	<0.001	-0.024, 0.010
Sex (female = ref.)	0.078	0.097	0.423	-0.112, 0.268

*Concern about what others would think if they found out about an individual's treatment seeking

Discussion

The results from the main analysis for this study were striking, and differed from the expected hypothesis, in which individuals with AOD disorders were believed to carry the most self-stigma. In this conditional logistic regression, individuals with 12-month mood disorders only were more likely to be concerned about others finding out about their treatment seeking as a reason for their delay compared to those with no mood or AOD disorder. Interestingly, individuals with AOD disorders only and those with co-morbid mood and AOD disorders did not differ from the group with no mood or AOD disorders. In social stigma research, comparing different health conditions, typically drug use disorders are most stigmatized (Feldman & Crandall, 2007; Corrigan, et al, 2000). It would seem logical that individuals who were most socially stigmatized would also self-stigmatize to a greater degree. This was not the case in this research, when controlling for both sex and age and grouping individuals by their country status.

*Table 3.4: Post-estimation pooled conditional logistic regression analysis assessing 'concern' with covariate adjustment for individual mood, alcohol use, and drug use disorders in a sample of WMHS participants who delayed psychiatric treatment (n=2,802).**

	Coef. (β)	SE	*p*-value	95% CI
Alcohol Abuse	0.198	0.277	0.475	-0.345, 0.741
Alcohol Dependence	0.134	0.319	0.674	-0.491, 0.758
Drug Abuse	0.37	0.358	0.302	-0.332, 1.070
Drug Dependence	-0.093	0.443	0.834	-0.960, 0.775
Dysthymia	0.249	0.159	0.117	-0.062, 0.560
Major Depressive Disorder	0.252	0.102	0.013	0.052, 0.451

*Concern about what others would think if they found out about an individual's treatment seeking

Nonetheless, the pooled conditional logistic regression results did vary slightly from the bivariable logistic regressions, which compared 'concern' with individual demographic and health condition variables. In these results, individuals with AOD disorders only and those with mood disorders only were more likely to have 'concern.' While these differences are intriguing, and point to the need for future research in this area, they are still inconsistent with the country-grouped conditional logistic regression findings.

In order to probe these differences further, the post-estimation analyses were conducted to assess 'concern' by individual 12-month psychiatric conditions (i.e., alcohol dependence, alcohol abuse, drug dependence, drug abuse, major depressive disorder, and dysthymia). Interestingly, only major depressive disorder had a statistically robust association with 'concern' as a reason for treatment delay, when adjusting for individuals with other mood and AOD disorders. Alternatively, dysthymia, another mood disorder, did not have a relationship with 'concern.' Similarly, none of the AOD disorders were associated with an increased 'concern.' While the results of post-estimation analyses must be taken lightly, these results do shed more light on the association between mood disorders and an increased 'concern' found in the conditional logistic regression analyses. It seems as though major depressive disorder may be the most important condition, among those studied, in understanding variability in 'concern' as a reason for treatment delay in this study.

Most importantly, these results indicate that over 26 percent of participants, in this study, were concerned about others finding out about their treatment seeking as a reason for their delay. In addition, age and sex were both assessed as covariates of interest in the bivariable logistic regressions and the main conditional logistic regression analyses. Consistent with similar literature, age was associated with a decreased 'concern;' however, inconsistent, was the null result pairing sex and 'concern.' Older adults and women have been found to be more likely to seek professional help in other research (Mackenzie, et al, 2006). Despite this inconsistency, to our knowledge, this is the first study assessing 'concern' by mood and AOD disorders in a multi-country epidemiological sample.

Limitations

The results from this study must be considered in the context of several limitations. Consistent with large epidemiological studies of this type, many participants do not answer every question, and are often gated away from some questions based on earlier screening answers they provided. It is likely that some individuals may truly have participated in treatment for mental health conditions in the year prior to assessment, but were ashamed to acknowledge their treatment seeking. In addition, since this study only assessed treatment seeking in the past year, other individuals may have either been to treatment prior to that year or never sought treatment at all due to their 'concern.' Some research supports the argument that non-respondents may be more likely to have psychiatric conditions than respondents (Williams & Macdonald, 1986). Interestingly, this would suggest that the estimates in this paper are conservative, since many non-respondents may well be concerned and are not responding specifically because of stigma.

The current study also assessed 'concern' as a proxy for self-stigma in a cross-sectional study via a single item with a 'yes' or 'no' response set. They were also asked this question along with several other items about reasons for delayed treatment seeking (WHO, 2004b; see, Appendix C). Individuals who were unsure about a 'yes' response, may have chosen 'no' as a safer response option. In addition, they may have weighed 'concern' against other options for delayed treatment seeking such as insufficient insurance coverage, and only cited one reason, when multiple options could have played into their decisions. In each of these circumstances, the prevalence of 'concern' as a reason for delayed treatment seeking would be a conservative estimate. Another possible limitation may be the use of 'concern' as a measure of self-stigma. Nonetheless, similar measures of self-stigma have been used in prior research (Schomerus, et al, 2009). With respect to the cross-sectional nature of this study, it is important to consider that these results do not suggest causality. Longitudinal, prospective studies would be better suited to assess whether causal relationship exists.

Other limitations may be connected to the cultural differences within and between countries in this study. While significant effort was given to ensure culturally equivalent versions of the same instrument were distributed, there may be lingering differences in the wording of questions that influence the results (i.e., Alonso, et al, 2008). In addition, while some work has shown clinical concordance between WMHS WHO CIDI version 3.0 diagnostic categories and DSM-IV diagnoses in the United States and Europe (i.e., Haro, et al, 2006; Kessler, et al., 2004), these studies have admittedly not been conducted in all countries such as some in Asia, Africa, and the South Pacific. Furthermore, research has indicated that there are several racial/ethnic disparities in utilization of mental health services, which may be reflected by cultural differences in treatment seeking (Garland, Lau, Yeh, McCabe, Hough, & Landsverk, 2005). Several countries of the world such as those in Asia also have a lower prevalence of depression, than in countries such as the United States. These differences may be due to cultural differences in meeting DSM-IV thresholds (Chang, Hahm, Lee, Shin, Jeon, Hong, et al, 2008). This may explain the low participation levels in countries such as China and Japan. They may have been gated away from the 'concern' item, since they did not meet the diagnostic threshold for a psychiatric disorder.

Furthermore, the exclusion of race/ethnicity and culture group variables in the main analysis is another important limitation. While the conditional (fixed effects) logistic regression in the main analysis uses a grouping mechanism (i.e., country) that compares 'concern' among individuals within the same group, unfortunately, country, cultural, and race/ethnicity specific estimates are not produced, which limits the generalizability of these findings to those specific groups. While further research is needed in the areas of these limitations, the results of this study remain among the first to assess self-stigma using a multi-national sample.

Implications

The results from this paper have several implications, even in light of the limitations discussed. Most importantly, there remains little doubt that self-stigma is a significant issue for individuals seeking needed psychiatric treatment, consistent with other research and reports (WHO, 2001; U.S. Surgeon General, 1999). Relevant to this study was the assessment of 'concern' as a reason for delayed help seeking. 'Concern' was at least some problem for 26 percent of individuals who delayed help seeking in this study, and has been an influential treatment seeking barrier in other research (Schomerus, et al, 2009).

'Concern' as a reason for delayed help seeking may be tied to several dimensions of social stigma discussed in the literature. These dimensions include peril, course, aesthetics, origin, concealability, and stability (see Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984). The internalization of stigma, discussed earlier, may be particularly affected by any one of these dimensions, since they are the basis for how stigma is attributed to individuals with certain qualities that are different from what is considered 'normal' by society. For instance, dimensions such as peril and aesthetics are typically associated with disorders that may be considered more dangerous or displeasing to be around (i.e. drug use disorders; see, Feldman & Crandall, 2007). It is interesting that in this research mood disorders were the most self-stigmatizing disorders, since they are frequently less socially stigmatized as compared to drug use disorders. Nonetheless, this finding is consistent with literature suggesting that the median lag from onset of depression to treatment in the United States is eight years, 2-3 years longer than the 5-6 year median treatment lag for drug use disorders (Wang, et al, 2005). While drug use disorders may be more initially debilitating, or recognizable in society, and may therefore encourage a person to get treatment sooner, it is also plausible that part of the additional treatment lag for mood disorders may be attributed to self-stigma (Vogel, Wade, Haake, 2006). If individuals are more self-stigmatizing, whether they are more directly stigmatized or not, then they may be less likely to seek treatment.

In the current study, a large proportion of individuals who delayed treatment seeking from a professional for at least four weeks cited concern about others finding out they were in treatment as a reason for their delay. While social stigma is commonly discussed as a barrier to mental health and well-being (Corrigan, et al, 2000), it may be that self-stigma is just as important to consider for improving overall public health. The literature shows that several public health and targeted population campaigns to reduce social stigma have been effective (Thornicroft, Brohan, Kassam, & Lewis-Holmes, 2008). Nonetheless, there are few examples of how to manage self-stigma as a barrier to public health. One specific reason is because research is only beginning to develop models of understanding for self-stigma (Corrigan & Watson, 2002). It may be that over time, interventions to address social stigma may also impact self-stigma. If individuals feel that social stigma is diminished, then they may internalize stigma to a lesser degree. Unfortunately, more research and theory are needed to document and evaluate

interventions that mitigate social stigma in targeted groups and in the macro- context, i.e. policies and systematic attitudes (Corrigan & Watson, 2002).

One potentially important area for concentration in mitigating self-stigma is research and theory suggesting that people can and do internalize stigma differently based on their situations (Crocker, 1999). Interestingly, feelings of personal self-worth and overall self-esteem can impact and vary how individuals internalize stigma (Crocker & Major, 1989). For instance, self-stigma may cause individuals to shy away from acknowledging their condition (scenario 1); however, it may activate an anger response that results in an individual becoming more self-empowered (scenario 2). This second scenario may improve an individual's ability to actively advocate on their own behalf, which may improve their treatment seeking (Corrigan & Watson, 2002). Alternatively, there may be solutions to changing the first scenario to more closely resemble the second. Corrigan (2005) has suggested cognitive-behavioral therapeutic strategies may help an individual change his/her thinking patterns. He also suggests that that a macro-oriented effort to deliver empowerment based psychiatric services may be important to diminish self-stigma and improve access. More research and theoretical development are needed in these areas, specifically in a multi-national context.

Conclusions

Self-stigma is an additional barrier to psychiatric treatment seeking and engagement that deserves more critical attention, especially since psychiatric disorders are among the most debilitating of all conditions worldwide. Limited research or interventions have focused specifically on self-stigma. This is even more important in low income countries, where social stigma may be even stronger due to limited knowledge and cultural differences in beliefs about mental health. Even still, interventions seeking to mitigate self-stigma are needed in all contexts in an effort to improve psychiatric treatment and overall public health.

CHAPTER FOUR

MANUSCRIPT THREE

ABSTRACT

Objectives: This study compares two subgroups of future health professionals (students of medicine and social work) on levels of stigma-related feelings as operationalized in relation to their willingness and preferences toward providing treatment for patients with nicotine dependence, alcohol dependence, and depression. *Methods:* A total of 222 MD and MSW students were asked to participate in a two-part in-class and online assessment about their level of stigma-related feelings, their personal history of depression, smoking, and alcohol use, and other demographic characteristics. A pooled GLM/GEE analysis was used to estimate between-group comparisons of stigma (e.g., willingness to provide treatment), adjusting for sex, age, and program type. *Results:* MD and MSW students did not differ on their levels of stigma-related feelings, but were less willing to treat nicotine and alcohol dependence-affected patients as compared to depression-affected patients. Personal history was not associated with the students' willingness to treat, but men and younger age groups had higher levels of stigma-related feelings. *Conclusions:* These results indicate that future health professionals may prefer to treat depression as opposed to drug dependence conditions. Curriculum change with educational interventions may be needed to increase willingness to treat patients with neuropsychiatric conditions such as drug dependence.

CHAPTER FOUR

WILLINGNESS TO TREAT DRUG DEPENDENCE AND DEPRESSION: COMPARISONS OF FUTURE HEALTH PROFESSIONALS

Introduction

Physicians and social workers provide much of the mental health and drug treatment services in the United States. Physicians in general medicine are often considered gatekeepers to all of mental health treatment, often with a triage function for psychiatrists providing specialty medical treatment for neuropsychiatric conditions (Wang, Lane, Olfson, Pincus, Wells, & Kessler, 2005). Additionally, social workers are estimated to comprise between 60-70% of all mental health professionals and also have gatekeeping and triage roles (Proctor, 2004). The stigma-related feelings of these "front line" service providers are important due to their gate-keeping and triage functions, in that stigma may dampen their propensities to screen for or respond to mental health issues (Crocker, 1999; Gassman, Demone, & Albilal, 2001; Tam, Schmidt, & Weisner, 1996; Siebert, 2004). In this study, the main aim is to compare medical and social work students' stigma-related feelings with respect to providing treatment for patients with three conditions: Nicotine dependence, alcohol dependence, and depression. In addition, this study seeks to estimate the degree to which age, sex, program, or personal behaviors and conditions among health professionals might affect these stigma-related feelings.

The background of this study suggests that stigma is one of the greatest barriers that keep people from seeking or accessing effective treatment options for mental health and related conditions (World Health Organization [WHO], 2001; U.S. Surgeon General, 1999). People with mental health and drug dependence conditions are often avoided or thought to be frightening, unpredictable, and strange (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003; Lundberg, Hansson, Wentz, & Bjorkman. 2007). These structural stigma-attached attitudes in society may be internalized by those affected by these neuropsychiatric conditions, a process termed self-stigma (Corrigan, 2004; Siebert, 2005).

While limited health professional stigma research exists, a few studies have documented its relevance. In a recent survey comparing the attitudes of 1073 mental health professionals and 1737 individuals in the Swiss general population, Nordt and colleagues (2006) found that there were no differences in levels of stigma-related feelings between the two groups. In addition, the study found that both mental health professionals and the general public desired more social distance, an indication of stigma, towards people with schizophrenia compared to those with depression (Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Goffman, 1963). Nonetheless, few studies provide comparisons between different professions on their perceptions of treating patients with these conditions.

Some very limited literature on the levels of stigma among future health professionals provides a background for this study. The element of stigma most pertinent here is the degree to which health professionals are willing to treat patients with various conditions. For example, in a study of 440 medical students at one California-based University, Christison and colleagues (2002) found that students had more regard for treating patients who had "straightforward medical" conditions such as meningitis than for "psychiatric conditions" such as alcohol dependence.

Methods

In the current study, the research protocol included an anonymous two-part classroom and web-based survey using the Longitudinal Study Engine (LSE). For completing the anonymous classroom survey, all students received a fixed dollar value ($10), and drew at random from a gradient of gift certificates valued at $12-$37 to be delivered upon completion of the web-based survey. During Part I of the survey, the lead researcher read a disclosure statement to the potential participants. Trained research assistants then allowed each consenting participant to draw, at random, one coded envelope containing the in-class survey and a business card that disclosed the gift certificate reinforcer value and the website address and code for the online survey. Thereafter, participants completed the brief two-page questionnaire in the classroom. Students deciding not to participate returned their blank surveys in the envelope at the end of the session so as not to be distinguished from consenting participants.

Consenting participants were given 1-2 weeks to log-in to the LSE website to complete the web-based assessment. The anonymous online survey included more sensitive questions, but also included a sample of items from the part one questionnaire to confirm code linkage of the two part survey. The separate study protocols were reviewed and approved by the appropriate institutional review board for protection of human subjects in research (see, Appendix D).

The study populations were defined by required class rosters for two recent cohorts of Medical (MD) and Masters-level social work (MSW) students at one large midwestern university. The sampling approach involved administration of the same protocol for each student group. All MD students in a large course and all MSW students enrolled in required practice courses were asked to participate in both parts of the survey. The study population included 222 health professional students: 102 MD and 120 MSW students. As in most studies of this type, some participants did not consent to participate and others had missing or invalid responses to key study variables. For this reason, the final sample size for the full two part survey of the present investigation included 71 MD and 75 MSW students for a total of 146 participants. The proportion of designated MD and MSW student participants with useable data was 70% and 63%, respectively. The proportion of total students participating in the full two-part study was 66 percent. The gradient of participation level based on the randomly drawn reinforcer value is shown in table 4.1 (panel A), with the highest reinforcer amounts ($30 & $37) garnering at least 89% participation.

