

An Ecological Approach to Understanding the Stigma Associated
with Receiving Mental Health Services: The Role of Social Proximity

by

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Abstract

Mental health services suffer the substantial limitation of helping only those who seek their assistance. Previous research has demonstrated that mental health stigma, including social and self-stigma, is one of the most significant barriers to an individual seeking available mental health services. Additionally, low levels of social proximity to mental illness may be a significant factor in increased social and self-stigma. Informed by ecological systems theory, this research examined demographic (i.e., gender, race/ethnicity, university) and social proximity factors (i.e., level of familiarity with mental illness and mental health services) that contributed to the mental health stigma associated with seeking mental health services within a university population. Web-based survey responses from 410 undergraduate students at two universities were obtained. A series of hierarchical multiple regression analyses revealed that while controlling for gender, race/ethnicity, and university, having personally received mental health services predicted lower levels of mental health self-stigma. Consistent with previous findings, a significant predictive quality of social stigma towards self-stigma was also found. However, none of the models utilizing social proximity factors to predict social stigma were significant. Implications for practice and future research are discussed.

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Chapter I

Introduction

"Everything that irritates us about others can lead us to an understanding about ourselves."

~ Carl Jung

Mental illnesses are commonly defined as medical conditions that disrupt a person's thinking, feeling, mood, ability to relate to others, and daily functioning (National Alliance on Mental Illness, 2009). Examples of mental illnesses include major depression, schizophrenia, bipolar disorder, obsessive compulsive disorder (OCD), and panic disorder, among others. These mental illnesses often result in an individual's diminished capacity for coping with the ordinary demands of life (National Alliance on Mental Illness, 2009). In severe cases, the inability to cope effectively with mental illness is associated with unemployment, homelessness, substance abuse, inappropriate incarceration, and other detrimental life events (National Alliance on Mental Illness, 2009). The potential for these negative outcomes becomes even more significant considering that approximately 1 in 4 (26.2%) adults in the United States are affected by a diagnosable mental illness in any given year (Kessler, Chiu, Demler, & Walters, 2005). Accessibility to mental health services and the impact of untreated mental illnesses on the national and global economy is a significant concern (Miller & Slive, 2004). In addition to the personal and relational consequences of untreated mental illness, the indirect cost related to mental illness in 1990 was estimated to total 79 billion dollars per year in the United States alone (U.S. Department of Health and Human Services, 1999). Beyond any financial implications, additional personal costs of mental illness include diminished quality of life and difficulties with basic social functioning (Rothi & Leavey, 2006).

Given the enormous financial and social costs associated with mental illness, effective treatment strategies appear critical to offsetting negative outcomes and improving the quality of life for individuals and their families. Research continues to demonstrate a growing number of effective strategies for treating mental illness (U.S. Department of Health and Human Services, 1999). For example, along with continued development in psycho-pharmaceutical intervention, psychotherapy is a common treatment modality that has been documented as a helpful and effective treatment for a broad range of mental health concerns (U.S. Department of Health and Human Services, 1999).

Despite expansions in service delivery, an increase in evidenced based psychotherapeutic approaches, and further development of specializations within the mental health field, mental health services continue to have a significant limitation: Psychotherapy can only help those individuals who seek its assistance (Shaffer, Vogel, & Wei, 2006). In fact, based on an analysis of over 3,000 research articles, a report by the U.S. Surgeon General concluded that although effective treatments (e.g., psychotherapy and psychopharmacology) for severe mental illness exist, only one-half of the population that would benefit from these mental health services would actually seek assistance (U.S. Department of Health and Human Services, 1999). Ultimately, if individuals do not seek mental health services, they minimize any potential benefit a mental health professional could offer them and would likely contribute to the ongoing negative social impact of mental illness.

Barriers to service utilization are central to the explanation of why individuals may not seek mental health services when needed (U.S. Department of Health and Human Services, 1999). The mental health field has been described as being inundated with more barriers to service utilization than any other area of health and medicine (U.S. Department of Health and

Human Services, 1999). Some of these barriers include financial concerns over the cost of mental health care, lack of insurance coverage, and perceived ineffectiveness of treatment (U.S. Department of Health and Human Services, 1999). Beyond these barriers, researchers have emphasized that stigma related to mental illness and seeking mental health services is one of the most common reasons that individuals fail to seek needed services for mental illness (Vogel, Wade, & Haake, 2006).

Individuals considering mental health treatment often experience social or self-stigma related to mental illness and seeking mental health services (Corrigan, 2004). Social stigma, also known as public stigma, is the perception held by others that an individual is socially unacceptable given his or her mental illness or seeking of mental health treatment (Vogel et al., 2006). Alternatively, self-stigma is an individual's perception that he or she is socially unacceptable given his or her mental illness or decision to seek mental health services (Vogel et al., 2006). The experience of either social or self-stigma can be a negative and detrimental life altering event (Wahl & Harman, 1989; Corrigan & Penn, 1999). For example, misconceptions and stereotypes about mental illness, specifically inaccurate information about the functioning, safety, and health of the mentally ill, may lead to discrimination in the workplace (Farina & Felner, 1973), discrimination in housing (Corrigan, 2004), as well as many other negative social outcomes (Sosowsky, 1980; Steadman, 1981). Additionally, both types of stigma may negatively influence the help-seeking behavior of an individual suffering with mental illness, and consequently, minimize or eliminate any potential benefit offered by a mental health professional (Vogel, Wade, and Hackler, 2007). Given the negative experiences associated with both forms of stigma, this study explored both social and self-stigma related to seeking mental health services.

While previous researchers have established the intersection of help-seeking behavior with both social and self-stigma, little attention has been given to how the environment impacts an individual's attitude associated with receiving mental health services (Vogel, Wade, Wester, Larson, & Hackler, 2007). Consistent with Bronfenbrenner's (1979) ecological systems theory, some researchers are beginning to explore environmental or ecological influences (e.g., family, friends, and social networks) that appear critical in helping or hindering an individual's decision to seek mental health services (Miville & Constantine, 2005; Vogel, Wade, Wester, et al., 2007). At its core, Bronfenbrenner's (1979) theoretical stance proposes that an individual's development is strongly affected by the variety of layered interactions he or she has with the environment. In the context of this particular study, Bronfenbrenner's (1979) conceptualization would suggest that the level of social proximity one has with mental illness and mental health services would ultimately interact with and influence one's stigmatizing thoughts and behavior towards mental health services. Given that social and self-stigma have been clearly associated with help-seeking behavior (Vogel et al., 2006), further information on the role of one's environment is warranted to theoretically understand the factors responsible for the formation of each form of stigma. For the few researchers taking a more ecological approach to understanding the influences on mental health help-seeking behavior (Vogel, Wade, Wester, et al., 2007), early results demonstrate that some forms of social proximity with mental illness may be a significant factor in overcoming negative attitudes associated with seeking mental health services. While other studies have explored specific components of the help-seeking process, very few have acknowledged or utilized an ecological approach and no study has comprehensively explored the relationship between mental health social proximity factors and both social and self-stigma.