The key response variables in this study were the health professionals' level of stigma-related feelings as measured by their willingness to treat patients with nicotine dependence, alcohol dependence, and depression. For this study, stigma was measured via the 11-item Medical Condition Regard Scale [MCRS] for each of the three conditions under study (Christison, et al, 2002; see, Appendix E). Christison and colleagues (2002) devised the MCRS to measure students' regard towards patients with various medical diagnoses, with evidence of validity and reliability (coefficient alpha=0.87; test-retest reliability=0.84). In our interpretation, the MCRS is heavily weighted toward a construct of "willingness to treat patients with a specific condition."

The covariates of central interest were personal smoking and alcohol drinking behaviors as well as history of depression among the health professional students. Additionally, the study team was particularly interested in differences based on age, sex, and program (MD vs. MSW). These items were measured by single-item multiple response questions assessing the frequency of smoking and drinking behavior among students. A dichotomous question regarding whether a student had ever felt depressed or received treatment for depression was used to measure history of depression. Single-item response questions also were used for age and sex. Program type was measured to estimate the differences based on type of profession. Race/ethnicity was not assessed because it might be used to identify specific participants, who otherwise would be anonymous. No one was excluded from participation on this basis.

Given the variables of interest, the conceptual model was one in which stigma-related feelings was the dependent variable, while age, sex, program, and personal behaviors/history were studied as covariates. Personal characteristics are depicted as influences on the level of stigma, including reluctance to treat a patient with a corresponding diagnosis. For example, others have found that when health professionals had used marijuana, they were less likely to identify marijuana use as a problem among their patients (Siebert, 2003).

Data analysis was organized in relation to standard "explore, analyze, explore" cycles, in which the first exploratory steps involve Tukey-style box-and-whisker plots and other exploratory data analyses to shed light on the underlying distributions of each response variable and covariate of interest. Each item was included in the survey to all consenting participants regarding the three conditions. The MCRS scale was reverse coded from its original form (higher scores=increasing regard), so that in this context, higher scores indicated an increasing level of stigma or reluctance to treat the patient. In the initial analysis step, the task was to estimate the level of the key variable of interest, stigma-related feelings, and how it is attributed to each condition. In subsequent analysis steps, the statistical approach was based on the generalized linear model and generalized estimating equations (GLM/GEE) approach to estimate between-group levels (willingness to provide treatment), adjusting for age, sex, and program type. We used Stata version 10.0 software to conduct these analyses. In the post-exploration stage, we re-ran the main analysis in order to adjust for potentially selective and biasing study participation, as discussed in the introduction. This re-analysis involved the creation of weights based upon the value of the randomly drawn reinforcer value, which helps to constrain the influence of non-participation in the estimates, making the resulting estimates conform more closely to what might be observed if all eligible participants had completed the survey. We also compared MCRS individual items on each condition scale with the sex/gender variable to probe into possible differential item functioning (DIF) as an explanation for observed findings. In this work, we stress precision of the study estimates with a focus on 95% confidence intervals; p-values are presented as an aid to interpretation.

Results

A description of the study sample is shown in table 4.1; Panel B. After participation, our sample included a larger percentage of females (72%) than males and the majority of the students in both groups were younger than 25 years old, which reflects the distribution in the classroom rosters. In addition, 44 percent of MSW and MD students had a history of tobacco smoking behavior, with MSW students (53%) more likely to have smoked tobacco at some time in their lives compared to MD students (34%; exact p=0.02). MD and MSW students did not differ on their alcohol drinking behavior or reported history of depression (p>0.05). Nonetheless, 22 percent of MD and

MSW students indicated having at least two drinks per week and 38 percent had a history of depression.

Table 4.1; Panel A: Program participation levels for the full two-part survey by reinforcer.

	Level of Reinforcement				
Program	$12	$18	$25	$30	$37
Social Work	44%	65%	81%	n/a	100%
Medical	n/a	68%	71%	89%	n/a

Table 4.1; Panel B: Sample description of medical and social work student participants on university rosters for required courses.

	Medical School Students (n=71)	Social Work Students (n=76)
Sex/Gender	% (n)	% (n)
Men	42 (30)	15 (11)
Women	58 (41)	86 (65)
Age		
20 – 21	3 (2)	1 (1)
22 – 23	31 (22)	40 (30)
24 – 25	39 (27)	21 (16)
Over 25	27 (19)	38 (29)
Depression history		
Yes	34 (24)	43 (32)
No	66 (47)	57 (43)
Tobacco Smoking		
Current Smoker	3 (2)	23 (17)
Past Smoker	31 (22)	31 (23)
Never Smoked	66 (47)	47 (35)
Alcohol Use		
2 or more drinks/week	21 (15)	23 (17)
2-4 drinks/month	41 (29)	29 (22)
Monthly or less	21 (15)	32 (24)
Never	16 (11)	16 (12)

The main estimates of the study are presented in table 4.2. For example, estimates from the final GLM/GEE models indicate that MSW and MD students had higher levels of stigma-related feelings toward potential clients with nicotine and alcohol dependence and lower levels toward potential clients with depression. The overall statistically unadjusted estimates indicate more stigma-related feelings towards treating patients with nicotine dependence ($\beta=1.2$; $p=0.03$; CI=0.1, 2.3) and less towards depression ($\beta=-5.7$; $p<0.001$; CI=-6.8, -4.5), as compared to alcohol dependence, our reference condition.

Results also indicate that being an older student (p=0.003) and being female (p<0.001) were associated with lower levels of stigma-related feelings.

Table 4.2: Pooled GLM/GEE Analysis assessing levels of MCRS-rated stigma-feelings with covariate adjustment for age, sex, and program.

	Unweighted				Weighted*			
	Coef.	SE	95% CI	*p*-value	Coef.	SE	95% CI	*p*-value
Male	3.8	1.0	1.7, 5.8	<0.001	3.7	1.1	1.6 5.7	0.001
Female (ref.)								
Age	-1.5	0.5	-2.5, -0.5	0.003	-1.7	0.5	-2.7, -0.7	0.001
Med. Students	-0.7	0.9	-2.4, 1.0	0.405	-0.5	0.9	-2.2, 1.2	0.567
SW Students (ref.)								
MCRS Depression	-5.7	0.6	-6.8, -4.5	<0.001	-5.5	0.6	-6.7, -4.4	<0.001
MCRS Nic. Dep.	1.2	0.6	0.1, 2.3	0.030	1.4	0.6	0.3, 2.5	0.016
MCRS Alc. Dep.(ref.)								

*Probability Weight: Inverse of the participation level at each reinforcer amount participation: \$12-18=0.57, \$25=0.73, \$30-\$37=0.91)

In table 4.2, the estimates are also probability weighted, in a post-estimation step, based on the inverse of the participation level at each value of the randomly drawn reinforcer. The estimates changed slightly, but robust associations remained similar to results from the unweighted analysis. The main covariates of interest, personal 'ever' smoking, drinking behavior, and history of personal depression, were not associated with variation in stigma levels in either of these analyses. Also, exploratory analyses to probe subgroup variation in the estimates disclosed that MD and MSW students did not differ in their MRCS scores – i.e., the product-term for type of program and stigma levels had large p-values (unweighted analysis, p=0.405; weighted analysis, p=0.487).

In order to probe into the observed male-female differences, via post-analysis exploration, we studied the overall male-female difference in relation to the possibility of differential item functioning (DIF), or test item bias. Two items on the nicotine dependence MCRS scale (item 5: *working with patients like this is satisfying* and item 9: *there is little I can do to help patients like this*) functioned differently for males versus females. Similarly, item 6 (*I feel especially compassionate towards patients like this*) and item 10 (*health plans should cover patients like this to the same degree that they cover patients with other conditions*) functioned differently than item 4 (*patients like this are particularly difficult for me to work with*) on the alcohol dependence MCRS scale. Finally, the depression MCRS scale yielded inconsistent DIF between item 7 (*I wouldn't mind getting up on call nights to care for clients like this*) and item 10.

Discussion & Conclusions

The main findings of this study may be summarized succinctly. First, MD and MSW students did not differ in relation to willingness to treat clients with alcohol dependence, nicotine dependence, or depression. Nonetheless, each group individually and both groups combined shared stigma ratings consistent with preferences to treat patients with depression compared to those who had nicotine dependence or alcohol dependence. This is interesting considering that tobacco smoking and nicotine dependence are widely considered the most preventable cause of morbidity and mortality in the world (Hughes & Kalman, 2006). Also of note, males and younger age groups manifest higher levels of stigma with respect to patients with the three conditions. The observed male-female differences are consistent with other stigma research (Mann & Himelein, 2004), but as noted above, those differences might be traced to differential item functioning (i.e., differential functioning in the measurement of stigma-feelings for female versus male health professionals). While the results in this study depict stigma as a function of patient disregard and willingness to provide treatment, the MCRS needs to be used in further research with larger samples to determine whether the items are truly affected by test-item bias. While this post-analysis exploration did find DIF on each MCRS scale, and test-item bias cannot firmly be ruled out, the initial results are an important step in understanding and comparing health professional treatment preferences and must be explored further in future research.

Before detailed discussion of these results, several of the more important study limitations merit attention. Of central concern is that this study was conducted at only one university and may not be equivalent to study populations elsewhere. This issue is best addressed via future replications. Future studies of this type may include multiple geographically diverse sites, which could increase the generalizability as well as the sample size. Also of note, roughly 62% of social work and 70% of medical students participated in both the in-class and online portions of the survey. A portion of students did not choose to participate in the online part of the study, thus our final estimates might not fully represent the population under study although we attempted to control for their non-participation biases by weighting the estimates based on variable level reinforcer amounts helped determine the different participation levels.

In our interpretation, future research can be improved by extending the dimensions of stigma now addressed in the primary assessment tool of this study. The MCRS scale is heavily weighted toward items that tap the participants' willingness to treat a patient. The MCRS does not measure dimensions of stigma such as dangerousness and social distance, as sometimes have been studied (Nordt, et al, 2006; Mann & Himelein, 2004; Volmer, Mäesalu, & Bell, 2008; Corrigan, Green, Lundin, Kubiak, & Penn, 2001). In addition, personal conditions were measured by single-item questions in order to keep the assessment session quite brief. In future research, multi-item scaling might help.

With respect to our conceptual model, we had anticipated that personal history would be associated with stigma-related feelings as in other studies (Tam, et al, 2996; Siebert, 2003). Nonetheless, personal tobacco smoking and alcohol drinking as well as history of depression were not associated with variation in stigma scores as measured by the MCRS. Further research is needed to assess the relationship between personal history/behaviors and stigma to understand the importance of this finding. Also, we were unable to include a general medical condition (GMC) as a comparison condition in this study since different GMC's were assessed in the MD and MSW protocols (COPD and Alzheimer's disease for the MD and MSW studies respectively). Nonetheless, stigma-related feelings were greater ($p<0.05$) toward both drug dependence conditions as compared to each of these two general health conditions in both the social work and medical student studies independently (Ahmedani, Kubiak, Rios-Bedoya, Mickus, & Anthony, 2009).

Another important limitation was the exclusion of an item measuring race/ethnicity in the main assessments. The exclusion of this item was strategic, since it was anticipated that the combination of sex/gender, race/ethnicity, program, and age may compromise the anonymity of the participant. Nonetheless, this exclusion is particularly important as the majority of medical and social work students at this site are traditionally white/Caucasian. This particular limitation acts as a barrier to making generalizations about the findings to specific race/ethnicity groups.

Notwithstanding limitations such as these and the need to expand this research agenda, these particular study findings are of interest because few studies compare two health professional groups with respect to their levels of stigma related feelings and willingness to treat conditions they may face in their practice. This is especially important for treating individuals with neuropsychiatric conditions that comprise some of the most debilitating conditions worldwide (WHO, 2000). Our study provides initial evidence to guide understanding of treatment preferences among health professionals, including future social workers and physicians. In addition, this study may have implications for the education of future health professional workforce in other professional service disciplines. Research indicates that there are often inadequate numbers of mental health professionals and a lack of knowledge and motivation from general health care workers to treat mental illnesses, including drug dependence conditions (Druss, Marcus, Campbell, Cuffel, Harnett, Ingoglia, et al, 2008; Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000; Patel, Flisher, Hetrick, & McGorry, 2007). The results from this study may have important implications as we seek to account for stigma among health professionals and how it potentially interacts or interferes in the treatment process. Individuals may be knowingly or unknowingly disenfranchised from seeking services due to the treatment preferences and attitudes of clinicians. This stigma may then prevent them from receiving the most effective treatments or services.

In future research that builds from findings such as these, it may be possible to assess stigma-related attitudes in a longitudinal fashion to understand whether they can be modified by education or other interventions, or whether they function as if they were unmalleable traits. Educational interventions may be useful to mitigate the internal stigma held by many health professionals, especially regarding patients with drug use conditions. One potential solution may be to train health professionals in brief interventions to increase their willingness to provide treatment. In addition, studies of this type are possible with other health professional student groups such as nursing students, international student groups, and even professionals practicing in the field. Assessing attitudes among future health professional student groups is important not only to understand the future workforce, but to also plan for possible educational research on stigmatizing attitudes. Currently, our research group is building an international health research program in an effort to understand cross-national variations in prevalence and correlates of stigma attitudes among health professionals. A replication among medical students in Peru already has been completed; there are plans for replications in Africa and elsewhere. The long-term goal of this research is to develop as well as compare and contrast online interventions that may be effective in shaping stigma among health professionals in their early practice years.

CHAPTER FIVE

DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

Overview

There is no question that mental health and drug use disorders are among the most debilitating conditions in countries around the world (Buka, 2008), and that stigma is one of the barriers preventing individuals with these conditions from accessing and engaging in effective psychiatric treatment services (WHO, 2001; U.S. Surgeon General, 1999). Unfortunately, the impact of psychiatric conditions is expected to grow over the next several decades. Psychiatric conditions are anticipated to account for 15 percent of the worldwide burden of disease by 2020, up from 12 percent at the beginning of the century (Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). In combination with this expected growth will be the additional need for afflicted individuals to participate in treatment services. Nevertheless, if stigma continues to be an obstacle, then these individuals will likely continue to avoid services that have demonstrated effectiveness, even in low income countries (Patel, Araya, Chatterjee, Chisholm, Cohen, Silva, et al, 2007). Even more troubling is research suggesting that stigma varies based on an individual's type of psychiatric condition, and that stigma towards those with psychiatric conditions is typically greater than towards those with general physical health conditions (Feldman & Crandall, 2007).

The issue of stigma is broad, far-reaching, and difficult to understand as it affects so many people in very different ways, which is why more research is needed. The research in this dissertation was conducted to fill a gap in the literature and add to the understanding of stigma on three specific 'levels': Social stigma, self-stigma, and health professional stigma. In particular, this dissertation aimed to compare stigma on each of these three 'levels' related to individuals with different health and/or psychiatric conditions. In doing so, the following questions were of particular interest and will be discussed here in more detail, given the new results from this research.

I. What are the similarities and differences between determinants of social stigma, self-stigma, and health professional stigma?

II. What is the relationship between the three levels of stigma and treatment engagement?

III. Do outcomes regarding levels of stigma support current theory in the field?

IV. How does this new research on stigma influence future social work macro- and micro-focused practice, education and training, public policy, and research?

Determinants of Stigma

In this dissertation, the three 'levels' of stigma were assessed independently. The differences and similarities for several possible covariates were also investigated in relationship to these 'levels.' First, the descriptive results clearly showed that stigma was a factor in individuals' lives. For instance, in chapter two, over 39 percent of family members were embarrassed about their relative's health or psychiatric condition (social stigma), and in chapter three, over 26 percent of individuals delayed seeking psychiatric treatment because they were concerned about what others would think if the others found out (self-stigma). The assessment of who did and did not stigmatize was not possible in chapter four, because there is not a set threshold for the Medical Condition Regard Scale (MCRS; Christison, Haviland, and Riggs, 2002) to differentiate health professionals who positively regard their clients from those who do not.

Strikingly, over one quarter of the final sample in chapters two and three were affected by stigma at one level (social stigma or self-stigma). These results must be taken in context, since the majority of the larger sample did not continue on to answer the questions of interest due to a gating protocol that exists in the World Mental Health Surveys (WMHS). Nonetheless, the estimates of stigma in these two studies (chapters 2 and 3) are believed to be conservative. For instance, in chapter two, individuals who were embarrassed about their relative's illnesses, may be less likely to acknowledge that their family member had an illness, and would have been gated away from the embarrassment question. Similarly, individuals who were concerned about what others thought may have been less likely to acknowledge that they received services, especially in an interview format. Research also has documented that individuals with psychiatric conditions are less likely to be respondents in surveys (Williams & Macdonald, 1986).

Health Conditions

There were other interesting findings with regards to the covariates of central interest across the three studies. The most important covariate that was investigated across all three studies was health condition status. In this study, the variation of stigma across different health and psychiatric conditions was assessed; however, the conditions were not consistent throughout each study due to limitations in survey length and available survey data. Most importantly, there was variation in stigma on each of the three 'levels' based on health condition status. In chapter two, family embarrassment was greater towards individuals with mental health and/or alcohol and drug conditions compared with general physical health conditions. Furthermore, self-stigma was actually highest among individuals with mood disorders only, as compared to those with no mood or AOD disorder. Interestingly, there were no differences in self-stigma between those with alcohol or other drug (AOD) disorders only, those with both AOD and mood disorders, and those with no mood or AOD disorders. Variation also existed for health professional stigma based on health condition status in chapter four. Health professional students were less willing to treat individuals with nicotine dependence and alcohol dependence as compared to depression.

The findings from these chapters are largely consistent with the literature, but several interesting results stand out. The literature suggests that individuals with AOD conditions are typically most stigmatized, followed by those with mental health specific conditions, then those with general physical conditions (Feldman & Crandall, 2007; Corrigan, River, Lundin, Wasowski, Campion, Mathisen, et al., 2000). The social stigma (family embarrassment) and health professional stigma results from this dissertation were consistent with the variation found in the literature. Nonetheless, nicotine dependence is not generally considered in the AOD category when considering conditions that are most stigmatized. It would seem as though nicotine dependence would be less stigmatized by health professionals in chapter four, given that tobacco smoking is commonly known as the most preventable cause of morbidity and mortality in the world (Hughes & Kalman, 2006). However, there are several different measures of stigma that all assess different dimensions such as dangerousness, controllability, and pity (Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Corrigan, River, Lundin, Penn, Uphoff-Wasowski, Campion, et al., 2001). In this context, nicotine dependent clients are not likely to be considered the most dangerous, but their condition may be considered the most controllable. While the MCRS does not measure a specific dimension of stigma

(Christison, et al, 2002), questions from the scale may be more likely to tap dimensions of stigma such as controllability.

The other most interesting result from chapter three showed that individuals with mood disorders were most likely to be concerned about others' thoughts as a reason for their treatment delay as compared to those with no mood or AOD disorder. While this result would support current research (Feldman & Crandall, 2007; Alonso, et al, 2008), the null association between 'concern' and AOD disorders only as compared to those with no mood or AOD disorders, is not consistent. There may be a variety of factors affecting these results. For instance, most health condition comparison research has been in relation to social stigma. Alonso and colleagues (2008) found that individuals with anxiety/mood disorders perceived stigma more than general physical health conditions, but research assessing AOD disorders and self-stigma has not been found in the literature. These results must be taken into context, including limitations such as small sample sizes and gating protocols in the WMHS. In addition, a smaller proportion of individuals met criteria for an AOD disorder, which may have impacted the power for this condition in the model to a greater degree than for mood disorders. Nonetheless, they may signify that individuals with mood disorders are more aware of stigma. The nature of major depressive disorder and other mood disorders may also suggest that individuals with these conditions have lower self-esteem and may self-stigmatize to a greater degree. In a recent study of alcohol dependent men and women, self-esteem was not associated with alcohol relapse or one-year drinking outcomes, but was associated with mental health disorders such as depression (Trucco, Connery, Griffin, & Greenfield, 2007).

Despite these unique findings, this dissertation supports current research, in which psychiatric conditions are more stigmatized than general health conditions. In addition, the first two chapters are among the first studies to assess variation in social stigma and self-stigma based on health condition status in a multi-national sample. The literature also has little evidence that investigates stigmatizing attitudes among health professionals (Nordt, Rössler, & Lauber, 2006; Volmer, Mäesalu, & Bell, 2008). Chapter four provided initial research that compared attitudes among health professionals about their willingness to treat clients with different conditions. Each of these issues deserves further investigation.

Country & Program Type

Other important covariates of interest were country status in chapter two and three as well as program type in chapter four. The small sample sizes in each country limited the opportunity to include country status as a covariate in the main conditional logistic regression models. Nonetheless, descriptive data do provide initial evidence to compare different countries regarding their stigma about general physical health and psychiatric conditions. In chapter two, family members in Bulgaria (97%) were most embarrassed by their relatives' illnesses, and those in Turkey (6%) were least embarrassed. The estimate of embarrassment was 15 percent in the United States. Similarly, the proportion of 'concern' or self-stigma in chapter three was greatest in Iraq and Romania (over 40%) and least in Spain (9%), among countries with usable data.

It is quite apparent that "stigma" differed within chapters two and three based on condition status. Nevertheless, the extreme variation in these proportions does suggest several limitations. First, there were small sample sizes in many countries, which may be an important factor in the disparate results between countries. Also, even though significant work was put into ensuring that items were translated for different languages and cultures (Alonso, et al, 2008), there may have been unintended disparity in question structure and meaning that are difficult to avoid in large multi-national studies. In addition, some countries placed WMHS survey sections in part I, while others placed them in part II of the survey. Thus, the questions in chapters two and three were not uniformly in the same section across countries. Countries that included items in part I had a higher proportion of participants who had a chance to be asked each question, since some participants are gated away from part II of the survey (see, Kessler & Üstün, 2004).

Another important limitation to consider includes the cultural differences that are expected to be present between countries. For instance, in chapter three, diagnostic criteria were used to determine whether a person was considered to have a psychiatric disorder or not. The criteria used in the WMHS have been assessed in the United States and Europe and were found to be consistent with the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (i.e., Haro, et al, 2006; Kessler, et al., 2004; American Psychiatric Association [APA], 2000). Nonetheless, recent research has suggested that there may be cultural differences in meeting minimum thresholds for DSM-IV criteria in countries such as those in Asia (Chang, Hahm, Lee, Shin, Jeon, Hong, et al, 2008). This suggests that individuals who have similar mental health related symptoms in different countries, may not equally meet criteria for the same DSM-IV diagnosis. There are also differences between race/ethnicity groups in treatment utilization, which may reflect cultural differences in attitudes towards treatment that are unique for each country (Garland, Lau, Yeh, McCabe, Hough, & Landsverk, 2005). These findings suggest that there are differences in each society as to the expectations and support available for individuals seeking treatment, including among family members and individuals themselves, which may also account for some of the country specific differences in outcomes from the items used to assess the dependent variables (family embarrassment and concern) of interest in chapters two and three. An important limitation of this study was the inability to determine whether differences existed between varied race/ethnicity and cultural groups in meeting criteria for DSM-IV diagnoses, stigma-feelings, and treatment seeking behavior between and within each country. Despite these limitations, this is among the first studies of this type and it provides insight into the design and conduct of future research, which should focus more specifically on between and within country race/ethnicity and cultural differences in stigma.

The research in chapter four did not allow for country comparison, since it was a small pilot study in one university location in the United States. Social work and medical students were compared on their willingness to treat patients with nicotine dependence, alcohol dependence, and depression. Interestingly, there were no differences between social work and medical students, with each group least willing to treat nicotine dependent clients. While there are few studies that compare professionals on their willingness to treat clients with different conditions, research in Switzerland has indicated that there are no differences between mental health professionals and the general public on their desired social distance, another indicator of stigma, from individuals with psychiatric conditions (Nordt, et al, 2006). In the Swiss study, desired social distance was greater towards individuals with schizophrenia as compared to depression (Nordt, et al, 2006), which is consistent with the finding that depression was the condition that professionals were most willing to treat in chapter four.

In addition, other research conducted by Christison and colleagues (2002) indicated that medical students held more regard for patients with 'straightforward' general physical conditions as compared to psychiatric conditions such as alcohol dependence. Chapter four did not provide direct comparison between social work and medical students on their willingness to treat a general physical health condition, since different health conditions were assessed in the medical and social work studies (MD=COPD; SW=Alzheimer's disease). However, in program specific analyses, COPD and Alzheimer's disease elicited similar mean MCRS scores as compared to depression, meaning each health professional student group was significantly more likely to treat these conditions as compared to alcohol dependence and nicotine dependence.

Even though there have been few studies comparing professionals on their willingness to treat clients with different conditions, it is still surprising that there were no differences between medical and social work students. In recent research, Weissman and colleagues (2006) found that social workers had less evidence based practice training in general as compared to psychologists and psychiatrists. In addition, social workers were less likely to engage in smoking cessation interventions and had less knowledge of smoking health risks compared to nurses (Johnston, Chan, Chan, Lam, Shi & Leung, 2004). Thus, it would seem as though social workers would have had less knowledge and would be less willing to treat clients with nicotine dependence, compared to medical students, but this was not the case in the current study.

Nonetheless, research suggests that many general health care workers have a lack of knowledge and limited motivation to work with individuals who have a mental health or drug use condition (Druss, Marcus, Campbell, Cuffel, Harnett, Ingoglia, et al, 2008; Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000; Patel, Flisher, Hetrick, & McGorry, 2007). This is consistent with the findings from chapter four. The results may be attributed to stigma, or the limited willingness to learn about or treat individuals with these conditions due potentially to their established belief systems and worldviews. Unfortunately, there are also structural and systematic limitations (social stigma) that are attached to the limited development of knowledge, specifically for drug use conditions. For instance, social work training in the area of addictions is often inadequate (Hall, Amodeo, Shaffer & Vander Bilt, 2000; Straussner, 2001; Weissman, Verdeli, Gameroff, Bledsoe, Betts, Mufson, et al., 2006). This lack of training may reinforce or strengthen negative attitudes towards individuals with drug use conditions (Begun, 2004). Limited training may also cause health professionals to miss opportunities for detection and referral (Gassman, Demone, & Albilal, 2001; Tam, Schmidt, & Weisner, 1996), specifically among social workers and physicians in general medicine who provide triage functions and may have the role of referring patients to more specialized care (Wang, Lane, Olfson, Pincus, Wells, & Kessler, 2005).

Other Covariates

Recent stigma literature has suggested that there may be other covariates related to attitudes, beliefs, or perceptions. Studies have found differences specifically for age and sex (Peluso & Blay, 2009; Mackenzie, Gekoski, & Knox, 2006). Typically, women and older persons carry fewer stigmatizing attitudes and beliefs. The three different studies in this dissertation also assessed sex and age as covariates of interest in the main analyses. The results were mostly consistent with recent research; however, there were some differences, specifically related to sex and/or gender. In each study, increased age was associated with less stigma, including assessments of family embarrassment (social stigma), 'concern' (self-stigma) and willingness to treat (health professional stigma). Interestingly, there were inconsistent conclusions across studies for the covariate, sex, in relation to stigma. First, in chapter two and chapter three, there were no sex differences in the main conditional logistic regression analyses or in the bivariable analyses (chapter 2: fisher's exact; chapter 3: logistic regression; $p>0.05$). While the results in these chapters were surprising, chapter four produced a different outcome. Social work and medical male students were significantly less willing to treat clients than females in the generalized linear model generalized estimating equations (GLM/GEE) analysis in chapter four.

It is particularly interesting that there were no sex differences in chapters two and three, especially since the sample sizes ($n>2,000$) were much larger than in chapter four ($n<250$). Nordt and colleagues (2006) also found no differences between the general public and mental health professionals in one recent study. While specific comparisons across studies are not directly possible, it is noteworthy that there were only sex differences for health professional students and not for the general public. One specific limitation in chapter four that may contribute to these differences, however, is the small sample size. For instance, there were only 41 men in the final sample out of 147 participants. Only 15 percent of the social work population and 42 percent of the medical student population were men. Nonetheless, these findings suggest that future research is still needed to understand if male-female differences in stigma exist.

Age and sex were not the only other covariates of interest in this dissertation.

Education, income level, and marital status were included in initial analyses in chapters two and three. The motivation to include education and income variables in the analyses for chapters two and three is based on a study that suggests poverty, lower socioeconomic status, and lower levels of education are associated with stigma (Kohn, Dohrenwend, & Mirotznik, 1998). In addition, marital status was included as it has been associated with increased levels of happiness (Stack & Eshleman, 1998). Happiness can be part of self-esteem and self-worth, which are often connected with stigma (Crocker & Major, 1989). In chapter two, both education and income were associated with family embarrassment ($p<0.05$), while marital status was not ($p>0.05$). One particular question was whether education and income were related; suggesting that only one of the items should be included in the main analyses. A postestimation analysis showed that the mean variance inflation factor (VIF) was below 10 for each covariate, a recommended level to rule out multi-colinearity (O'Brien, 2007). This finding suggested that multi-colinearity was likely not a factor, and that each of the covariates of interest could be included in the analysis.

Subsequently, in chapter three, the same three variables (marital status, education, and income) were included in the initial analyses; however, each resulted in a null association. These variables were removed from the main conditional logistic regression analysis. The final results in these two chapters do suggest that while education and income did not affect self-stigma, they were associated with social stigma, and more specifically family embarrassment. This may suggest that more knowledge, what would be expected through more education, may be connected with reduced levels of stigma. The connection between knowledge level and stigma is also supported by Goffman

(1963) in his initial conceptualization of stigma.

In chapter four, there were several personal behaviors and conditions that were assessed as covariates of interest. In the initial hypotheses, it was believed that health professional stigma may vary based on a personal history of tobacco smoking, depression, or alcohol drinking. This is based on research stating that social workers who smoked marijuana were less likely to consider marijuana smoking a problem among their clients (Siebert, 2003). Nonetheless, personal histories of depression, smoking, and alcohol use were not associated with health professional stigma in the GLM/GEE analysis in chapter four. This finding suggests that more research is needed, with much larger sample sizes, to determine if health professional stigma is influenced by personal histories.

Levels of Stigma & Treatment Engagement

The primary objective of this dissertation was to assess determinants of stigma, specifically aimed at comparing individuals with different health and psychiatric conditions. In addition, one of the main factors surrounding stigma is the barrier it causes to individuals trying to engage in treatment (WHO, 2001; U.S. Surgeon General, 1999). There are two aspects of treatment engagement that are particularly important for those with psychiatric conditions. First, individuals who need care frequently do not seek services, and second, individuals that participate in services often drop out and do not complete the prescribed treatment plan (Corrigan, 2004). On a basic level, stigma is believed to interfere in the treatment seeking process by disenfranchising individuals who may need treatment. However, the multiple 'levels' of stigma may interrupt the treatment process in different ways. While this dissertation was not specifically conducted to answer this question, the results provide several indications of how stigma interferes in the treatment process.

In chapter two, the results showed that family members were more likely to be embarrassed by their relatives with psychiatric conditions as compared to those with general physical health conditions. These results were consistent with other social and family stigma research (Lee, et al, 2005; Corrigan, et al, 2000). In this study, the social systems perspective was used to show that family members are one of the closest subsystems in an individual's larger social system (Robbins, Chatterjee, & Canda, 2005). The closeness of family members creates a stronger affiliation between the afflicted individual and the family. Often, family members can feel blamed and ostracized by friends and society as a result of their connection with the afflicted individual (Lefley, 1989; Corrigan, Watson, Miller, 2006). Once they are blamed, or for fear of being blamed, family members attempt to conceal their relative's illness (Phelan, Bromet, & Link, 1998; Hinshaw, 2005). The concealment of these conditions diminishes the afflicted individual's support systems, and can lessen the chance that they will seek services when needed (Stier & Hinshaw, 2007; Wahl, 1999). Lee and colleagues (2005) found that stigmatized attitudes from family members can be even more substantial than from others in society. This argument indicates that if family members are embarrassed by their relative's health condition, then they may conceal the illness and subsequently hinder treatment seeking. This is particularly important for individuals with psychiatric conditions, since family members were shown to be more embarrassed by their conditions in this dissertation.