Although the social and self-stigma of seeking mental health services have been noted in the general population, feelings of stigma may be especially salient for a number of exclusive populations. For example, when compared to the general population, the traditional college age group (18-25) maintains a significantly higher prevalence rate of serious mental illness, while displaying lower rates of help-seeking behavior (Substance Abuse and Mental Health Services Administration, 2009). For college student populations in the United States, the severity and number of mental health problems is on the rise (Cook, 2007). Recently, 85% of university counseling services reported an increase in the number of students with significant histories of mental illness (Prescott, 2008). Researchers have also reported that, along with the typical stressors that contribute to the development of mental illness symptoms in the general population, university students experience many situational and maturational crises that could exacerbate predispositions to mental illness (Cook, 2007). Academic success and psychological well-being also appear to be intertwined (Becker & Luthar, 2002; Strein, Hoagwood, & Cohn, 2003). In fact, psychiatric disorders are one of the primary reasons students fail to finish their secondary school education (Stoep, Weiss, Kuo, Cheney, & Cohen, 2003). Along with the common concerns of anxiety, depression, and stress, recent violence on university campuses (e.g., Virginia Tech, Northern Illinois University) involving students with alleged mental illnesses have resulted in increased awareness of the unaddressed mental health problems of university populations (Prescott, 2008). Again, this information is extremely concerning given the low rates of help-seeking behavior found in this traditional college age group (SAMHSA, 2009).

With a service gap between university students who are struggling with mental illness and those who actually seek professional help (Cook, 2007), the need for a greater understanding

of barriers toward seeking mental health services within university populations remains significant. In a related area, a recent Presidential order of mental health has encouraged school settings to not only address traditional issues related to academic progress, but to further develop a national campaign to reduce the stigma associated with seeking mental health care services (Mills, et al., 2006). Along with being of particular relevance to this study, the information documenting increasing levels of mental illness within university populations is concerning given that high levels of mental health stigma on university campuses has been documented since the early twentieth century (Prescott, 2008). Unfortunately, despite emerging research on the increase in mental illness among college populations and the link between stigma and help-seeking behavior, very little is known about the factors that contribute to the development of social and self-stigma in this population.

At this time, it appears that increasing levels of social proximity with mental illness will help to decrease social stigmatizing attitudes and behaviors (Corrigan, Green, Lundin, Kubiak, & Penn, 2001). Unfortunately, within the context of stigma research, very few researchers have acknowledged the potential use of an ecological approach to adequately address environmental factors (e.g., social proximity variables) and little attention has focused on the role of one's social network in the help-seeking process (Vogel, Wade, Wester, et al., 2007). Additionally, researchers have found that social and self-stigma are significantly related to negative attitudes towards seeking mental health services in university populations (Vogel, Wade, & Hackler, 2007). However, because the combination of level of familiarity with mental illness, level of familiarity with seeking mental health services, and social and self-stigma have not been investigated together in a unified study, little information is known about how an individual's environment contributes to social and self-stigma. Without a more expansive exploration and

understanding of social and self-stigma, the negative attitudes held towards individuals seeking mental health services will continue to have a direct relationship with the underutilization of mental health resources.

Purpose of the Research

Given the rise in mental illnesses among university populations, the significant concerns associated with individuals not seeking appropriate mental health services, and the lack of research integrating an ecological systems approach to understanding the relationship between level of social proximity and stigma, the purpose of this research was to provide a more holistic view of barriers to mental health service utilization by focusing on the relationships among familiarity with mental illness, familiarity with seeking mental health services, and mental health stigma associated with seeking services. With Bronfenbrenner's (1989) ecological systems theory as a theoretical guide, this study examined demographic factors (i.e., gender, race/ethnicity, university setting) and relational social proximity factors (i.e., familiarity with individuals with a mental illness, personal familiarity with receiving mental health services, and familiarity with other individuals having received mental illness) that may be contributing to the development of social and self-stigma in a setting with a history of stigmatizing thoughts and behavior (i.e., university setting) (Prescott, 2008).

This study investigated the following research question: Within a sample of university students, do levels of familiarity with mental illness and mental health services, along with the demographic variables of university setting, gender, and race/ethnicity, predict social and self-stigmatizing beliefs toward receiving mental health services? Ultimately, this investigation examined stigma related to mental health services, one of the major issues that prevents university students from accessing mental health care. By obtaining more insight on the

relationships among social and self-stigma, the level of familiarity one has with mental illness, and the familiarity one has with seeking mental health services, this research intended to supply new information in an effort to help eradicate mental health stigma and promote proper access to services that could potentially benefit millions of individuals.

Chapter II

Review of the Literature

To examine how social proximity to mental illness and mental health services relate to perceived social and self-stigma, this chapter will emphasize the need for an ecological approach to address barriers to seeking mental health services among university students. First, the theoretical perspective guiding this study, ecological systems theory (Bronfenbrenner, 1989) (i.e., an approach to explore one's social proximity and interaction with environmental influences such as family, friends, and social networks), will be reviewed using a mental health care lens. Second, to better understand the process of mental health service utilization and how it relates to stigma, this review will investigate help-seeking behavior and the underutilization of psychological services. Furthermore, to properly address the varying forms of mental health stigma, this chapter will review the current knowledge related to both social and self-stigma, and the potential role of social proximity in the development of stigma. This review will also examine mental health stigma, mental illness, and mental health services in the population of concern (i.e., university students). The review concludes with research questions and proposed hypotheses.

Ecological Systems Theory

Research on mental health treatment is beginning to uncover environmental or ecological influences (e.g., family, friends, social networks) that appear critical in helping or hindering an individual's decision to seek mental health services (Miville & Constantine, 2005; Vogel, Wade, Wester, et al., 2007). Although ecological issues are described as an important component to understanding barriers to mental health service utilization, few studies have actually taken an approach considering social influences on the help-seeking process (Vogel, Wade, Wester, et al.,

2007). Further, few studies have considered ecological influences on factors related to mental health service utilization, such as mental health stigma. To further the understanding of how aspects of a person's environment influence their social and self-stigma related to seeking mental health services, this study is informed by ecological systems theory (Bronfenbrenner, 1989).

Ecological systems theory suggests that individuals are embedded in differing levels of expanding environmental settings which, in turn, are embedded in even larger settings (Bronfenbrenner, 1989). In general, ecological systems theory presents varying levels of environmental influences that impact and interact with an individual's feelings, behavior, and overall functioning (Okun, 2005). Originally conceived by Bronfenbrenner (1979), this theoretical perspective portrays one's environment as "a set of nested structures, each inside the next, like a set of Russian dolls" (p.3) with developmental emphasis placed on the relationships and interconnections between each individual and his or her settings. Thus, a person's individual development throughout the life course is strongly affected by ecological influences and the variety of interactions one encounters in his or her environment (Bronfenbrenner, 1989). Given the broad applicability of this theory, these basic set of ideas have provided a foundation for the development of numerous applied models in the human development and mental health literature.