The connection between stigma and treatment engagement is most visible in chapter three, in which individuals who delayed participation in treatment within the year prior to assessment were asked several reasons for their delay. One specific reason, 'concern' about what others thought if they found out individuals were in treatment, was assessed as a proxy for self-stigma. In this study, over 26 percent of the subsample acknowledged 'concern' as a reason they delayed participation in treatment. In addition, their 'concern' was greater when they met criteria for a mood disorder (major depressive disorder or dysthymia), which is consistent with other research assessing self-stigma (Alonso, et al, 2008). Alonso and colleagues (2008), however, measured self-stigma as a combination of perceived embarrassment and discrimination. Again, this study found that individuals with mental health conditions were more likely to carry self-stigma than those with no condition. This was not consistent for individuals with AOD disorders only or those with both AOD and mood disorders in this dissertation. The literature also suggests that 'concern' may be a reason that individuals delay treatment seeking (Mojtabai, 2009; Schomerus, Matschinger, & Angermeyer, 2009). Surprisingly, individuals delay psychiatric treatment seeking for a mean 5-8 years after onset of their condition (Wang, et al, 2005). The evidence from chapter three suggests that 'concern,' or self-stigma, may be a very important factor in this decision. In this context, self-stigma develops within individuals as they internalize the social stigma evident in society.

While individuals can internalize stigma differently (Crocker, 1999), they often feel guilty about their own conditions (Corrigan, 2004). This occurs because individuals frequently develop their opinions and beliefs about those with mental health conditions early in their lives (Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001), and then later develop a psychiatric condition. If their early developed attitudes were negative, then they can easily be embarrassed or shamed by their own condition, and even refuse to acknowledge their disorder (Link, Yang, Phelan, & Collins, 2004).

Stigma, as a barrier to treatment engagement, was also evident in chapter four. In this manuscript, health professional students (social work and medical) were least willing to treat individuals for their nicotine dependence and alcohol dependence as compared to depression ($p<0.05$). In this study, health professional stigma was assessed using the Medical Condition Regard Scale (Christison, et al, 2002). This scale includes 11 items such as "I prefer not to work with patients like this," "patients like this irritate me," and "patients like this are particularly difficult for me to work with." The full likert scale measure was summed together to produce a total score. In each of these circumstances, the items represent health professionals' preferences or willingness to treat clients with certain conditions. The results suggest that health professional students have different attitudes towards treating individuals with varied psychiatric conditions, which is consistent with other research (Volmer, et al, 2008). The results indicate that individuals whom health professionals are less willing to treat, may also get less than adequate treatment, particularly in a general health setting where physicians, social workers, and other health professionals are not specialized in treating certain conditions and did not choose to treat a client with the presenting condition. If health professionals are less willing to treat certain clients, particularly those with drug use disorders, then individuals with these conditions may be disenfranchised from seeking services if they become aware of the inequality in treatment preferences.

It would seem as though health professionals would have less stigma towards individuals with psychiatric conditions, however, a recent study in Switzerland suggests that mental health professionals' attitudes did not differ from the general public (Nordt, et al, 2006). While chapter four does not compare health professional students to non-health professional students, the research by Nordt and colleagues (2006) as well as the other chapters in this dissertation suggest that individuals with mental health conditions, and even further those with drug use conditions, are perceived less favorably than individuals with no conditions or general physical health conditions.

Research & Theory

As discussed earlier, the research on stigma in this dissertation is mostly consistent with other limited research in the literature (i.e., Feldman & Crandall, 2007; Alonso, et al, 2008; Alonso, Buron, Rojas-Farreras, de Graaf, Haro, de Girolamo, et al, 2009; Nordt, et al, 2006). Nonetheless, it is also essential to determine whether the outcomes from this study are consistent with current theory. First, it is important to note that none of the dimensions of stigma (Corrigan, et al, 2000; Jones, et al, 1984) presented in chapter one were specifically assessed in this dissertation as direct measures of stigma. While the lack of adequately measured dimensions is one important limitation in the current study, other theoretical viewpoints were consistent with the outcomes.

Social Stigma

Social stigma was discussed in the context of several theories. For example, the social cognitive model, discussed by Corrigan (1998) and supported by much of the psychology field, suggests that individuals with mental health conditions are labeled and separated into one category that is different from non-afflicted persons. The findings from this dissertation are consistent with this discussion. For instance, families were more likely to be embarrassed by their relative's with mental health conditions as compared to general physical health conditions. The differences between these groups signifies labeling, in which individuals with general physical health conditions are in a more socially accepted group as compared to those with mental health conditions.

Other theoretical viewpoints from sociology are also consistent with the findings from the social stigma manuscript in this dissertation. First, Link and Phelan (2001) conceptualized stigma as a process that involves labeling, stereotyping, separation, status loss, and discrimination. They suggest that labeling is the first step, which results from a social selection process that exists in society to identify differences. Differences, that violate social norms and are most identifiable are subsequently, labeled, stereotyped, and separated. Individuals with conditions consistent with the 'different' category can experience status loss and then discrimination.

In this dissertation, family embarrassment, as a proxy for social stigma, was greatest towards individuals with psychiatric conditions. Many general physical health conditions can be as, or even more, visible than psychiatric conditions, but many of them may be viewed differently. In the family embarrassment (social stigma) analysis, the general physical health conditions included 1) cancer, 2) heart problems, 3) serious memory problems, 4) mental retardation, 5) permanent physical disabilities such as blindness or paralysis, and 6) other chronic physical illnesses. This is an important limitation, because many of the more highly stigmatized conditions such as HIV/AIDS and epilepsy (Van Brakel, 2006) are not specifically listed, even though one could assume that they would be included in the 'other chronic physical illness' category.

Furthermore, the mental health related conditions are that more stigmatized, AOD problems and schizophrenia, are included (Feldman & Crandall, 2007).

One argument would suggest that individuals would be less likely to identify their relative's health condition if it is not specifically noted as an item. Nonetheless, individuals may be more likely to acknowledge that their family member has a condition, if it fits into a non-discriminating 'other' category. The stigma attached to specifically identifying that a family member has an AOD or schizophrenia condition, may deter individuals from answering those items. This would suggest that the estimates could be conservative. While the direct answer to this limitation is unclear, it is relevant to note that the results from this dissertation, taken as they appear, are consistent with Link and Phelan's theory (2001). Individuals with heart problems and cancer are likely in a group that is less stigmatized than individuals in a group consisting of depression, AOD problems, manic-depression, and schizophrenia. In addition, the word 'mental illness' may be more stigmatized than the word 'physical illness,' which also may be connected to the results from this analysis that indicate differences between groups. Goffman's (1963) definition of stigma states that a person being stigmatized is "deeply discredited" and reduced from "a whole and usual person to a tainted, discounted one" (p. 3). The results from the social stigma portion of this dissertation would suggest that individuals with mental illnesses are more likely to be tainted and discounted as compared to those with general physical health conditions.

Self-Stigma

The next 'level' of stigma to consider is self-stigma, represented as 'concern' in chapter three of this dissertation. Crocker (1999) suggests that stigma from society can be internalized by the individual in a process called self-stigma. This involves the cultural views and belief systems (i.e., political, economic, historical) evident in society that can act in place of direct social stigma (Crocker & Quinn, 2002; Corrigan, Markowitz, and Watson, 2004). These cultural views do not have to directly impact afflicted persons, as self-stigma occurs when they are perceived by the afflicted individual and the individual internalizes the existence of stigma. Modified labeling theory suggests that the fear of labeling may impact psychosocial well-being and result in individuals feeling stigmatized (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989). The unique factor of self-stigma is that individuals can internalize stigma differently and may be able to cope more or less effectively, resulting in more or less self-stigmatization (Crocker, 1999; Crocker & Major, 1989).

The outcomes from chapter three draw several connections with self-stigma theory. In this chapter, 'concern' was used as a proxy for self-stigma. The results showed that individuals with mood disorders only held more self-stigma than those with no mood or AOD disorders ($p<0.05$). However, individuals with AOD disorders only and those with both mood and AOD disorders, did not differ from the no mood or AOD disorder group. This finding is interesting, and is not specifically consistent with social stigma theory. Nonetheless, self-stigma theory may be somewhat different in how it affects the individual. In order to self-stigmatize, an individual has to be able to internalize the impact of his or her condition. Individuals with mood disorders (major depressive disorder and dysthymia) may be more likely to self-stigmatize, since lower self-esteem may be consistent with their condition and not as evident among individuals with AOD disorders or no disorders (Trucco, et al., 2007; American Psychological

Association, 2000; Crocker & Major, 1989). Lower self-esteem is consistent with the diminished psychosocial well-being discussed in modified labeling theory (Link, et al, 1989).

Individuals with mood disorders are also typically less able to cope successfully (Wingenfeld, Mensebach, Rullkoetter, Schlosser, Schaffrath, Beblo, & Driessen, 2009), as compared to those without mood disorders. This is consistent with self-stigma theory, in which those less able to cope effectively may self-stigmatize to a greater degree (Crocker, 1999; Crocker & Major, 1989). 'Concern' has been shown to be a proxy for self-stigma (Schomerus, et al, 2009). Individuals' internalizations of concern about what others think was a factor in what caused them to delay seeking psychiatric services from a professional.

Health Professional Stigma

The final 'level' of stigma in this dissertation was health professional stigma. While theory specific to health professional stigma has not been developed, there are several connections between health professionals and the general public with a few unique features. First, research suggests that mental health professionals do not differ on their attitudes and desired social distance from individuals with psychiatric conditions as compared to the general public (Nordt, et al, 2006). Nonetheless, social workers and other health professionals have friends and families, just as other members of the general public, who may have a history of mental health or drug use conditions (Siebert, 2004; Fewell, King, & Weinstein, 1993). The experience of these conditions may cause issues of counter-transference among health professionals, which could influence their attitudes and beliefs towards clients with certain conditions. The possibility of this occurring is also inflated as health professionals often self-select into their profession based on their own history and experience (Stanley, Manthorpe, & White, 2007).

Interestingly, this conceptualization of health professional stigma is unfounded in the research from this dissertation. In chapter four, personal smoking and drinking as well as a history of depression were not determinants of willingness to treat among social work and medical students. It is important to consider, though, that this was a small pilot study and a larger more nationally representative study may have come to different conclusions. Also, there are several different measures of stigma that may produce alternative outcomes. The Medical Condition Regard Scale (Christison, et al, 2002) does not assess dimensions of stigma such as controllability, stability, and pity that are measured in other instruments (Corrigan, et al, 2000). Nonetheless, it may also be plausible that this conceptualization of health professional stigma is not entirely consistent, even despite research suggesting that social workers who smoked marijuana were less likely to see marijuana smoking among their clients as a problem (Siebert, 2003).

While there is some inconsistency as to the research and theory about personal history of behaviors and conditions as determinants of health professional stigma, results still suggest that there are varying attitudes about treating individuals with different conditions. It is surprising that individuals were least willing to treat those with nicotine dependence; however, the finding that treatment preferences were greater for those with depression as compared to alcohol dependence is consistent with social stigma theory (Link & Phelan, 2001; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003). This also confirms theory and research suggesting that health professional stigma may, at least in part, reflect social stigma, as discussed earlier.

Overall Study Limitations

Throughout this discussion there have been several limitations presented that are unique to individual studies. There were, however, other limitations that persisted across multiple studies in this dissertation, and must be taken into context when considering the outcomes presented. First, the research designs were not consistent for all three studies. Chapters one and two used the World Mental Health Surveys (WMHS), large epidemiological surveys administered in 24 countries, while chapter four used a small pilot-oriented study on one university campus in the United States. This impacted the sampling strategy and sample sizes. In the WMHS, the overall sample size was over 120,000 participants across all countries, and was designed to be a national representation of the countries' populations. Even though several gates existed in each survey that routed participants toward, or away from, some sections (Kessler & Üstün, 2004), chapter two still included a sample of over 8,000 and chapter three had a sample over 2,000 participants. The sample size in chapter four was less than 250 participants and less than 150 continued on to the second section (online portion) of the study.

The level of participation in the WMHS was 70.5 percent for section one (Alonso, et al, 2008; Kessler & Üstün, 2004) and a subsample of all respondents who met criteria for a mental health condition and 25 percent of other respondents continued on to the second part. While the fourth chapter had a much smaller sample size, all MSW students and MD students in required practice and seminar courses were invited to participate. A total of 66 percent continued on to complete the second, online portion, of the study.

The studies in this dissertation also had some limitations related to the assessment of the key variables of interest. For instance, in chapters two and three, only single item response questions were used to assess social stigma and self-stigma. Unfortunately, the large population based WMHS assessed several different constructs and was not able to concentrate specifically on stigma (Alonso, et al, 2008). Since only a single item was used, it may limit the ability to more precisely measure stigma, as there can be variation on a one item response question. Similarly, a single item cannot adequately assess all of the different dimensions of stigma, or be completely equivalent to other measures of stigma used in the literature. Nonetheless, Bowling (2005) suggests that the benefits of cost and time savings as well as increased ability to interpret make one item questions an adequate measure for certain constructs.

Alternatively, health professional stigma was measured using the 11-item MCRS in chapter four (Christison, et al, 2002). In this analysis, all 11 items were summed to produce one score for each person. The sum score reflected health professional stigma as the dependent variable of interest. While an 11 item scale offers more opportunities to ask multiple questions related to stigma, it also was focused on one specific area of stigma – willingness to provide treatment. This construct is not one of the main dimensions of stigma (i.e., Jones, et al, 1984). The scale was also designed to measure regard among medical students or physicians toward patients with different conditions (Christison, et al, 2002), but was reverse coded so that higher scores measured increasing 'disregard' or stigma. In addition, some of the questions were slightly altered for the social work specific study, since different language (client vs. patient) was more appropriate for that population. Despite some of the limitations with the dependent variables of interest, these are among the first studies of their kind and contribute to the literature on stigma.

There were also limitations with regard to the measurements of the covariates of central interest. In chapters two and three, sex, age, marital status, education, income, country, and health conditions were measured. Marital status, education, and income were categorical measures and were not able to detect the possible variation that may have been found in a continuous measure. Also, marital status only included three categories (married/cohabiting, previously married, and never married), which could have confused some participants who were separated but still married. While country status did provide a measure of comparison across different groups, the sample sizes were too small to assess country as a covariate in the conditional logistic regression models. While individuals were grouped by country status in the models, they were not able to be grouped by neighborhood or survey site. This prevented the assessment of other intra-country cultural variation by region.

Another important limitation in each of the three manuscripts was the exclusion of variables assessing race/ethnicity and cultural variation within and between countries and professional programs. At the start of this research, it was hoped that there would be substantial within-country variation in the family burden responses (re: embarrassment about a relative's problems) and in the self-stigma responses (re: concern about others learning of my condition) in chapters two and three – at least enough to explore within-country ethnicity or possible race- or minority-group related variations in the occurrence of social stigma and self-stigma in these manifestations. As explained in the results section, there was too little within-country variation in these responses to permit within-country research on these topics. As for cross-country comparisons, the WMH 'gating' approach varies across the sites under study, and this variation in approach also poses a constraint in the present research. Instead, the reliance upon country-level matching and the use of the conditional logistic regression model ensures that country-level variation is held constant in the estimation of the observed associations. For example, when embarrassment due to a relative's MHAOD problem has occurred in Nigeria, the estimated strength of association is based on a comparison with the odds of embarrassment felt by a respondent who has a relative with no MHAOD problem. In this fashion, the methodological approach constrains any confounding influence of country-level variations in social or self stigma.

In chapters two and three, the pooled (multi-country) analysis increased the sample size and power in the final model, but prevented country-specific stigma comparisons. While the results in chapters two and three are global outcomes, they do not represent the differences that exist for each race/ethnicity and cultural group. For instance, Chang and colleagues (2008) found that differences existed in meeting criteria for a DSM-IV diagnosis in China. Thus, it is clear that while individuals in the United States and Europe may have met criteria for a DSM-IV diagnosis, those with similar symptoms in Asia may not have met criteria. In addition, a recent study found that Asian American youth were less likely to participate in mental health services as compared to those who were non-Hispanic white in the United States (Garland, et al, 2005). Thus, the results from chapters two and three must be taken into context and not generalized to specific groups, particularly those within each country. While the results are among the best approximations of global family and self-stigma to date, they do not account for race/ethnicity and culture-specific differences between groups.

The results from chapter four were also influenced by the exclusion of race/ethnicity as a variable in the final model. In this chapter, race/ethnicity was not measured as it may have compromised the anonymity of participants in both the medical and social work studies. Since most students in the medical and social work programs were Caucasian, the results do not speak to differences that may occur between different race/ethnicity groups. Therefore, the generalizability of the results must also be taken into context in this study.

There were also limitations in the measurement of health conditions. In chapter two, only single items were used to ask family members if their relative's had certain conditions. Family members may have been unaware of their relative's health conditions or may not have acknowledged the condition, possibly due to stigma. Chapter three provided a much stronger assessment of personal psychiatric disorders and followed criteria from the DSM-IV (American Psychiatric Association, 2000). While some evidence in the United States and Europe suggest that these assessments were consistent with DSM-IV criteria (i.e., Haro, et al, 2006; Kessler, et al., 2004), other research argues that DSM-IV criteria thresholds may not be translatable to other countries (Chang, et al, 2008).

The assessment of key covariates in chapter four includes history of depression, tobacco smoking, alcohol drinking, age, sex/gender, program, and health conditions. The assessment of depression was particularly limited, since it was measured using a single-item response question asking a person whether they had ever felt depressed or received treatment for depression. This covariate likely would have been measured more precisely if a stronger scale such as the Beck Depression Inventory (Beck, Steer, & Carbin, 1988) was used. Similarly, the single item assessed covariates, tobacco smoking and alcohol drinking, would have been stronger with more adequate scales such as the Fagerstrom Tolerance Questionnaire (Fagerstrom & Schneider, 1989) and the CAGE Questionnaire (Mayfield, McLeod, & Hall, 1974).

Furthermore, the assessment of age in chapter four differed between the social work and medical student studies, which was a barrier to adequate comparison. Age was measured as a categorical variable in the medical student study, and was changed to a continuous variable in the social work study. While the categories from the medical student study were used, they were small and limited groups (20-21, 22-23, 24-25, over 25) and did not represent the social work population, which varied in age from 21 to 52 years. Similarly, male-female differences were measured as 'sex' in the medical student study and 'gender' in the social work study. While it is not anticipated that these terms produced significantly different results, there may have been minor variability in responses due to their varied meanings. Furthermore, the measurement of health conditions as part of the MCRS questions (i.e., I prefer not to work with a client with alcohol dependence), did carry assumptions about the basic understanding of these disorders. If students varied as to their understanding of the meaning of these conditions, they may have provided inaccurate results. This is consistent with research citing that there may be a lack of knowledge among general health care professionals about psychiatric conditions (Druss, et al, 2008; Edwards, et al, 2000; Patel, et al, 2007).

Another limitation in the current study was the ability to measure constructs that matched the conceptual model and the dimensions of stigma. First, the main objective of this dissertation was to assess determinants of stigma; however, a subsequent aim was to assess the impact of stigma on treatment engagement. While chapter two was best able to directly measure the impact of stigma on treatment engagement (i.e. stigma as a reason for treatment delay), this idea had to be theoretically connected in the chapters two (family embarrassment) and four (health professional stigma). Also, the literature and theory has discussed several dimensions of stigma (Jones, et al, 1984; Corrigan, et al, 2000). Nonetheless, these were not measured in the current dissertation due to limitations in the questions and items available for analysis.

Implications for Social Work Practice, Education, Policy, and Research

The overall findings from this dissertation were consistent with the current literature suggesting that mental health related conditions are among the most stigmatized worldwide (Feldman & Crandall, 2007). Despite the limitations presented, this dissertation was among the first studies of its kind. First, research to this point has not assessed three 'levels' of stigma concurrently – social sigma, self-stigma, and health professional stigma – comparing individuals with different health, mental health, and drug use conditions. Also, while there have been limited large sample studies about psychiatric social and self-stigma (i.e., Alonso, et al, 2009), most have not been conducted using multi-national samples. Investigation of family stigma has occurred (Lefley, 1989), but not using family embarrassment as a proxy for social stigma. Furthermore, while some research has measured self-stigma in the global context (i.e., Alonso, et al, 2008), these studies were not designed to assess 'concern' as a reason for delayed treatment seeking. Finally, there have only been limited studies assessing health professional stigma (Nordt, et al, 2006), particularly as operationalized as 'willingness to treat' (Christison, et al, 2002), but even less research has investigated social workers (one of the largest treatment providing groups, especially in the United States). Thus, the current research fills several gaps in the current literature. While it is apparent that stigma (all three levels) impacts individuals' lives, there are also several implications for health professionals. These implications will be placed into context within the field of social work and will highlight practice, education, policy, and research.

Social Work Practice

Social workers make up between 60-70 percent of mental health professionals in the United States (Proctor, 2004). While their roles may vary in different countries, they can nonetheless be important participants in mitigating stigma across the world. Chapter four shows that health professionals, and social workers, vary on their willingness to treat clients with certain conditions. Mitigating stigma on an individual and professional level may be one effective way to improve treatment provision among social workers. Since social workers often provide gatekeeping and triage functions in their roles, they are among the first to be in contact with individuals with psychiatric conditions (Hall, et al, 2000). Their attitudes and treatment preferences can thus either promote or disenfranchise treatment seeking among their clients.

If health professionals hold less stigmatizing attitudes, then they may have more opportunities to work with clients on their conditions and issues of stigma. Stigma is one of the greatest barriers to treatment engagement (WHO, 2001). If social workers are able to address these issues within themselves and in treatment with their clients, then they may be able to reduce drop out and recidivism. Chapters two and three have shown that families are embarrassed by their relative's conditions and individuals are concerned about treatment seeking because they are worried about others finding out. These findings show that stigma exists around the world. As health professionals that work with clients every day, social workers must be aware of the implications and work to mitigate stigma as a barrier to social work service delivery. Social workers have the opportunity to work with individuals, but also their families. Family therapy may help relatives understand psychiatric conditions and how they can help the afflicted individual (Lefley, 1989). Some research is suggesting that more attention to families of individuals with mental health conditions in needed (Thornicroft, Brohan, Kassam, & Lewis-Holmes, 2008). If social workers are able to support an individual's support system (family), it may help improve treatment seeking and treatment engagement. Several studies have demonstrated the positive impact between family interventions and treatment engagement by the afflicted individual (Copello, Velleman, & Templeton, 2005; Adeponle, Thombs, Adelekan, & Kirmayer, 2009; Glynn, Cohen, Dixon & Niv, 2006).

Social workers can also be instrumental in leading larger targeted educational efforts aimed at reducing stigma. Targeted programs have shown effectiveness in challenging misconceptions, improving attitudes, and reducing social distance (Thornton &Wahl, 1996; Esters, et al, 1998; Corrigan, et al, 2001). One such program, lead by the network of the World Psychiatric Association, has focused on individuals that impact the larger structural attitudes of stigma such as medical personnel, police officers, and journalists (Thornicroft, et al, 2008). Large macro-level stigma campaigns that can be facilitated by social workers include public advertisements, targeted educational efforts, and advocacy for agency change. Occasionally, other systematic changes need to accompany these targeted efforts (Pinfold, Huxley, Thornicroft, Farmer, Toulmin, & Graham, 2003), but they have shown effectiveness and are important in mitigating stigma around the world. Nonetheless, more interventions and strategies must be developed to mitigate stigma in society.

Social Work Education

One of the most important ways to impact stigma is by educating individuals that have an opportunity to make a difference. For instance, when people have contact with individuals who have mental illnesses, stigma can be diminished (Corrigan, et al, 2001). This may be the result of stereotypical beliefs about psychiatric conditions that are consistent with dimensions of stigma such as dangerousness or aesthetics (see, Jones, et al, 1984). As seen in chapter four, social workers are less willing to treat individuals with drug use disorders. These results may indicate that social work education is not adequately training future professionals to treat clients with these conditions. Exposing social workers to this population may increase their willingness to treat, thus diminishing their stigma. This can be implemented through the field practicum experience at the undergraduate and graduate level. Education on stigma also fits into the practice sequences (macro- and micro- level), elective courses on substance abuse, and clinical diagnosis and assessment courses. Nonetheless, Bina and colleagues (2008) found that improving the knowledge and education of social workers about clients with drug use conditions will increase their interest in working with that population in practice. Furthermore, social work educational research has demonstrated that training social workers improves the likelihood that they will intervene, assess, and provide treatment for persons in an afflicted population, seek employment in that area, and feel confident and competent about their work (Amodeo, 2000).

Social Work and Policy

The results from this dissertation suggest that stigma is a global issue, and efforts to mitigate stigma through policy may be one effective strategy. On the macro-level, social workers can be very influential in advocating for policy change. Corrigan and colleagues (2001) suggest that policy change is one of the three strategies to mitigate stigma in society. For instance, stigma may impact lawmakers and permeate throughout government. One of the most important reasons why mental health care is not adequate is due to the lack of resources. In this case, it appears that economic factors may play a role in access to treatment. However, one reason why economics may impact mental health is due to a low priority within government or other funding bodies to support services (Knapp, Funk, Curran, Prince, Grigg, & McDaid, 2006). The WHO (2003) showed that while neuropsychiatric conditions make up 13 percent of the global burden of disease, only a median 2 percent of health care budgets are appropriated for mental illness. The lack of governmental support combined with the lack of support from other funding bodies (insurance companies) can in part be attributed to stigma (Knapp, et al, 2006). The debate about mental health parity in the United States is another example. Insurance companies in the U.S. have traditionally not funded mental health treatment to the same degree as general physical health illnesses (U.S. Surgeon General, 1999), which promotes that devaluation of mental illness in society. These disparate policies also act as a barrier to afflicted individuals and their ability to access social work services. Social workers and other policy makers can advocate for change in society. Social workers can be specifically instrumental in this process as they often serve disadvantaged populations such as those with mental illnesses, and should work to assist with the needs of their clients.

Social Work and Recommendations for Future Research

Social workers, as social scientists, are in position to develop research programs that seek to understand and influence stigma. The results of this dissertation, along with the current literature, are a solid base for future research. Nonetheless, much more work is needed to understand stigma as it operates around the world. The current dissertation was among the first studies to use multi-national samples to assess social and self-stigma. Unfortunately, further research with larger samples is needed to produce between country comparisons. More research is needed to understand the impact of different cultural traditions, attitudes, values, and beliefs on stigma, as it may vary between and within countries. This is also true among health professionals and their attitudes towards treating individuals in their community. As social scientists that practice and conduct research with different client populations, social workers have the ability to measure stigma among not only different race/ethnicity groups, but also in relation to individuals' sexual orientation, gender, and age.

Also, the first two chapters of this dissertation relied heavily on single item response questions to assess stigma. Future large scale stigma specific research is needed that uses stigma scales, such as those developed by Corrigan and colleagues (2000). In addition, limited research has specifically addressed the dimensions of stigma as discussed in the theoretical literature (Corrigan, et al, 2000; Jones, et al, 1984). Other determinants of stigma should be of primary interest in future research as well. This dissertation focused on health condition status, but the measurement of health conditions was not consistent across studies. Measurement of DSM-IV diagnoses as was conducted in chapter three may be a more appropriate way to accurately assess health conditions.

However, this research must consider differences between countries and regions of countries in meeting criteria for certain conditions. There was also differentiation as to whether other covariates predicted stigma. For examples, while sex was a predictor in chapter four, it was not statistically significant in chapters two and three. More research on sex, age, marital status, income, and education level is needed to determine whether these issues are really factors across levels of stigma.

This dissertation also provides results for one of the first studies on health professional stigma. Since social workers provide a significant amount of mental and behavioral health services, it is in their best interest to measure the stigma that impacts social work service delivery. While using the Medical Condition Regard Scale (Christison, et al, 2002) was one way to measure stigma, there may be other ways to more adequately measure this concept. The development of alternative scales to measure health professional stigma may address other dimensions of stigma in this population. Also, larger studies of health professional stigma are needed across countries, to understand how the attitudes of health professionals influence treatment engagement and access in other regions, countries, and cultures. While chapter four showed that health professionals were least willing to treat nicotine and alcohol dependence, future research should investigate other socially stigmatized conditions such as HIV/AIDS, epilepsy, cancer, and schizophrenia.

Conclusions

Mental health conditions are pervasive around the world (WHO, 2001). In addition, the burden of these conditions is expected to grow over the next 20 years (Mathers & Loncar, 2006). Unfortunately, few individuals receive the psychiatric treatment they need, as individuals often do not seek services and frequently do not remain in care once they begin (Corrigan, 2004; Kessler, Berglund, Bruce, Koch, Laska, Leaf, et al, 2001). The WHO (2001) has suggested that stigma is one of the largest barriers to treatment engagement for this population, even though treatment has shown to be effective, even in low income countries (Patel, et al, 2007). This dissertation was among the first comprehensive assessments of three different 'levels' of stigma, comparing variation associated with different health, mental health, and drug use conditions as well as other possible determinants. While individuals with psychiatric conditions were found most stigmatized, there remains little doubt that more interventions and future research are needed to mitigate stigma. Overall, social stigma, self-stigma, and health professional stigma continue to burden individuals with health, mental health, and drug use conditions.

APPENDICIES

APPENDIX A

Michigan State University Institutional Review Board (IRB) Approval: Chapters 2 and 3

APPLICATION FOR RENEWAL or REVISION

APPROVAL OF A PROJECT INVOLVING HUMAN SUBJECTS

Biomedical, Health Sciences Institutional Review Board (BIRB)
Community Research Institutional Review Board (CRIRB)
Social Science, Behavioral, Education Institutional Review Board (SIRB)
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IRB#: X04-456
ID# r015055

Title: CROSS-NATIONAL STUDIES OF DRUG INVOLVEMENT: WMH2000
Review Category: EXEMPT 1-4
Expiration Date: 5/11/2012

Responsible Project Investigator:
Name: **James Anthony**
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APPENDIX B

Family Burden Section Survey and Gating Protocol from the World Mental Health Surveys, United States Survey. Chapter 2: WHO, 2004b.

FAMILY BURDEN (FB)

*FB1. INTERVIEWER CHECKPOINT: (SEE ***SC3**, ***SC3a**)
***SC3** OR ***SC3a** IS CHECKED.................................... 1 **GO TO *FB2 INTRO1**
ALL OTHERS.. 2 **GO TO *FB2 INTRO2**

***FB2. INTRO1 *FB2. INTRO2**
The next few questions are about health problems of your close family members. How many close family members do you have alive, including your parents, brothers and sisters, children, and (spouse/partner)?
___________ NUMBER OF CLOSE RELATIVES ALIVE
DON'T KNOW.............................. 98
REFUSED....................................... 99

The next few questions are about health problems of your close family members, including your parents, brothers and sisters, and children. We went over this already, but remind me: How many close family members do you have alive?
___________ NUMBER OF CLOSE RELATIVES ALIVE
DON'T KNOW...............................98
REFUSED.......................................99

*FB5. INTERVIEWER QUERY: (SEE ***FB1-*FB4, *SC3**) HOW MANY CLOSE RELATIVES DOES R HAVE,
INCLUDING SPOUSE/PARTNER?
ZERO... 1 **GO TO RESPONDENT CONTACTS**
ONE.. 2 **GO TO *FB6 INTRO1**
TWO.. 3 **GO TO *FB6 INTRO2**
THREE OR MORE.. 4 **GO TO *FB6 INTRO3**

*FB6. INTRO1 *FB6 INTRO2 *FB6 INTRO3
Does your (RELATIVE/ close relative) have any of the following health problems? Does either of your two close relatives have any of the following health problems? Do any of your close relatives have any of the following health problems? (IF NEC: Which relative has that problem?) CHECK ALL MENTIONS

MOTHER (1); FATHER (2); BROTHER (3); SISTER (4); SON (5); DAUGHTER (6);
SPOUSE/PARTNER (7); DK (8); RF (9)

Recode: YES (1); NO (0); DK (8); RF (9)

FB6a. Cancer?
FB6b. Serious heart problems?
FB6c. A serious memory problem, like senility or dementia?
FB6d. Mental retardation?
FB6e. A permanent physical disability like blindness or paralysis?
FB6f. Any other serious chronic physical illness?
FB6g. Alcohol or drug problems?
FB6h. Depression?
FB6i. Anxiety?
FB6j. Schizophrenia or psychosis?
FB6k. Manic-depression?
FB6l. Any other serious chronic mental problem?