Within ecological systems theory, the overarching environmental context of which an individual develops is comprised of four primary levels: microsystem, mesosystem, exosystem, and the macrosystem (Bronfenbrenner, 1989). The first system, the microsystem, is defined by Bronfenbrenner (1989) as "a pattern of activities, rules, and interpersonal relations experienced by [*sic*] developing person in a given face-to-face setting with particular physical and material features, and containing other persons with distinctive characteristics of temperament,

personality, systems of beliefs” (p.227). Essentially, this most inward layer encompassing the individual is comprised of the various characteristics of family, home, school, peer group, and workplace environment (Bronfenbrenner, 1989). The next layer, the mesosystem, is comprised of the “linkages and processes taking place between two or more settings containing the developing person” (Bronfenbrenner, 1989, p.227). For example, this is comprised of the relationships established with and interconnections between home and school, school and the workplace, etc. (Bronfenbrenner, 1989). The third layer, the exosystem, is comprised of settings “that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person” (Bronfenbrenner, 1979, p.25). For a developing child, examples of this environmental system may include the network and activities at a parent’s workplace, the rules established by the local school board, or a variety of other indirect environments potentially affecting a child (Bronfenbrenner, 1989). The most outward layer, the macrosystem, has been redefined by Bronfenbrenner (1989) as “the overarching pattern of micro-, meso-, and exosystems characteristic of a given culture, subculture, or other broader social context” (p. 228). Bronfenbrenner (1989) highlights this system as a societal blueprint for an individual’s various levels of cultural and social environments. A visual depiction of Bronfenbrenner’s (1989) environmental levels of ecological systems theory is depicted in Figure A1.

In the context of mental health stigma related to seeking services, one can see how the varying levels of environmental pressure could negatively influence an individual’s attitudes and feelings of stigma toward seeking mental health services. According to Bronfenbrenner (1979), human development is described as an interactive process and relationship between an individual and the immediate surrounding; a surrounding that itself is influenced by relationships with

multiple other settings within a larger context. In an applied example, if an individual perceives stigma related to mental illness and mental health treatment from multiple immediate environmental sources (e.g., family, coworkers, and friends) that have been influenced by larger underlying social norms and interactions, it is reasonable to conclude that these social beliefs could interact with the individual and negatively influence his or her self-stigma towards seeking services. With research demonstrating a negative relationship between increased self-stigma and willingness to seek mental health services (Vogel, Wade, & Hackler, 2007), the increase of self-stigma could ultimately contribute to an individual not seeking mental health services. However, the opposite relationship may exist if an individual has more positive attitudes regarding mental illness and mental health services within his or her sociocultural systems, and does not experience social or self-stigma for receiving mental health services.

With mental health stigma potentially developing from multiple levels of an individual's environment, it is not surprising that researchers have begun examining mental health needs and barriers to mental health service utilization through an ecological lens (Atkins, et al., 1998). For example, discouraged with the traditional linear method of treating mental illness, Atkins et al. (1998) presents an ecological systems-based approach to addressing rising mental health concerns in low-income urban public schools. Building upon the effective Multisystemic Therapy (MST) approach to addressing the individual mental health needs of youth, Atkins and colleagues (1998) proposed an ecological model to address school based mental health services at varying relational levels: Parents and Peers as Leaders in School (PALS). Specifically, Atkins and colleagues (1998) promote PALS as the collaboration of teachers, school personnel, and mental health service providers to address the underutilization of services of a significantly underserved population of students and families (i.e., urban, low-income aggressive children).

With emphasis on coordinated efforts from a variety of ecological levels (e.g., child-level factors, class-level factors, school-level factors, etc.), Atkins et al. (1998) further provides reinforcement for the use of an ecological approach to address barriers, such as social and self-stigma, to mental health service utilization.

Examining the ecological nature of social or self-stigma is also relevant to the process of overcoming barriers to seeking mental health services. For example, using a sample of over 700 university students, Vogel, Wade, Wester, et al. (2007) found that having a relationship with someone that recommends mental health services, along with knowing someone who had received services, helped to facilitate positive help-seeking attitudes. Although the specific factors of social and self-stigma were not explored in the study, these findings appear to be consistent with the ecological theory of human development in that an individual's relational context with friends, family, and others may interact with an individual's perception of mental illness and alter his or her stigmatizing thoughts towards seeking services. Additionally, in a sample of 162 Mexican American university students, Miville and Constantine (2005) found that environmental factors (i.e., lower perceived social support from family, higher perceived social support from significant others, and cultural congruity) were significant in helping or hindering a student's attitude towards seeking mental health services. Together, these studies lend support for the notion that when an individual is in the process of deciding whether or not to seek mental health services, ecological influences such as support from friends, family, and peers may help or hinder one's attitude towards seeking professional assistance. However, given that limited information is known about the relationship between these ecological variables and the development of social and self-stigma, further exploration appears to be warranted. Subsequently, this study explored several ecological factors related to social and self-stigma.

Although it appears logical that environmental exposure to mental illness (e.g., having different levels of contact with family members, peers, extended family, and/or individuals in society with mental illnesses) and mental health treatment could potentially impact an individual's stigmatizing beliefs towards seeking mental health services, little research has utilized an ecological focus targeting these specific variables. Specifically, studies have focused on the impact of one's exposure to mental illness and mental health treatment on help-seeking behavior while excluding the concepts of social and self-stigma (Vogel, Wade, Wester, et al., 2007) or focused exclusively on mental illness stigma associated with serious mental illness (e.g., schizophrenia) while neglecting more common mental illnesses and the stigma associated with seeking mental health services (Corrigan, 2001). Alternatively, previous research has also concentrated largely on the role of stigma in predicting service utilization (Vogel, Wade, & Hackler, 2007). What has not been clearly examined is the environmental factors that influence types of stigma associated with seeking services. This study addresses this gap in the literature by examining ecological factors that contribute to both social and self-stigma related to seeking mental health services.

The Help-Seeking Process

Exploring the issue of why some individuals do not seek needed professional mental health services (e.g., psychotherapy, counseling, and other services) warrants an introduction to the general help-seeking process. To create additional context for this research, the following section provides information on a step-by-step model of the help-seeking process. Additionally, it presents information on stigma and additional factors contributing to the underutilization of mental health service.

The step-by-step process. A review of the literature on the development of mental health help-seeking behavior in adolescents/young people in western societies (Rothi & Leavey, 2006), revealed that the help-seeking process is comprised of three stages: recognition, decision, and action (see Figure A2). The first stage, *recognition*, occurs when an individual recognizes and identifies his or her own difficulties as psychological stress. The second stage of the process, *decision*, focuses on an individual's decision to seek help for his or her particular issue and the decision of who to actually seek services from. The last step of this process, *action*, is concerned with the individual's motivation to take action and actually seek mental health services from a professional (Rothi & Leavey, 2006). Presumably, the mental health stigma associated with seeking services would be a key factor to consider when exploring barriers to service utilization at each stage of this process. However, an exploration of other factors contributing to the underutilization of mental health services must also be examined.

Factors contributing to the underutilization of services. The factors that may aid or hinder an individual seeking mental health services are multifaceted and inadequately understood (Rothi & Leavey, 2006). However, based on the current literature, there appear to be five categories that inhibit progress through the help-seeking process and prevent appropriate utilization of mental health services (Rothi & Leavey, 2006). The first of these categories is *problem definition and evaluation*, which consists of symptom severity, problem recognition, and problem visibility (Rothi & Leavey, 2006). How individuals define or evaluate their personal mental health problems will influence their help seeking behavior due to differences in the perception of symptom severity and the label used to define the problem (Rothi & Leavey, 2006). In other words, a mental health professional and a lay person may have significantly differing definitions of mental health problems (i.e., diagnosable general anxiety disorder versus

the belief that this is just an irritable or tense person). Obviously, these different interpretations of a problem would impact whether help was sought and who it was actually sought from (Rothi & Leavey, 2006). Given each person's environmental and individual perspective, the variation of responses to an arising issue appear consistent with the ecological systems perspective (Bronfenbrenner, 1979) in that an individual's development and behavior is unique as it interacts with and is strongly affected by his or her external influences.