*FB7. INTERVIEWER CHECKPOINT: (SEE ***FB6a - *FB6l)**
AT LEAST ONE RESPONSE CODED '1' 2
ALL OTHERS.. 3 **GO TO RESPONDENT CONTACTS**

*FB8. The next questions are about how your life is affected by the health problems of your [RELATIVE/relative(s)]. Taking into consideration your time, energy, emotions, finances, and daily activities, would you say that (his/her/their) health problems effect your life a lot, some, a little, or not at all?
A LOT..1
SOME...2
A LITTLE..3 GO TO RESPONDENT CONTACTS
NOT AT ALL....................................4 GO TO RESPONDENT CONTACTS
DON'T KNOW.................................8 GO TO RESPONDENT CONTACTS
REFUSED ....9 GO TO RESPONDENT CONTACTS

***FB13. How much do (his/her/their) health problems cause you embarrassment – a lot, some, a little, or not at all? (RECODE: YES (1, 2, 3); NOT AT ALL (4); DON'T KNOW (8); REFUSED (9)**
A LOT...1
SOME...2
A LITTLE..3
NOT AT ALL..................................4
DON'T KNOW...............................8
REFUSED 9

APPENDIX C

Services Section Survey and Gating Protocol from the World Mental Health Surveys, United States Survey. Chapter 3: WHO, 2004b.

SERVICES (SR)

***SR3**. [IF ***SR1** EQUALS '1': Earlier in the interview you mentioned being hospitalized for problems with your emotions, nerves or mental health.] How many times in your lifetime has this occurred?
________ TIMES
DON'T KNOW............................998
REFUSED...................................999

*SR4. INTERVIEWER CHECKPOINT (SEE ***SR3**)
***SR3** EQUALS '1'...1
ALL OTHERS..2 **GO TO *SR6**

*SR5a. Was this in the past month, past six months, past year, or more than a year ago?
PAST MONTH...1 **GO TO *SR5c**
PAST SIX MONTHS..............................2 **GO TO *SR5c**
PAST YEAR..3 **GO TO *SR5c**
MORE THAN A YEAR AGO..................4
DON'T KNOW...8
REFUSED..9

*SR8. In the past 12 months, have you been admitted for an overnight stay for problems with your emotions, nerves or mental health or your use of alcohol or drugs?
YES...1 **GO TO *SR9**
NO...5
DON'T KNOW.......................8
REFUSED...............................9

*SR8a. How old were you at the time of your most recent admission for any of these problems?
________ YEARS OLD **GO TO *SR9.1**
DON'T KNOW....................................998 **GO TO *SR9.1**
REFUSED..999 **GO TO *SR9.1**

*SR16. (RB, PG 23) Did you ever in your lifetime go to see any of the professionals on this list for problems with your emotions, nerves, or your use of alcohol or drugs?
YES..1
NO..5 **GO TO *SR122**
DON'T KNOW.....................................8 **GO TO *SR122**
REFUSED..9 **GO TO *SR122**

*SR17: (IF ***SR16** EQUALS '1': Which ones? Just give me the letters. PROBE: Any other? / ALL OTHERS: (RB, PG 23) which of the following types of professionals did you ever see about problems with your emotions or nerves or your use of alcohol or drugs? Just give me the letters?
(PROBE: Any others?) RECORD ALL MENTIONS
A. PSYCHIATRIST..1
B. GENERAL PRACTITIONER OR FAMILY DOCTOR...2
C. ANY OTHER MEDICAL DOCTOR, LIKE A CARDIOLOGIST OR
(WOMEN: GYNECOLOGIST / MEN: UROLOGIST)...3
D. PSYCHOLOGIST...4
E. SOCIAL WORKER..5

F. COUNSELOR..6
G. ANY OTHER MENTAL HEALTH PROFESSIONAL, SUCH AS A PSYCHOTHERAPIST OR MENTAL HEALTH NURSE..7
H. A NURSE, OCCUPATIONAL THERAPIST, OR OTHER HEALTH PROFESSIONAL............8
I. A RELIGIOUS OR SPIRITUAL ADVISOR LIKE A MINISTER, PRIEST, OR RABBI............9
J. ANY OTHER HEALER, LIKE AN HERBALIST, CHIROPRACTOR, OR SPIRITUALIST......10
K. DON'T KNOW...98
L. REFUSE..99

*SR18. RVIEWER CHECKPOINT: (SEE ***SR17**)
***SR17** EQUALS '1'...1
***SR17** EQUALS '2' OR ***SR17** EQUALS '3'..................................2 **GO TO *SR27**
***SR17** EQUALS '4'...3 **GO TO *SR40**
***SR17** EQUALS '5'...4 **GO TO *SR48**
***SR17** EQUALS '6'...5 **GO TO *SR57**
***SR17** EQUALS '7'...6 **GO TO *SR66**
***SR17** EQUALS '8'...7 **GO TO *SR74**
***SR17** EQUALS '9'...8 **GO TO *SR87**
***SR17** EQUALS '10'...9 **GO TO *SR100**
ALL OTHERS..10 **GO TO *SR128**

*SR19. How old were you the first time you talked to a psychiatrist about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW.............998
REFUSED.....................999

*SR20. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?
PAST MONTH..1 **GO TO *SR22**
TWO – SIX MONTHS AGO........................2 **GO TO *SR22**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR22**
MORE THAN 12 MONTHS AGO...............4
DON'T KNOW...8 **GO TO *SR26**
REFUSE..9 **GO TO *SR267**

*SR27. How old were you the first time you talked to (IF ***SR17** EQUALS '1': any other type of medical doctor/ ALL OTHERS: a medical doctor) about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW.............998
REFUSED.....................999

*SR28. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?
PAST MONTH..1 **GO TO *SR30**
TWO – SIX MONTHS AGO........................2 **GO TO *SR30**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR30**
MORE THAN 12 MONTHS AGO...............4
DON'T KNOW...8 **GO TO *SR39**
REFUSED..9 **GO TO *SR39**

*SR40. How old were you the first time you talked to a psychologist about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW.........998

REFUSED..................999

*SR41. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?

PAST MONTH...1 **GO TO *SR43**
TWO – SIX MONTHS AGO........................2 **GO TO *SR43**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR43**
MORE THAN 12 MONTHS AGO...............4
DON'T KNOW..8 **GO TO *SR47**
REFUSED..9 **GO TO *SR4711**

*SR48. How old were you the first time you talked to a social worker about your emotions, nerves, or mental health or your use of alcohol or drugs?

_______ YEARS OLD
DON'T KNOW.............998
REFUSED......................999

*SR49. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?

PAST MONTH...1 **GO TO *SR51**
TWO – SIX MONTHS AGO........................2 **GO TO *SR51**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR51**
MORE THAN 12 MONTHS AGO...............4
DON'T KNOW..8 **GO TO *SR56**
REFUSED..9 **GO TO *SR56**

*SR57. How old were you the first time you talked to a counselor about your emotions, nerves, or mental health or your use of alcohol or drugs)?

_______ YEARS OLD
DON'T KNOW.............998
REFUSED......................999

*SR58. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?

PAST MONTH...1 **GO TO *SR60**
TWO – SIX MONTHS AGO........................2 **GO TO *SR60**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR60**
MORE THAN 12 MONTHS AGO...............4
DON'T KNOW..8 **GO TO *SR65**
REFUSED..9 **GO TO *SR65**

*SR66. How old were you the first time you talked to (IF ***SR17** EQUALS '1' OR '4'OR '5' OR '6': any other type of mental health professional, like a psychotherapist or mental health nurse/ ALL OTHERS: a mental health professional) about your emotions, nerves, or mental health or your use of alcohol or drugs?

_______ YEARS OLD
DON'T KNOW................998
REFUSED........................999

*SR67. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?

PAST MONTH...1 **GO TO *SR69**

TWO – SIX MONTHS AGO........................2 **GO TO *SR69**
SEVEN – 12 MONTHS AGO.......................3 **GO TO *SR69**
MORE THAN 12 MONTHS AGO..............4
DON'T KNOW...8 **GO TO *SR73**
REFUSED..9 **GO TO *SR73**

*SR74. How old were you the first time you talked to a nurse, occupational therapist, or other non-MD health professional about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW..................998
REFUSED..........................999

*SR75. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?
PAST MONTH...1 **GO TO *SR77**
TWO – SIX MONTHS AGO......................2 **GO TO *SR77**
SEVEN – 12 MONTHS AGO.....................3 **GO TO *SR77**
MORE THAN 12 MONTHS AGO.............4
DON'T KNOW..8 **GO TO *SR86**
REFUSED..9 **GO TO *SR86**

*SR87. How old were you the first time you talked to a spiritual advisor about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW.............................998
REFUSED.....................................999

*SR88. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?
PAST MONTH...1 **GO TO *SR90**
TWO – SIX MONTHS AGO.............................2 **GO TO *SR90**
SEVEN – 12 MONTHS AGO............................3 **GO TO *SR90**
MORE THAN 12 MONTHS AGO...................4
DON'T KNOW...8 **GO TO *SR99**
REFUSED...9 **GO TO *SR99**

*SR100. How old were you the first time you talked to a healer – such as an herbalist or chiropractor or spiritualist – about your emotions, nerves, or mental health or your use of alcohol or drugs?
_______ YEARS OLD
DON'T KNOW.....................998
REFUSED.............................999

*SR101. When was the last time – in the past month, 2-6 months ago, 7-12 months ago, or more than 12 months ago?
PAST MONTH...1 **GO TO *SR103**
TWO – SIX MONTHS AGO.............................2 **GO TO *SR103**
SEVEN – 12 MONTHS AGO............................3 **GO TO *SR103**
MORE THAN 12 MONTHS AGO...................4
DON'T KNOW..8 **GO TO *SR109**
REFUSED..9 **GO TO *SR109**

*SR109. INTERVIEWER CHECKPOINT: (SEE ***SR5a**, ***SR8**, ***SR20**, ***SR28**, ***SR41**, ***SR49**, ***SR58**, ***SR67**, ***SR75**, ***SR88**, ***SR101**)
***SR5a** EQUALS '1'-'3' OR ***SR8** EQUALS '1' OR ***SR20** EQUALS '1' – '3' OR
***SR28** EQUALS '1' – '3' OR ***SR41** EQUALS '1' – '3' OR ***SR49** EQUALS '1' – '3'

OR ***SR58** EQUALS '1' – '3'OR ***SR67** EQUALS '1' – '3'OR ***SR75** EQUALS '1' – '3'
OR ***SR88** EQUALS '1' – '3' OR ***SR101** EQUALS '1' – '3'..1
ALL OTHERS..2 **GO TO *SR122**

***SR110.** The next question is about the money you spent over the past 12 months on treatment of problems with your emotions or substance use. This includes all the money you and your family members paid "out-of-pocket" for visits, medications, tests, and services associated with your treatment. Not including any costs that were reimbursed or that will be reimbursed by insurance, about how much money have you (and your family) spent on treatment of emotional or substance problems in the past 12 months? (CODE "NONE" AS ZERO DOLLARS)
____________ DOLLARS
DON'T KNOW............998
REFUSED....................999

*SR111. When you went to see a professional about your emotions or substance use in the past year, was this something you wanted to do, or did you go only because someone else was putting pressure on you?
R WANTED TO DO IT...1 **GO TO *SR113**
SOMEONE ELSE PUTTING PRESSURE ON R..2
(IF VOL) BOTH..3 **GO TO *SR114**
DON'T KNOW..8 **GO TO *SR119**
REFUSED...9 **GO TO *SR119**

*SR112. (RB, PG 25) Which of these three statements best describes why you didn't want to see a professional:
You didn't think you had a problem? You had a problem, but you thought you could handle it on your own? Or you thought that you needed help, but didn't believe professional treatment would be helpful?
R DIDN'T THINK HE/SHE HAD A PROBLEM..1
R HAD A PROBLEM, BUT THOUGHT HE/SHE COULD HANDLE IT
ON HIS/HER OWN..2
R THOUGHT THAT HE/SHE NEEDED HELP BUT DIDN'T BELIEVE
PROFESSIONAL TREATMENT WOULD BE HELPFUL..3
OTHER (SPECIFY)...4
DON'T KNOW..8
REFUSED...9
GO TO *SR119

***SR113**. Did anyone encourage you or put pressure on you to see a professional about your emotions or substance use?
YES...1
NO..5
DON'T KNOW.................................8
REFUSED...9
*SR114. How long had you been thinking that you needed to see a professional before you started treatment?
___________ DURATION NUMBER   CIRCLE UNIT OF TIME:
DAYS ...1 WEEKS ....2 MONTHS....3 YEARS.... 4
DON'T KNOW...............................998
REFUSED.......................................999

*SR115. INTERVIEWER CHECKPOINT: (SEE ***SR114**)
***SR114** EQUALS AT LEAST FOUR WEEKS...1
ALL OTHERS...2 **GO TO *SR118**

*SR116. I'm going to read a list of reasons for delaying help-seeking and ask you to say "yes" or "no" for whether each one was a reason for why you didn't get professional help more quickly than you did?
YES (1); NO (0); DK (8); RF (9)

*SR116a. My health insurance would not cover treatment.
*SR116b. I thought the problem would get better by itself.
*SR116c. The problem didn't bother me very much at first.
*SR116d. I wanted to handle the problem on my own.
*SR116e. I didn't think treatment would work.
*SR116f. I received treatment before and it didn't work.
*SR116g. I was concerned about how much money it would cost.
***SR116h. I was concerned about what people would think if they found out I was in treatment.**
*SR116i. I had problems with things like transportation or scheduling that made it hard to get to treatment.
*SR116j. I was unsure about where to go or who to see.
*SR116k. I thought it thought it would take too much time or be inconvenient.
*SR116l. I could not get an appointment.
*SR116m. I was scared about being put in a hospital against my will.
*SR116n. I was not satisfied with available services.

APPENDIX D

Michigan State University Institutional Review Board (IRB) Approval Letter: Chapter 4

February 3, 2010

To: Sheryl Kubiak
110 Baker Hall

Re: **IRB# 07-242** Category: EXPEDITED 2-3, 2-7
Renewal Approval Date: February 3, 2010
Project Expiration Date: February 2, 2011

Title: Stigmatized views among social work students toward substance abuse and depression

The Institutional Review Board has completed their review of your project. I am pleased to advise you that the renewal has been approved.

This letter notes approval for data analysis only (contact with subjects and data collection is complete). Any further recruitment, data collection or contact with subjects will require IRB review and approval via a revision before implementation.

The review by the committee has found that your renewal is consistent with the continued protection of the rights and welfare of human subjects, and meets the requirements of MSU's Federal Wide Assurance and the Federal Guidelines (45 CFR 46 and 21 CFR Part 50). The protection of human subjects in research is a partnership between the IRB and the investigators. We look forward to working with you as we both fulfill our responsibilities.

Renewals: IRB approval is valid until the expiration date listed above. If you are continuing your project, you must submit an Application for Renewal application at least one month before expiration. If the project is completed, please submit an Application for Permanent Closure.

Revisions: The IRB must review any changes in the project, prior to initiation of the change. Please submit an Application for Revision to have your changes reviewed. If changes are made at the time of renewal, please include an Application for Revision with the renewal application.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to the human subjects, notify the IRB office promptly. Forms are available to report these issues.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email
at IRB@msu.edu. Thank you for your cooperation.

Sincerely,

Gail M. Dummer, Ph.D.
SIRB Chair

c: James Anthony, Brian Ahmedani

APPENDIX E

Health Professional Stigma Longitudinal Study Engine Online Survey and Consent: Chapter 4.