The second factor that forms a barrier to the utilization of mental health services is *psychological factors*, which include stigma, prior knowledge of someone else seeking services, fear, shame, denial, and self-efficacy (Rothi & Leavey, 2006). Additionally, Rothi and Leavey (2006) contend that fear of stigma/therapy, negative intrapsychic factors (e.g., denial), and control issues (e.g., unwillingness to disclose) are three psychological characteristics that negatively inhibit help-seeking behavior. To combat these negative influences, researchers have asserted that prior help-seeking, education about appropriate help-seeking, and perceived effectiveness of prior help-seeking are positive factors in promoting actual service utilization in adolescent populations (Wilson & Deane, 2001).

The third area of concern is related to *demographic factors* such as gender, race/ethnicity, age, and cultural differences (Rothi & Leavey, 2006). Although females have been found to be more likely than males to seek mental health services (Moller-Leimkuhler, 2002), the overall literature on gender differences in help-seeking attitudes and behavior associated with seeking services appears to be inconsistent (Rothi & Leavey, 2006). For example, in a sample of 198 American children, adolescents, and young adults, Garland and Zigler (1994) found that female adolescents (ages 10-19) reported more positive help-seeking attitudes than their male counterparts. Additionally, in a review of the literature on the specific help-seeking differences

among genders, Moller-Leimkuhler (2002) explicitly states that help-seeking behavior in males is consistently lower than in females, and that low treatment rates for males must be attributed to a discrepancy between perceptions of need and help-seeking behavior. When exploring gender issues in relation to self-stigma in a U.S. university sample, Vogel and colleagues (2006) also found that males tend to experience greater self-stigma than females in regards to help-seeking attitudes. Nonetheless, researchers reviewing the literature on this topic have warned that the influence of gender on help-seeking behavior is far more complex than originally thought and may relate to other more specific factors (Rothi & Leavey, 2006). For example, in a study examining help-seeking behavior in 217 adolescents (ages 13-16), Ciarrochi and colleagues (2003) found that females displayed higher intention to seek help over males and were more likely to seek outside assistance from friends for personal-emotional problems. However, they also found that males were more likely to seek help from family members for more severe difficulties, such as suicidal ideation (Ciarrochi, Wilson, Dean, & Rickwood, 2003).

Additionally, the literature on help-seeking behavior as it relates to other demographic factors, such as race/ethnicity, appears equally inconclusive (Rothi & Leavey, 2006). For example, the President's New Freedom Commission on Mental Illness (NFC) (2003) suggests that racial and ethnic minority populations are underserved in the U.S. However, Broadhurst (2003) conducted a review of several studies [e.g., Hser, Maglione, Polinsky & Anglin (1998); Nadler (1986); Pottick, Lerman & Micchelli (1992)] exploring demographic factors as they relate to help-seeking behavior across the fields of health and social welfare and found conflicting information. Although some ethnic/racial differences were noted in the review, Broadhurst (2003) quickly states that predictive qualities of ethnicity in some of the findings are questionable given inconsistent data collection. Additionally, Broadhurst (2003) discusses a

critical flaw in other related studies on demographic factors: that the findings attempt to make predictions about single correlates, causing concern over basic assumptions in the research (i.e., direction of causality), or are flawed by focusing only on referred populations. Based on this information, Broadhurst (2003) leaves one to conclude that the research on many demographic factors (e.g., race/ethnicity, age) in predicting help-seeking behavior is important, yet inconclusive. This sentiment is consistent with the discussion of Vogel, Wade, and Hackler (2007) on the limitations of their study that had explored the relationship between help-seeking behavior and stigma in an American university population. With a 90% Caucasian sample, the researchers noted that the relationship between stigma and help-seeking behavior found in their study cannot be fully applied to ethnic minorities (Vogel, Wade, & Hackler, 2007).

Although directionality is unclear, the importance of understanding the factors of gender and race/ethnicity as they relate to stigma and help-seeking attitudes appears to be important in the ecological conceptualization of stigma. With the limitations of previous studies, the number of inconsistent research findings, and the number of reviews incorporating studies from abroad (e.g., Rothi & Leavey, 2006, Broadhurst, 2003), research to further explore demographic factors, especially within American university populations, appears to be warranted. To provide more insight about the contributions of gender and race/ethnicity, yet respect the current trends associated with each variable, this study will examine and control for both of these demographic factors as they relate to stigma towards seeking mental health services.

The fourth area that appears to impede help-seeking with mental health services relates to differences in *social factors* (Rothi & Leavey, 2006). Social factors include characteristics of one's ecological network and social support. Researchers have noted that adolescents and young adults are not only more likely to seek general help from others when they have open social

support systems, but knowing someone who has sought professional mental health services was a predictor of help-seeking behavior as well (Rickwood & Braithwaite, 1994). In this way, an individual's social network may impede or facilitate help-seeking behavior depending on the actions, attitudes and opinions of the social network. With limited, yet promising research support documenting the environmental impact of one's social network in help-seeking behavior, additional ecologically focused research is needed to further explore how social factors intersect with the psychological factors of social and self-stigma. Further insight into this social and psychological intersection may ultimately provide a more holistic understanding of the service utilization process.

Finally, the fifth group of barriers is *service-related factors* and includes service availability, accessibility, and knowledge of services (Rothi & Leavey, 2006). Essentially, the lack of knowledge of mental health services (Wilson & Deane, 2001) and inaccessibility of services may impair many individuals from seeking mental health care (Rothi & Leavey, 2006). Although not addressed in this study, this group of barriers obviously holds an important role in service utilization. Without attempting to address the lack of basic knowledge and accessibility of health resources, efforts to address many of the other barriers related to seeking mental health services may be futile in terms of changing help seeking behavior.

Stigma

In combination, it is believed that problem definition and evaluation, psychological factors, demographic factors, social factors, and service-related factors work together to inhibit successfully progressing through the help-seeking process addressed previously (Rothi & Leavey, 2006). However, among these five primary barriers to service utilization, mental health stigma, related to either having a mental illness or to receiving services, is consistently cited as

one of the most significant (Corrigan et al., 2004; Vogel et al., 2006). Unfortunately, although specific forms of mental health stigma (i.e., social and self-stigma) have been well-defined and clearly linked to mental health service utilization, minimal research has specifically explored factors (e.g., gender, race/ethnicity, levels of mental illness familiarity, levels of mental health service familiarity) that may be contributing to the development of mental health stigma.

Definition of stigma. Stigma is defined as “a cluster of negative attitudes and beliefs that motivate the general public to fear, avoid, and discriminate against people with mental illnesses” (New Freedom Commission on Mental Health, 2003, p.4). Unfortunately, feelings of stigma are often evident in individuals seeking mental health services and those claiming to have mental illnesses (New Freedom Commission on Mental Health, 2003). With mental health stigma being evident in the general population, discrimination in housing (Corrigan, 2004) and the work place (Farina & Felner, 1973) are just some of the regrettable ways individuals with mental illness are commonly stigmatized and discriminated against.