MSU LSE Online Question and Survey Format

Thank you for logging on. We are asking for your cooperation as part of a study of social work students and their perceptions regarding treatment of clients with various conditions. For your participation, you will be provided with a gift certificate that you can use immediately. (Instructions for accessing this gift certificate are at the end of the survey.) Please only complete this survey if you are age 18 years of age or older.

We built this web survey so that people can be honest when they answer our questions and we have no way to link your admission number to you as an individual. You have a USERID and PASSWORD. We will have no way to learn who you are, unless you yourself tell us. It will take about 15 minutes of your time from the first question to the final question. You are not required to answer the questions to receive your gift certificate.

Social Work students who provided a saliva specimen during our original recruitment session are eligible to participate in a sub-study. Participation in the sub-study involves four steps: (1) Signifying consent to participate in the sub-study by clicking the 'Yes, I consent" answer to the first question listed below; (2) Answering six short questions about recent tobacco smoking activity and associated experiences; (3) Answering 14 short questions from the Buss-Durkey-Hostility Inventory, and (4) Signifying consent for the research team to remove your saliva specimen from cold storage in order to test the specimen for (a) salivary cotinine level, as an indicator of the level of smoking, and (b) genetic polymorphisms found to be associated with nicotine dependence. For this sub-study, there is no need to make a linkage between you, your answers, and your saliva specimen. We use the admission ticket number for this purpose. The admission ticket number was drawn, by you, at random, and we did not keep a record of which admission ticket number you received. You will recall that the saliva specimen container was marked with the same admission ticket number, but not with your name or other identifying information. No one will ever be able to link your identity with your participation in this online survey or sub-study. In this way, you are protected from risk of harm from study participation. If you do not wish to consent to participate in your sub-study, your saliva specimen will be destroyed without testing.

By completing this study you have the opportunity to contribute to our understanding of social work students' views on various health problems and ultimately, on more effective approaches for helping clients with these conditions. There is a minimal risk of distress if the conditions presented remind you of a problem that you or a close friend or family member may have had.

The Principal Investigator for this research program is Dr. Sheryl Kubiak, Assistant Professor, Department of Social Work, Michigan State University, East Lansing, Michigan 48824 USA. If you have any questions about this study, please feel free to call her at: 517-432-7110 or email at: spk@msu.edu. If you have any concerns about participating in this research, please contact Dr. Peter Vasilenko, Chair, MSU Institutional Review Board at 517-355-2180 or by email: irb@msu.edu

By clicking the "next" button below and continuing with the survey, you are giving consent to include your responses in our database.

Please read the following statements carefully. Although you have not completed school, we are interested in your views about working with clients in the future. Check each item that represents your views regarding a client with the designated condition that you may see in as a future physician.

<u>A client with major depression</u>

1. I prefer not to work with clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
2. Clients like this irritate me.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
3. I enjoy giving extra time to clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
4. Clients like this are particularly difficult for me to work with.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
5. Working with clients like this is satisfying.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
6. I feel especially compassionate toward clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
7. I wouldn't mind getting up on call nights to care for clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
8. I can usually find something that helps clients like this feel better.
    - Strongly disagree

- Disagree
- Not sure, but probably disagree
- Not sure, but probably agree
- Agree
- Strongly agree

9. There is little I can do to help clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
10. Health plans should cover clients like this to the same degree that they cover clients with other conditions.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
11. Treating clients like this is a waste of resources.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
12. I believe that persons with depression are likely to benefit from medication.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree

13. I think that persons with depression are likely to benefit from counseling.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
14. I think people with depression will recover.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
15. I feel sorry for persons with depression
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree

- Not sure, but probably agree
- Agree
- Strongly agree

A client who is alcohol dependent

16. I prefer not to work with clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
17. Clients like this irritate me.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree

18. I enjoy giving extra time to clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
19. Clients like this are particularly difficult for me to work with.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
20. Working with clients like this is satisfying.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
21. I feel especially compassionate toward clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
22. I wouldn't mind getting up on call nights to care for clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree

- Not sure, but probably agree
- Agree
- Strongly agree

23. I can usually find something that helps clients like this feel better.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
24. There is little I can do to help clients like this.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
25. Health plans should cover clients like this to the same degree that they cover clients with other conditions.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
26. Treating clients like this is a waste of resources.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
27. I believe that persons with alcohol dependence are likely to benefit from medication.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
28. I think that persons with alcohol dependence are likely to benefit from counseling.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree
29. I think people with alcohol dependence will recover.
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree

30. I feel sorry for persons with alcohol dependence
    - Strongly disagree
    - Disagree
    - Not sure, but probably disagree
    - Not sure, but probably agree
    - Agree
    - Strongly agree

The following questions are about you and your lifestyle:

46. How would you describe *your* smoking?
    - I have never smoked and do not smoke now
    - I have smoked before, but I do not smoke now
    - I smoke, but less than once a week
    - I smoke some every week, but not every day
    - I smoke every day, but less than 5 cigarettes a day
    - I smoke at least 5 cigarettes every day

47. How often do *you* drink alcoholic beverages?
    - Never
    - Monthly or less
    - 2 to 4 times a month
    - 2 to 3 times a week
    - 4 or more times a week

48. On occasions when you drink, how many drinks do you usually have?
    a. N/A, never drink
    b. One
    c. Two
    d. Three
    e. Four
    f. Five or More

49. Have you ever been concerned that you had a drinking or other drug use problem?
    a. Yes
    b. No
    c. Not sure, but probably so
    d. Not sure, but probably not

50. Have you ever been concerned that someone in your immediate family had a problem with drinking or other drug use?
    a. Yes
    b. No
    c. Not sure, but probably so
    d. Not sure, but probably not

51. Have *you* ever received treatment for depression or felt that you were depressed?
    - Yes
    - No

This is the end of the survey. Thank you very much for your time. To use your $__ gift certificate, please use the following steps:

REFERENCES

REFERENCES

Adeponle, A.B., Thombs, B.D., Adelekan, M.L. & Kirmayer, L.J. (2009). Family participation in treatment, post-discharge appointment and medication adherence at a Nigerian psychiatric hospital. *The British Journal of Psychiatry, 194*, 86-87. doi: 10.1192/bjp.bp.108.052217.

Ahern, J., Stuber, J., & Galea, S. (2007). Stigma, discrimination and the health of illicit drug users. *Drug and Alcohol Dependence, 88*(2), 188-196.

Ahmedani, B.K., Kubiak, S.P., Rios-Bedoya, C.F., Mickus, M., & Anthony, J.C. (2009). Stigma attached to drug dependence and depression: Perceptions of future health professionals. Poster presented at the College on Problems of Drug Dependence 71st Annual Scientific Meeting, Reno, NV.

Alonso, J., Buron, A., Bruffaerts, R., He, Y., Posada-Villa, J., Lepine, J-P., et. al. (2008). Association of perceived stigma and mood and anxiety disorders: Results from the World Mental Health Surveys. *Acta Psychiatr Scand, 118*, 305-314.

Alonso, J., Buron, A., Rojas-Farreras, S., de Graaf, R., Haro, J., de Girolamo, G., et al. (2009). Perceived stigma among individuals with common mental disorders. *Journal of Affective Disorders, 118*, 180-186. doi: 10.1016/j.jad.2009.02.006.

American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders (4th Ed., Text Revision). Washington, D.C.: Author.

Amodeo, M. (2000). The therapeutic attitudes and behavior of social work clinicians with and without substance abuse training. *Substance Use Misuse, 35*(11), 1507-1536.

Angermeyer, M.C. & Matschinger, H. (2005). Have their been any changes in the public's attitudes towards psychiatric treatment? Results from representative population surveys in Germany in the years 1990 and 2001. *Acta Psychiatrica Scandinavica, 111*(1), 68-73.

Angermeyer, M.C. & Matschinger, H. (1996). The effect of violent attacks by schizophrenic persons on the attitude of the public towards the mentally ill. *Social Science & Medicine, 43,* 1721-1728.

Beck, A.T., Steer, R.A., & Carbin, M.G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*(1), 77-100.

Begun, A. L. (Ed.). (2004). Social work education for the prevention and treatment of alcohol use disorders. (NIH Publication No. 03-5386). Bethesda, MD: U.S.

Department of Health and Human Services, National Institute on Alcohol Abuse and Alcoholism.

Bina, R., Harnek-Hall, D.M., Mollette, A., Smith-Osbourne, A., Yum, J., Sowbel, L., et al. (2008). Substance abuse training and perceived knowledge: predictors of perceived preparedness to work in substance abuse. *Journal of Social Work Education, 44*(3), 7-20.

Bowling, A. (2005). Just one question: If one question works, why ask several? *Journal of Epidemiology and Community Health, 59*(5), 342-345. doi: 10.1136/jech.2004.021204.

Brashers, D. (2008). Marginality, Stigma, and Communication. In Donsbach, W. (Ed). *The International Encyclopedia of Communication.* Blackwell Publishing. Retrieved on November 18, 2008, from Blackwell Reference Online: http://www.blackwellreference.com/subscriber/tocnode?id=g9781405131995_chunk_g978140513199518_ss6-1.

Buka, S.L. (2008). Psychiatric epidemiology: Reducing the global burden of mental illness. *American Journal of Epidemiology, 168*, 977-979. doi:10.1093/aje/kwn298.

Chang, S.M., Hahm, B., Lee, J., Shin, M.S., Jeon, H.J., Hong, J., et al. (2008). Cross-national differences in the prevalence of depression caused by the diagnostic threshold. *Journal of Affective Disorders, 106*, 159-167.

Christison, G.W., Haviland, M.G. & Riggs, M.L. (2002). The medical condition regard scale: measuring reactions to diagnoses. *Academic Medicine, 77*, 257-262.

Cooper, A.E., Corrigan, P.W., & Watson, A.C. (2003). Mental illness stigma and care seeking. *Journal of Nervous and Mental Disease, 191*(5), 339-341.

Copello, A.G., Velleman, R.D.B., & Templeton, L.J. (2005). Family interventions in the treatment of alcohol and drug problems. *Drug and Alcohol Review, 24*, 369-385. doi: 10.1080/09595230500302356.

Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist, 50*(7), 614-625.

Corrigan, P.W. (1998). The impact of stigma on severe mental illness. *Cognitive and Behavioral Practice, 5*, 201-222.

Corrigan, P.W. & Calabrese, J.D. (2005). Strategies for assessing and diminishing self-stigma. In Corrigan, P.W. (Ed). *On the stigma of mental illness: Practical strategies for research and social change.* (pp. 239-256). Washington, DC, US: American Psychological Association.

Corrigan, P.W., Markowitz, F.E., & Watson, A.C. (2004). Structural levels of mental illness stigma and discrimination. *Schizophrenia Bulletin, 30*, 481–491.

Corrigan, P., Markowitz, F, Watson, A., Rowan, D. & Kubiak, M.A. (2003). An attribution model of public discrimination towards persons with mental illness. *Journal of Health Behavior, 44*(2), 162-179.

Corrigan, P.W., Green, A., Lundin, R., Kubiak, M.A., & Penn, D.L. (2001). Familiarity with and social distance from people who have serious mental illness. *Psychiatric Services, 52*, 953-958.

Corrigan, P.W., River, L. P., Lundin, R.K., Penn, D.L., Uphoff-Wasowski, K., Campion, J., et al. (2001). Three strategies for changing attributions about severe mental illness. *Schizophrenia Bulletin, 27(2),* 187-195.

Corrigan, P.W., River, L.P., Lundin, R.K., Wasowski, K.U., Campion, J., Mathisen, J., et al. (2000). Stigmatizing attributions about mental illness. *Journal of Community Psychology, 28*(1), 91-102.

Corrigan, P.W. & Watson, A.C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry,* 1(1), 16-20.

Corrigan, P.W., Watson, A.C., & Miller, F.E. (2006). Blame, shame, and contamination: The impact of mental illness and drug dependence stigma on family members. *Journal of Family Psychology, 20*(2), 239-246. doi: 10.1037/0893-3200.20.2.239.

Crisp, A., Gelder, M., Rix, S., Meltzer, H., Rowlands, O. (2000). Stigmatisation of people with mental illnesses. *British Journal of Psychiatry, 177*, 4-7.

Crocker, J. (1999). Social stigma and self-esteem: Situational construction of self-worth. *Journal of Experimental Social Psychology, 35*, 89-107.

Crocker, J. (1996). Stigma. In Antony S. R. and Hewstone, M. (Eds). *The Blackwell Encyclopedia of Social Psychology*. Blackwell Publishing. Retrieved November 18, 2008 from Blackwell Reference Online: http://www.blackwellreference.com/subscriber/tocnode?id=g9780631202899_chunk_g978063120289921_ss1-54.

Crocker, J., & Lutsky, N. (1986). Stigma and the dynamics of social cognition. In Ainlay, S.C., Becker, G., & Coleman, L.M. (Eds)., *The dilemma of difference: A multidisciplinary view of stigma*. New York: Plenum Press.

Crocker, J., & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review, 96*, 608-630.

Crocker, J., Major, B., & Steele, C. (1998). Social stigma. In Fiske, S., Gilbert, D., & Lindzey, G. (Eds.), *Handbook of social psychology*. Boston: McGraw-Hill.

Crocker, J. & Quinn, D.M. (2002). Psychological Consequences of Devalued Identities. In Brown, R. and Gaertner, S. (Eds). *Blackwell Handbook of Social Psychology: Intergroup Processes*. Blackwell Publishing. Retrieved from Blackwell Reference Online on November 18, 2008 from http://www.blackwellreference.com/subscriber/tocnode?id=g9781405106542_chunk_g978140510654214.

Dietrich, S., Heider, D., Marschinger, H. & Angermeyer,M.C. (2006). Influence of newspaper reporting on adolescents' attitudes towards people with mental illness. *Social Psychiatry and Psychiatric Epidemiology, 41*(4), 318.

Druss, B.G., Marcus, S.C., Campbell, J., Cuffel, B., Harnett, J., Ingoglia, C., et al. (2008). Medical services for clients in community mental health centers: results from a national survey. *Psychiatric Services, 59*, 917-920.

Dudley, J. R. (2000). Confronting stigma within the services system. *Social Work, 45*, 449–455.

Edwards, D., Burnard, P., Coyle, D., Fothergill, A., & Hannigan, B. (2000). Stress and burnout in community mental health nursing. *Journal of Psychiatric and Mental Health Nursing, 7*, 7-14.

Esters, L.G., Cooker, P.G., Ittenbach, R.F. (1998). Effects of a unit of instruction in mental health on rural adolescents' conceptions of mental illness and attitudes about seeking help. *Adolescence, 33*, 469-476.

Fagerstrom, K. & Schneider, N.G. (1989). Measuring nicotine dependence: A review of the Fagerstrom Tolerance Questionnaire. *Journal of Behavioral Medicine, 12*(2), 159-182.

Feldman, D.B. & Crandall, C.S. (2007). Dimensions of mental illness stigma: What about mental illness causes social rejection. *Journal of Social and Clinical Psychology, 26*(2), 137-154.

Fewell, C.H., King, B.L., & Weinstein, D.L. (1993). Alcohol and other drug use among social work colleagues and their families: Impact on practice. *Social Work, 38*, 565-570.

Gabriel, A. & Violato, C. (2009; in press). The development and psychometric assessment of an instrument to measure attitudes towards depression and its treatments in patients suffering from non-psychotic depression. *Journal of Affective Disorders*. doi:10.1016/j.jad.2009.11.009.

Garland, A.F., Lau, A.S., Yeh, M., McCabe, K.M., Hough, R.L., & Landsverk, J.A. (2005). Racial and ethnic differences in utilization of mental health services among high-risk youth. *American Journal of Psychiatry, 162*(7), 1336-1343.

Gassman, R.A., Demone, H.W., & Albilal, R. (2001). Alcohol and other drug content in core courses: Encouraging substance abuse assessment. *Journal of Social Work Education, 37*(1), 137-145.

Giles, H., Noels, K.A., Williams, A., Ota, H., Lim, T., Ng, S.H., et. al. (2003). Intergenerational communication across cultures: Young people's perceptions of conversations with family elders, non-family elders, and same-age peers. *Journal of Cross-Cultural Gerontology, 18*, 32.