There are two distinct types of stigma: social (public) stigma and self-stigma (Corrigan, 2004). Social stigma refers to perceptions held by others that an individual is socially unacceptable given his or her mental illness or because he or she has sought mental health treatment (Vogel et al., 2006). Self-stigma refers to the individual perceiving that he or she is socially unacceptable given his or her mental illness or seeking of mental health services (Vogel et al., 2006). Although distinctly different, a significant amount of either type of stigma may compromise the likelihood of an individual seeking mental health treatment (Corrigan, 2004; Vogel, Wade, & Hackler, 2007). This study focused specifically on both social and self-stigma associated with seeking mental health services.

Social stigma. From an ecological systems perspective (Bronfenbrenner, 1979), one can begin to explore factors that influence perceived social stigma. For example, based on results of two independent factor analyses of more than 2,000 English and North American participants (Taylor & Dear, 1980; Brockington, Hall, Levings, & Murphy, 1993), Holmes and colleagues (1999) suggest that social stigma is comprised of three negative attitudes held by an individual: *authoritarianism*, *benevolence*, and *fear and exclusion*. The first attitude, *authoritarianism*, reflects the public's belief that people with mental illnesses are irresponsible and incapable of making independent decisions. The second attitude, *benevolence*, reflects those people who believe that individuals with a mental illness are immature and need to be cared for by others. The final attitude, *fear and exclusion*, includes those individuals who believe that people with mental illness should be feared and consequently segregated from others in the community. Ultimately, it appears these prejudicial attitudes interact with one's environmental and relational setting and can transition into discriminatory behavior towards individuals with mental illness. In their exploration of 15 years (1990-2004) of attitudes research in the field of psychiatry, Angermeyer and Dietrich (2006) conclude that a significant number of individuals in predominately Western societies still perceive individuals with specific mental illnesses, such as schizophrenia, as dangerous, and seek to socially distance themselves from these individuals.

Whether the result is social distancing, biases, prejudices, or discrimination, social stigma related to mental illness and seeking services appears to create negative stereotypes that would naturally inhibit an individual from wanting to be personally associated with mental illness or even be associated with someone diagnosed with a mental illness (i.e., relational social proximity with mental illness). Further, individuals experiencing social stigma may be hesitant to seek services for themselves, given the possibility of encountering these shameful social situations.

This logic is consistent with the research of Vogel, Wade, and Hackler (2007), which demonstrates that social stigma is a strong contributor to the experience of self-stigma, which in turn, ultimately influences an individual's attitude and willingness to seek mental health services. However, despite a clearer understanding of how social stigma towards mental illness and mental health services is defined and how it can result in discriminatory behavior, there is still little evidence on what contributes to the development of social stigma.

Self-stigma. Self-stigma associated with seeking mental health services, unlike a social stigma, is the negative perception held by the individual about his or her own social acceptableness (Vogel et al., 2006). Researchers believe that for individuals experiencing mental illness or receiving mental health services (i.e., displaying immediate proximity with mental illness), self-stigma may be threatening to one's self-esteem (Corrigan, 2004). This reduction in self-esteem or self-worth is believed to stem from an individual labeling him or herself as a socially unacceptable person given the experience of mental illness or need for mental health services (Corrigan, 2004; Vogel et al., 2006).

According to the help-seeking process summarized by Rothi and Leavey (2006), it becomes apparent that both forms of stigma are important factors to consider when exploring why individuals do or do not seek assistance for their mental health concerns. That is, it appears that fear of social or self-stigma may be a potential influencer during the *recognition* step, resulting in an individual being unwilling to acknowledge psychological impairment. Additionally, both types of mental health stigma may also influence the *decision* and *action* steps of the process, inhibiting an individual from deciding to seek professional help or following through once a decision has been made. Beyond hypothetical conclusions, researchers continue to provide support and valid documentation for the harmful relationship both forms of stigma

maintain with the general help-seeking process (Vogel, Wade, & Hackler, 2007). However, little information is known on what factors contribute to these forms of stigma.

Linking social and self-stigma. From an ecological systems perspective (Bronfenbrenner, 1979), it can be argued that social and self-stigma would be interconnected and influence one another. That is, the negative stereotypes and images portrayed by society may become internalized for the potential mental health service recipient (Corrigan, 2004) and perhaps limit their willingness to pursue mental health treatment altogether (Vogel et al., 2006). This proposed relationship between social and self-stigma appears consistent with research demonstrating that the relationship between social stigma and seeking mental health services is fully mediated by self-stigma and attitudes towards seeking services (Vogel et al., 2006). For example, in a sample of 676 university students, Vogel, Wade, and Hackler (2007) found that social stigma contributed to the experience of self-stigma, which subsequently influenced other help-seeking attitudes and willingness to seek help. In other words, self-stigma appears to be a more proximal indicator of help-seeking attitudes and willingness to seek services than social stigma, suggesting that the primary directionality of influence stems from social stigma internalizing into self-stigma. Again, although factors contributing to the development of self-stigma are still emerging (i.e., potential role of social stigma), little is known on other factors contributing to the development of social and self-stigma in individuals.

Social proximity and mental health stigma. In examining factors that might contribute to the development of social and self-stigma, social proximity, or an individual's level of familiarity with mental illness or mental health services, emerges as an important factor (Corrigan et al., 2001). For example, in a study of 208 community college students, results suggests that increases in one's social proximity with mental illness are associated with

decreased levels of perceived dangerousness and less social distance from individuals with serious mental illness (Corrigan et al., 2001). Although these results lend support to social proximity as a predictor of social stigma, the study focused on participants' perceptions of individuals with serious mental illness (e.g., schizophrenia) and not more common and general forms of mental illness (e.g., mild depression, anxiety disorders). Furthermore, it is worthy to note that the conceptualization of stigma in this study included social distance from individuals with mental illness, level of perceived dangerousness, and social avoidance of participants. Although these discriminatory attitudes could be assumed to reflect social stigma, the study does not address stigma related to seeking services or the two distinct forms of stigma: self-stigma and social stigma. With Vogel, Wade, and Hackler (2007) suggesting that self-stigma is a critical mediating component of the help-seeking process, an examination of social proximity and self-stigma appears crucial in developing a full understanding of the role of social proximity and stigma in mental health research. Unfortunately, research on the ecological variables contributing to the development of stigma is minimal. Therefore, this study attempted to address this gap of knowledge by exploring relevant social proximity factors (i.e., an individual's level of familiarity with mental illness and mental health services) that may be contributing to the social and self-stigma associated with seeking mental health services.

To extend the potential importance of social proximity to mental illness and mental health treatment, researchers have suggested that when an individual experiences distressing mental health symptoms, those close to the individual may play an influential role in whether or not the individual actually seeks mental health services (Vogel, Wade, Wester, et al., 2007). Rickwood and Braithwaite (1994) suggest that individuals are more likely to seek general help from others when they have available social support or know someone who has sought

professional mental health services. From an ecological perspective (Bronfenbrenner, 1979), these studies begin to demonstrate the potential influence of social proximity on the prevention or facilitation of help-seeking behavior. Unfortunately, many of these emerging studies appeared to focus exclusively on the role of social networks in predicting service utilization attitude (e.g., Vogel, Wade, Wester, et al., 2007) and did not directly consider the role of social proximity in contributing to social and self-stigma, despite evidence that stigma is an important component in the help-seeking process. The current study helped address this gap in the literature by examining social proximity and both forms of stigma related to seeking services.

The Impact of Mental Health Stigma in University Student Populations

When compared to the general population, the demographic majority of university students (18-25 years old) show the lowest rate of help-seeking behavior (SAMHSA, 2009). As with the general population, the issue of stigma and seeking mental health services appears to be a significant concern in university populations, with limited numbers of university students actively seeking mental health resources (Cook, 2007). With a history of mental health stigma (Prescott, 2008), rising rates of mental health problems (Cook, 2007), recent university tragedies (e.g., Virginia Tech, Northern Illinois University), and the fact that most university students are within the high-risk age group (18-25 years of age) for manifestation of the most common mental health symptoms (Cook, 2007), there is significant reason for concern regarding the mental health of current university populations.

Basic mental health concerns. Concurrent with stigmatizing attitudes towards seeking mental health services and a lack of accessible and appropriate services earlier in the 20th century, some specific mental health difficulties have continued to rise for university-aged students (Haas, Hendin & Mann, 2003). For example, from the mid-1950's to the 1980's, the

suicide rate tripled for men and doubled for young women between the ages of 18 and 24 years (Haas et al., 2003). Current mental illnesses commonly seen within university populations include depression, anxiety, eating disorders, substance abuse issues, suicide, self-mutilation, and a range of self-destructive and reckless behaviors (Cook, 2007). As alluded to by Prescott (2008), the extreme examples of Cho Seung-Hui's (a student allegedly struggling with mental illness) shootings at Virginia Tech and more recent shootings at Louisiana Technical College and Northern Illinois University present a need to understand the ways that mental illness among university students and the larger population can be addressed and these tragic events can be prevented. Furthermore, relatively little is known about the role these tragic events play in lowering or heightening levels of stigmatizing behavior towards seeking mental health services in these specific university samples.

Given the growing number of effective mental health services (U.S. Department of Health and Human Services, 1999), it is concerning that the stigma of seeking professional help is considered one of the common factors preventing university students from seeking appropriate mental health care (Cook, 2007). As a special population, this appears even more serious when one considers that there are over 17 million students enrolled in universities (U.S. National Center for Education Statistics, n.d.) and most of these students are within the mental illness high-risk age group (18-25 years of age) (Cook, 2007). As previously mentioned, this group is considered to be at-risk for manifestation of symptoms for the most common mental health difficulties (e.g., depression, schizophrenia, anxiety, substance abuse problems) (Cook, 2007). If service utilization barriers, like stigma, are not overcome, researchers fear that college students may be left untreated, leading to negative academic, personal and social consequences (Cook, 2007).

Expanding mental health concerns. Concerns related to mental illness appear to be widening across many student populations. For example, based on data from a recent longitudinal study of 181 secondary school students (Stoep et al., 2003), failure to complete school was strongly (46%) associated with the presence of a mental illness. This relationship has been supported by other researchers suggesting that academic success and psychological well-being are intertwined for adolescent students (Becker & Luthar, 2002) and is consistent with Cook's (2007) concern over untreated mental illness leading to academic failure for college students. The impact of improper attention given to mental illnesses in the United States not only significantly impacts an individual's current state of mental health and academic success, but appears to clearly jeopardize an individual's potential future performance. Again, this has prompted the President's NFC (2003) to push school settings to not only address traditional issues of academics, but to reduce non-academic barriers (e.g., mental illness) affecting student development (Mills et al., 2006).

A focused discussion of the President's NFC by Mills and colleagues (2006) dissects and targets the potential opportunities and challenges of implementing the commission's recommendations related to school-based mental health services. Specifically, this discussion suggests that, in order to advance mental health treatment in the United States, practitioners must take a more holistic and expansive approach to combat student mental illness. According to this review, the NFC report documents the need to involve multiple layers of collaborative service delivery among social services, teachers, parents, and families, to address individual mental health issues within schools, while globally targeting the reduction of mental health stigma (Mills et al., 2006). Ultimately, the NFC discussion appears to imply that to overcome expanding barriers to accessing mental health services and address the mental health needs of

student populations, researchers need to address mental health stigma through a more encompassing lens. Consequently, this study examined stigma from an ecological perspective to further the understanding of barriers to service utilization in the university population.

Special populations. On April 16th, 2007, the deadliest mass shooting on a school campus occurred at Virginia Tech (Nordboe, Kantor, Barker, Ware, & Amistad, 2007). A student, allegedly struggling with mental illness, killed 33 individuals, including himself, and wounded others. Immediately following this tragedy, numerous mental health responses were put into place for the students, faculty, and the surrounding community, including a variety of individual and group services. Although considered a well-coordinated mental health response (Nordboe et al., 2007), the effects of a tragedy of this size and nature on a university population appear significant and could likely alter the thoughts and beliefs towards stigma and mental health services. With the previously discussed information on the role of social proximity in the stigma literature (Corrigan et al., 2001; Rickwood and Braithwaite, 1994), one could utilize an ecological approach (Bronfenbrenner, 1979) to speculate that the environmental exposure of Virginia Tech students to the mental health service response phases following the tragedy (Nordboe et al., 2007) may have lowered forms of stigma in this population. At this time, relatively little is known on the relationship between this event and the stigmatizing beliefs towards mental health within this special university population. This research was fortunate to have the opportunity to explore these variables within a Virginia Tech sample of students. Given the unique characteristics of this university population, statistical measures were explored and implemented to control for potential differences due to the university setting and exposure to the events of April 16th, 2007.

The Present Study

Along with the general population, extensive unmet needs and service gaps for young adults with mental health difficulties exist and stigma surrounding mental illness and seeking services is a significant barrier (New Freedom Commission on Mental Health, 2003). It has been established that stigma related to mental illness and mental health services are associated with social rejection (Link, Cullen, Frank, & Wozniak, 1987), social distancing (Corrigan et al., 2001), discrimination (Corrigan, 2004) and other negative life events. Despite a consensus that many factors are influential in an individual failing to seek mental health services, stigma towards mental illness and treatment continues to be one of the most prominent reasons for individuals not seeking services (Corrigan et al., 2004; Vogel et al., 2006). More specifically, both social and self-stigma, have consistently demonstrated a strong relationship with negative attitudes towards seeking mental health services (Vogel, Wade, & Hackler, 2007). Despite this link, few researchers have explored factors that contribute to the development of social and self-stigma, especially from an ecological perspective. Additionally, the particular importance to university populations of combating and resolving these forms of stigma has been stressed (Cook, 2007; Vogel, Wade, & Hackler, 2007). Trends regarding the influence of demographic factors (i.e., gender and race/ethnicity) have also been examined, but reveal inconclusive findings (Rothi & Leavey, 2006; Broadhurst, 2003). Therefore, the intention of this study was to enhance the understanding of mental health stigma by exploring how social proximity variables (i.e., familiarity with mental illness and receiving mental health services) and demographic characteristics may be contributing to social and self-stigma associated with receiving mental health services.