Glynn, S.M., Cohen, A.N., Dixon, L.B. & Niv, N. (2006). The potential impact of the recovery movement on family interventions for Schizophrenia: Opportunities and obstacles. *Schizophrenia Bulletin, 32*(3), 451-463. doi:10.1093/schbul/sbj066.

Goffman E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs NJ: Prentice Hall.

Hall, M.N., Amodeo, M., Shaffer, H.J., & Vander Bilt, J. (2000). Social workers employed in substance abuse treatment agencies: A training needs assessment. *Social Work, 45*(2), 141-155.

Hämäläinen, J., Isometsä, E., Laukkala, T., Kaprio, J., Poikolainen, K., Heikkinen, M., et al, (2004). Use of health services for major depressive episode in Finland. *Journal of Affective Disorders, 79*(1-3), 105-112. doi: 10.1016/S0165-0327(98)00063-9.

Haro, J.M., Arbabzadeh-Bouchez, S., Brugha, T.S., de Girolamo, G., Guyer, M.E., Jin, R., et al. (2006). Concordance of the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) with standardized clinical assessments in the WHO World Mental Health Surveys. *International Journal of Methods in Psychiatric Research*, 15(4), 167-180.

Hinshaw, S.P. (2005). The stigmatization of mental illness in children and parents: Developmental issues, family concerns, and research needs. *Journal of Child Psychology and Psychiatry, 46*(7), 714-734. doi: 10.1111/j.1469-7610.2005.01456.x.

Hughes, J.R. & Kalman, D. (2006). Do smokers with alcohol problems have more difficulty quitting? *Drug & Alcohol Dependence, 82*, 91–102.

Hugo, C.J., Boshoff, D.E.L., Traut, A., Zungu-Dirwayi, N., & Stein, D.J. (2003). Community attitudes toward and knowledge of mental illness in South Africa. *Social Psychiatry and Psychiatric Epidemiology, 38*, 715-719.

Johnston, J.M., Chan, S.S.C., Chan, S.K.K., Lam, T.H., Chi, I., & Leung, G.M. (2004). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. *Preventive Medicine, 40,* 389-406.

Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., & Scott, R. A. (1984). *Social stigma: The psychology of marked relationships*. New York: Freeman.

Jorm, A.F., Barney, L.J., Christensen, H., Highet, N.J., Kelly, C.M., & Kitchener, B.A. (2006). Research on mental health literacy: What we know and what we still need to know. *Australia and New Zealand Journal of Psychiatry, 40,* 3-5.

Kelly, C.M. & Jorm, A.F. (2007). Stigma and mood disorders. *Current Opinion in Psychiatry, 20*(1), 13. doi: 10.1097/YCO.0b013e3280113cf5.

Kessler, R.C., Abelson, J., Demler, O., Escobar, J.I., Gibbon, M., Guyer, M.E., et al. (2004). Clinical Calibration of DSM-IV Diagnoses in the World Mental Health (WMH) Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research, 13*(2), 122-139.

Kessler, R. C., Berglund, P. A., Bruce, M. L., Koch, R., Laska, E. M., Leaf, P. J., et al. (2001). The prevalence and correlates of untreated serious mental illness. *Health Services Research, 36,* 987–1007.

Kessler, R.C., Chiu, W.T., Demler, O., & Walters, E.E. (2005). Prevalence, severity, and Comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 617-627.

Kessler, R.C. & Üstün, T.B. (2004). The World Mental Health Survey (WMH) initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research, 13*(2), 93-121.

Klin, A. & Lemish, D. (2008). Mental disorders stigma in the media: Review of studies on production, content and influences. *Journal of Health Communication, 13*(5), 434-449.

Knapp, M., Funk, M., Curran, C., Prince, M., Grigg, M., & McDaid, D. (2006). Economic barriers to better mental health practice and policy. *Health Policy and Planning, 21*(3), 157.

Kohn, R., Dohrenwend, B.P., & Mirotznik, J. (1998). Epidemiologic findings on selected psychiatric disorders in the general population. In B.P. Dohrenwend (Ed.), *Adversity, Stress, and Psychopathology* (pp. 235-284). New York, NY: Oxford University Press.

Lee, S., Lee, M.T.Y., Chiu, M.Y.L., & Kleinman, A. (2005). Experience of social stigma by people schizophrenia in Hong Kong. *The British Journal of Psychiatry, 186*, 153-157.

Lefley, H.P. (1989). Family burden and family stigma in major mental illness. *American Psychologist, 44*(3), 556-560.

Lemert, E. (2000). How we got where we are: An informal history of the study of deviance. In C. Lemert & M. Winter (Eds.), *Crime and deviance: Essays and innovations of Edwin M. Lemert.* Lanham: Rowman & Littlefield.

Link, B. G., Cullen, F. T., Frank, J., & Wozniak, J. F. (1987). The social rejection of former mental patients: Understanding why labels matter. *American Journal of Sociology, 92,* 1461–1500.

Link, B.G., Cullen, F.T., Struening, E.L., Shrout, P.E., & Dohrenwend, B.P. (1989). A modified labeling theory approach in the area of mental disorders: An empirical assessment. *American Sociological Review, 54*, 100–123.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*, 363–385.

Link, B.G., Struening, E.L., Neese-Todd, S., Asmussen, S., & Phelan, J.C. (2001). Stigma as a barrier to recovery: The consequences of stigma for the self-esteem of people with mental illnesses. *Psychiatric Services, 52*, 1621-1626.

Link, B.G., Struening, E.L., Rahav, M., Phelan, J.C., & Nuttbrock, L. (1997). On stigma and its consequences: Evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *Journal of Health and Social Behavior, 38*, 177-190.

Link, B.G., Yang, L.H., Phelan, J.C., & Collins, P.Y. (2004). Measuring mental illness stigma. *Schizophrenia Bulletin, 30*(3), 511-541.

Lopez, A.D., Mathers, C.D., Ezzati, M., Jamison, D.T., & Murray, C.J.L. (2006). Global and regional burden of disease and risk factors, 2001: Systematic analysis of population health data. *The Lancet, 367*, 1747-1757.

Lundberg, B., Hansson, L., Wentz, E., & Bjorkman, T. (2007). Sociodemographic and clinical factors related to devaluation/discrimination and rejection experiences among users of mental health services. *Social Psychiatry Psychiatric Epidemiology, 42*, 295-300.

Mackenzie, C.S., Gekoski, W.L. & Knox, V.J. (2006). Age, gender, and the underutilization of mental health services: The influence of help-seeking attitudes. *Aging & Mental Health, 10*(6), 574-582.

Mann, C.E. & Himelein, M.J. (2004). Factors associated with stigmatization of persons with mental illness. *Psychiatric Services, 55*, 185-187.

Mathers, C.D. & Loncar, D. (2006). Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med, 3*(11), e442. doi:10.1371/journal.pmed.0030442.

Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism screening instrument. *American Journal of Psychiatry, 131*(10), 1121-1123.

McSween, J.L. (2002). The role of group interest, identity, and stigma in determining mental health policy preferences. *Journal of Health Politics, Policy, and Law, 27*(5), 773.

Mojtabai, R. (2007). Americans' attitudes towards mental health treatment seeking: 1990-2003. *Psychiatric Services, 58*(5), 642-651. doi: 10.1176/appi.ps.58.5.642.

Mojtabai, R. (2009). Unmet need for treatment of major depression in the United States. *Psychiatric Services, 60*, 297-305. doi: 10.1176/appi.ps.60.3.297.

Monteiro, V.B.M., Quiino dos Santos, J., & Martin, D. (2006). Patients' relatives delayed help seeking after a first psychotic episode. *Rev Bras Psiquiatr, 28*(2), 104-110.

Murray, C.J.L. & Lopez, A.D. (1997). Alternative projections of mortality and disability by cause 1990-2020: Global burden of disease study. *The Lancet, 349*, 1498-1504.

National Institute of Mental Health [NIMH]. (2006). *The Numbers Count: Mental Disorders in America.* Retrieved on November 10, 2008 from http://www.nimh.nih.gov/publicat/numbers.cfm#Intro.

Nordt, C., Rössler, W., & Lauber, C. (2006). Attitudes of mental health professionals toward people with Schizophrenia and Major Depression. *Schizophrenia Bulletin, 32*(4), 709.

O'Brien, R.M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity, 41*, 673-690.

Ostman, M. & Kjellin, L. (2002). Stigma by association: Psychological factors in relatives of people with mental illness. *British Journal of Psychiatry, 181*, 494-498.

Parikh, S.V., Lesage, A.D., Kennedy, S.H., & Goering, P.N. (1999). Depression in Ontario: Under-treatment and factors related to antidepressant use. *Journal of Affective Disorders, 52*(1-3), 67-76. doi: 10.1016/S0165-0327(98)00063-9.

Patel, V., Flisher, A.J., Hetrick, S., & McGorry, P. (2007). Adoelscent health 3: mental health of young people: a global public health challenge. *The Lancet, 369*, 1302.

Patel, V., Araya, R., Chatterjee, S., Chisholm, D., Cohen, A., De Silva, M., et al. (2007). Treatment and prevention of mental disorders in low-income and middle-income countries. *The Lancet, 370*(9591), 991-1005. doi: 10.1016/S0140-6736(07)61240-9.

Peluso, E. & Blay, S. (2009). Public stigma in relation to individuals with depression. *Journal of Affective Disorders, 115*(1), 201-206.

Peterson, D., Pere, L., Sheehan, N., & Surgenor, G. (2007). Experiences of mental health discrimination in New Zealand. *Health & Social Care in the Community, 15*(1), 18-25.

Phelan, J.C., Bromet, E.J., & Link, B.G. (1998). Psychiatric illness and family stigma. *Schizophrenia Bulletin, 24*(1), 115-126.

Pinfold, V., Huxley, P., Thornicroft, G., Farmer, P., Toulmin, H., & Graham, T. (2003). Reducing psychiatric stigma and discrimination: Evaluating an educational intervention with the policy force in England. *Social Psychiatry and Psychiatric Epidemiology, 38*, 337-344. doi: 10.1007/s00127-003-0641-4.

Proctor, E.K. (2004). Research to inform mental health practice: Social work's contribution. *Social Work Research, 28*, 195-197.

Robbins, S.P., Chatterjee, P., & Canda, E.R. (2005). *Contemporary human behavior theory: A critical perspective for Social Work, 2/e.* Needham Heights, MA: Allyn & Bacon.

Roeloffs, C, Sherbourne, C., Unutzer, J., Fink, A. Tang, L. & Wells, K.B. (2003). Stigma and depression among primary care patients. *General Hospital Psychiatry.* 25(5): 311-315.

Sayce, L. (2000). *From psychiatric patient to citizen: Overcoming discrimination and social exclusion.* New York: St. Martin's Press, Inc.

Schomerus, G., Matschinger, H., & Angermeyer, M.C. (2009). The stigma of psychiatric treatment and help-seeking intentions for depression. *European Archives of Psychiatry and Clinical Neuroscience, 259*(5), 298-306. doi: 10.1007/s00406-009-0870-y.

Siebert, D.C. (2003). Denial of AOD use: An issue for social workers and the profession. *Health and Social Work, 28*(2), 89-97.

Siebert, D.C. (2004). Depression in North Carolina social workers: Implications for practice and research. *Social Work Research, 28*(1), 30-40.

Siebert, D.C. (2005). Help seeking for AOD misuse among social workers: Patterns, barriers, and implications. *Social Work, 50*(1), 65-75.

Sirey, J.A., Bruce, M.L., Alexopoulos, G.S., Perlick, D.A., Raue, P., Friedman, S.J., & Meyers, B.S. (2001). Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *American Journal of Psychiatry, 158*, 479-481.

Stack, S. & Eshleman, J.R. (1998). Marital status and happiness: A 17-nation study. *Journal of Marriage and Family, 60*(2), 527-536.

Stanley, N., Manthorpe, J., & White, M. (2007). Depression in the profession: Social workers' experiences and perceptions. *British Journal of Social Work, 37*, 281-298.

Stier, A. & Hinshaw, S.P. (2007). Explicit and implicit stigma against individuals with mental illness. *Australian Psychologist, 42*(2), 106-117.

Straussner, S.L.A. (2001). The role of social workers in the treatment of addictions, a brief history. *Journal of Social Work Practice in the Addictions, 1*(1), 3-10.

Tam, T.W., Schmidt, L., & Weisner, C. (1996). Patterns in the institutional encounters of problem drinkers in a community human services network. *Addiction, 91*(5), 657-670.

Thornicroft, G., Brohan, E., Kassam, A., & Lewis-Holmes, E. (2008). Reducing stigma and discrimination: Candidate interventions. *International Journal of Mental Health Systems, 2*, 3. doi: 10.1186/1752-4458-2-3.

Thornton, J.A., & Wahl, O.F. (1996). Impact of a newspaper article on attitudes toward mental illness. *Journal of Community Psychology, 24*, 17–24.

Trucco, E.M., Connery, H.S., Griffin, M.L., & Greenfield, S.F. (2007). The relationship of self-esteem and self-efficacy to treatment outcomes of alcohol-dependent men and women. *American Journal of Addictions, 16*(2), 85-92.

U.S. Surgeon General. (1999). Mental health: A report of the U.S. Surgeon General. Rockville, Maryland, Center of Mental Health Services, National Institute of Mental Health.

Van Brakel, W.H. (2006). Measuring health-related stigma-A literature review. *Psychology, Health, and Medicine, 11*(3), 307-334.

Vogel, D.L., Wade, N.G., & Haake, S. (2006). Measuring the self-stigma associated with seeking psychological help. *Journal of Counseling Psychology, 53*(3), 325-337.

Volmer, D., Mäesalu, M., & Bell, J.S. (2008). Pharmacy students' attitudes toward and professional interactions with people with mental disorders. *International Journal of Social Psychiatry, 54*(5), 402-413.

Wahl, O. (1999). Mental health consumers' experience of stigma. *Schizophrenia Bulletin, 25*, 467-478.

Wang, P.S., Berglund, P., Olfson, M., Pincus, H.A., Wells, K.B., & Kessler, R.C. (2005). Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 603-13.

Wang, P.S., Lane, M., Olfson, M., Pincus H.A., Wells, K.B., & Kessler, R.C. (2005). Twelve-month use of mental health services in the United States. *Archives of General Psychiatry, 62*, 629-640.

Weiner, B. (1995) *Judgements of Responsibility: A foundation for a theory of social conduct.* New York: Guilford Press.

Weiss, M.G. & Ramakrishna, J. (2006). Stigma interventions and research for international health. *The Lancet, 367*, 536-538.

Weissman, M.M., Verdeli, H., Gameroff, M.J., Bledsoe, S.E., Betts, K., Mufson, L., et. al. (2006). National survey of psychotherapy training in psychiatry, psychology, and social work. *Arch Gen Psychiatry, 63, 925-934.*

Williams, P. & Macdonald, A. (1986). The effect of non-response bias on the results of two-stage screening surveys of psychiatric disorder. *Social Psychiatry and Psychiatric Epidemiology, 21*(4), 182-186.

Wingenfeld, K., Mensebach, C., Rullkoetter, N., Schlosser, N., Schaffrath, C., Beblo, T., & Driessen, M. (2009). Relationship between coping with negative life-events and psychopathology: Major depression and borderline personality disorder. *Psychology and Psychotherapy: Theory, Research, and Practice, 82*, 421-425.

World Health Organization [WHO]. (2003). *Investing in mental health.* WHO, Geneva, Switzerland.

World Health Organization [WHO]. (2004a). *The World Health Report 2004: Changing History.* WHO, Geneva, Switzerland.

World Health Organization [WHO]. (2004b). *The World Mental Health Composite International Diagnostic Interview.* Retrieved from http://www.whocidi.org/instruments_capi.php. Accessed 29 January 2010.

World Health Organization, WHO. (2001). *World Health Report 2001. Mental health: new understanding, new hope.* WHO, Geneva, Switzerland.

World Health Organization [WHO]. (2000). The World Health Report 2000: Health systems improving performance. Geneva: WHO.

Yang, L.H., Kleinman, A., Link, B.G., Phelan, J.C., Lee, S., & Good, B. (2007). Culture and stigma: Adding moral experience to stigma theory. *Social Science & Medicine, 64*, 1524-1535.