Based on existing literature and ecological systems theory (Bronfenbrenner, 1979), this study examined the following research questions and associated hypotheses:

1. Does level of social proximity with mental illness and mental health services (i.e., level of familiarity with mental illness, level of familiarity with others receiving mental health services, and immediate proximity to having personally received mental health services) predict social and self-stigmatizing thoughts related to seeking mental health services?

H1: Greater familiarity with individuals with a mental illness will predict lower levels of perceived social stigma related to seeking mental health services.

H2: Greater familiarity with individuals with a mental illness will predict lower levels of perceived self-stigma related to seeking mental health services.

H3: Greater familiarity with other individuals receiving mental health services will predict lower levels of perceived social stigma towards seeking mental health services.

H4: Greater familiarity with other individuals receiving mental health services will predict lower levels of perceived self-stigma towards seeking mental health services.

H5: Greater personal familiarity with receiving mental health services (i.e., personally receiving services) will predict lower levels of perceived social stigma towards seeking mental health services.

H6: Greater personal familiarity with receiving mental health services (i.e., personally receiving services) will predict lower levels of perceived self-stigma towards seeking mental health services.

2. Do demographic characteristics of university setting, gender, and race/ethnicity predict social and self-stigmatizing thoughts related to seeking mental health services?

H7: University differences will predict varying levels of perceived social stigma towards seeking mental health services. Specifically, students at Virginia Tech will report lower levels of social stigma.

H8: University differences will predict varying levels of perceived self-stigma towards seeking mental health services. Specifically, students at Virginia Tech will report lower levels of self-stigma.

H9: Although trends have been noted for gender and race/ethnicity, there appears to be inconsistent and inconclusive findings in the literature regarding directionality (Rothi & Leavey, 2006; Broadhurst, 2003). Given this circumstance, the demographic variables of gender and race/ethnicity will be explored in relation to levels of social stigma associated with seeking mental health services. However, this hypothesis is exploratory and no directionality towards social stigma is hypothesized.

H10: Although trends have been noted for gender and race/ethnicity, there appears to be inconsistent and inconclusive findings in the literature regarding directionality (Rothi & Leavey, 2006; Broadhurst, 2003). Given this circumstance, the demographic variables of gender and race/ethnicity will be explored in relation to levels of self-stigma associated with seeking mental health services. However, this hypothesis is exploratory and no directionality towards self-stigma is hypothesized.

Chapter III

Methodology

Sample

Selection. The sample for this study consisted of a convenience sample of 410 university students from two different institutions: Virginia Polytechnic Institute and State University (Virginia Tech) and Western Carolina University (WCU). Each of these institutions is public, coeducational, and acquires students from a variety of geographical regions. In 2008, the total undergraduate enrollment at Virginia Tech was approximately 23,000, with 10,000 females and 13,000 male students (Virginia Tech, 2009). Approximately 81% of undergraduate students at Virginia Tech are Caucasian, while the remaining percentages are comprised of African-American, Asian/Pacific Islander, Hispanic/Latino, Native American, and International students (Virginia Tech, 2009). In 2008, the total undergraduate enrollment at WCU was approximately 7,000 students, with 3,300 females and 3,700 males (Western Carolina University, 2009). Approximately 89% of undergraduate students at WCU are Caucasian, while the remaining percentages are comprised of African-American, Asian/Pacific Islander, Hispanic/Latino, Native American, and International students (Western Carolina University, 2009). Descriptive characteristics of the sample will be presented in the results chapter.

In order to be included in the study, participants had to meet two general inclusion criteria. First, in order to obtain data from the traditional undergraduate aged student, and control for potential outlying age differences, participants were required to be between 18 and 24 years of age at the time of participation. Second, in order to target the characteristics of the traditional undergraduate student and control for differences based on institutional affiliation, the

participant was required to be currently enrolled as an undergraduate student at Virginia Tech or WCU.

Sample size. As suggested by Tabachnick and Fidell (2007), an adequate sample size for a multiple regression procedure must meet the following minimal statistical guidelines: $N \geq 50 + 8m$, and $N \geq 104 + m$, where m is the number of independent variables. In this study, $m = 28$ [$N \geq 50 + (8 \times 28) = 274$, and $N \geq 104 + 28 = 132$]. Originally, 452 individuals participated in the study. However, 42 of these participants did not meet the eligibility criteria, failed to provide necessary information, or their data was determined to be an outlier within the larger sample and were dropped from the study. This information is explained in more detail in the results chapter. After these adjustments, the final sample size for statistical analysis was narrowed from 452 to 410. This number ($N = 410$) meets and exceeds the minimum of 274 participants necessary for adequate multiple regression analyses suggested by Tabachnick & Fidell (2007).

Recruitment. Participants for this study were recruited in a variety of ways. The study was advertised to undergraduate students via instructors at Virginia Tech and WCU. In an attempt to ensure that the sample was balanced in terms of gender and diverse in terms of race/ethnicity, participants were recruited from a variety of undergraduate university departments at these universities. At Virginia Tech, students were recruited through the colleges of Business and Engineering and the departments of Building Construction, History, Human Development, Mathematics, Chemistry, Geography, Physics, Biological Science, and Geosciences. At WCU, students in the college of Business and the departments of Engineering, History, Psychology, Mathematics and Computer Science, Communication Science and Disorders, Political Science, Geosciences, Chemistry and Physics, Anthropology, Biology, Health Sciences, and Health, Physical Education, and Recreation departments were recruited. Instructors teaching

undergraduate courses selected from these departments at each university were contacted through personal letters (see Appendix B) and/or personal email (see Appendix C). A total of 117 letters and emails were sent out to Virginia Tech instructors, while 54 letters and emails were sent out to WCU faculty. The letters and emails contained a summary of the study, a web link to the survey, researcher contact information, and an advertisement flyer for distribution (see Appendix D). The university instructors were asked to distribute the study information to their students. Depending on the instructor's willingness, some instructors provided students with copies of the advertisement flyer, others digitally posted the information on a class website, and others forwarded the recruitment email directly to their students. Of the 171 total recruitment letters and emails sent, it is estimated that the participation rate from instructors was approximately 25%. The study was also posted on the Psychology Study Participant Manager (PSPM) posting system (see Appendix E) in the department of psychology at WCU. Introductory psychology students at WCU were able to access information about the study online and track his or her participation credit for the introductory class through the PSPM secured online system.

Approximately 30 instructors between Virginia Tech and WCU also provided their students with extra credit for participating in the study. For the individuals receiving extra credit, some instructors offered points, dropped a quiz grade, or others gave some other option that did not increase the student's grade by more than a grade level. Instructors were informed by the researcher that, by offering the extra credit option for participation, the following would be required by the Virginia Tech Institutional Review Board: instructors must provide equal alternatives for extra credit beyond participating in this study, research participation should not raise a student's grade by a whole step (e.g., from a B to an A), and instructors should inform

their students of the impact this extra credit will have on their course grades. Although questions regarding extra credit were monitored and answered by the researcher, university instructors were ultimately on their honor to adhere to the Virginia Tech Institutional Review Board guidelines.

Procedure

Primary Institutional Review Board approval was acquired at Virginia Tech on April 6, 2009 (see Appendix F) and WCU student participation was later approved at WCU on April 12, 2009 (see Appendix G). Participants completed the survey anonymously by means of a web-based approach supported by Virginia Tech (<http://survey.vt.edu/>). After accessing the research study online, participants immediately read the introductory information describing the steps and format of the survey (see Appendix H) and the informed consent document (see Appendix I). By clicking a “Submit” button, they then acknowledged their willingness to participate in the study. Participants then completed the survey (see Appendices J - N), and if they were willing, provided their personal information on a separate webpage (see Appendix O) for entrance into a lottery for a gift card or possible extra credit from his or her instructor. The entire process took approximately 15 to 25 minutes. All participants who completed the survey and personal information section were entered into a drawing for one of five \$40.00 gift cards to the Olive Garden, a nationally-based restaurant chain. Of the 490 participants who accessed and completed the informed consent form online, 452 completed the entire survey. This represents a completion rate of 92.2%. Of those 452 participants, 450 provided their personal information for entry into the gift-card lottery or for extra credit documentation. At the completion of the data collection, the researcher used a random number generator to select the five winners of the drawing based upon the participant’s assigned research ID number. Once the five winning

participants had been selected, they were each contacted via email and informed of their winnings (see Appendix P). At that time, the winners were asked for their mailing addresses. Once the winning participants had provided their mailing addresses to the researcher, their gift cards were distributed via certified/signature mail (see Appendix Q). This allowed the researcher to verify that the gift cards were received by all winning participants.

Measures

The web-based survey consisted of a series of questions related to participants' demographic characteristics, level of familiarity with mental illness, level of familiarity with receiving mental health services, social stigma associated with seeking mental health services, and self-stigma associated with seeking mental health services.

Demographics. A demographic questionnaire (see Appendix J) assessed the participants' age, race/ethnicity, socioeconomic status (based on family's income of past five years), personal experience with mental health treatment (e.g., if the participant had ever received mental health services, if the participant knew individuals that had received mental health services, etc.), and other pertinent background information (e.g., access to mental health insurance, religious beliefs, etc.). Given the potential impact of the April 16th, 2007, campus shootings on Virginia Tech's students' attitudes and exposure to mental illness and mental health services, and the intensive campus-wide mental health response, potential threats to external validity needed to be addressed. Therefore, on the demographic questionnaire, if a participant identified him or herself as a Virginia Tech student, that participant was also asked if he or she was a Virginia Tech student during the semester of the April 16th, 2007, shootings. Additionally, the perceived level of impact of these events on the individual (e.g., not at all, to some degree, to a significant degree) was also obtained.

Level of familiarity with mental illness. The Level of Contact Report (Holmes et al., 1999), referred to here as the Level of Familiarity with Mental Illness Scale (LOF-MI), was used to assess participants' social proximity (i.e., level of familiarity) with individuals experiencing mental illness (see Appendix K). The scale consists of 12 items (i.e., situations) in which familiarity and level of contact with individuals with mental illness vary. Each of these situations was derived from relevant scales used in mental illness stigma research (Holmes et al., 1999). To allow for a broader interpretation of the questionnaire items, the original wording of "severe mental illness" was modified to "diagnosed mental illness." The level of intimate contact varies from little familiarity (e.g., "I have observed, in passing, a person I believe may have had a mental illness") to a medium level of familiarity (e.g., "I have worked with a person who had a diagnosed mental illness at my place of employment") to higher levels of familiarity (e.g., "I live with a person who has a diagnosed mental illness"). Participants were instructed to check "Yes" or "No" depending on if they had personally experienced these situations during their lifetime. The rank score of the most intimate situation indicated by the participant (e.g., "I have never observed a person that I was aware had a mental illness" = 1, "I have observed persons with mental illness on a frequent basis = 5, or "I live with a person who has a diagnosed mental illness" = 11) was used to indicate the participant's level of contact and familiarity with mental illness. Higher scores reflect greater familiarity with mental illness over lower scores.

To address content validity, Holmes and colleagues (1999) affirm that individual items on the LOF-MI were derived from other scales used in mental health stigma research (e.g., Link et al., 1987; Penn, et al., 1994). To establish face validity, content validity, and interrater reliability for this scale, three experts in severe mental illness and psychiatric rehabilitation reviewed and ranked each of these situations by perceived level of familiarity to arrive at an

intimacy of contact score (Holmes et al., 1999). The expert rankings also resulted in an interrater reliability rating of .83. Consistent with the intent of this study, the LOF-MI has been used with community college samples (Corrigan et al., 2001; Holmes et al., 1999).

Level of familiarity with receiving services. To assess participants' social proximity (i.e. level of familiarity) with individuals receiving mental health services, participants answered a "Yes" or "No" question to indicate whether they have ever known someone who has sought help from a mental health professional (LOF-RS; see Appendix L). This is an approach modified from Vogel, Wade, Wester, et al. (2007). If the participant indicated personal knowledge of someone who had received mental health services (i.e., answered "Yes"), the participant then indicated the nature of his or her relationship with each of those individuals (i.e., friend, sibling, mother, father, family member, co-worker, etc.). Because participants had already indicated, in the demographic questionnaire, whether they had received mental health services themselves, this item was deleted from the scale. The number of endorsed relationships (i.e., the number of friends, siblings, parents, etc., that had received mental health services), was summed to arrive at a total score. Higher total scores indicate greater levels of familiarity with individuals receiving mental health services.

Given the demographic nature of this question, no formal validity or reliability information is noted. However, previous research studies on mental health services have utilized similar procedures in acquiring comparable information in university populations (Vogel, Wade, Wester, et al., 2007). For example, in a study examining the role of social networks on help-seeking behavior, Vogel and colleagues (2007) utilized a similar type of scale with a sample of 780 university students. The questions were similar to the approach in the current study, and

examined if participants had ever sought mental health services, known someone else that had sought services, etc.

Social stigma. The Devaluation-Discrimination Scale (DDS; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989) is comprised of 12 Likert-scaled items (1 = Strongly Disagree to 6 = Strongly Agree; see Appendix M) and was used to assess the extent to which respondents believed society would stigmatize or devalue an individual with a history of receiving mental health services. Example items include, “Most people feel that entering a mental hospital is a sign of personal failure,” “Most people would not hire an individual that had received mental health services to take care of their children, even if he or she had been well for some time,” and “Most employers will pass over the application of an individual that had received mental health services in favor of another applicant.” To allow for a broader and more socially sensitive interpretation of the questionnaire items, the original wording of “mental patient” was modified to “an individual who has sought mental health services.” After reverse coding the necessary items, all items were summed and divided by 12 to arrive at an average scale score. High scores reflect greater levels of perceived social stigma, whereas low scores indicate lower levels of perceived social stigma.

In terms of reliability, the original overall internal consistency levels were acceptable at .76 (Link et al., 1989). More recent use of the DDS has demonstrated higher internal consistencies, with Cronbach’s alphas of 0.83 (Vogel, Wade, & Hackler, 2007) and 0.87 (Bjorkman, Svensson, & Lundberg, 2007). In the current study, the scale maintained good internal consistency, with a Cronbach’s alpha of 0.85. In regards to predictive validity of the DDS, Ritsher and colleagues (2004) reviewed information on the DDS and found that it successfully predicted related mental health factors (e.g., depression, psychological isolation

factors) in numerous other studies [e.g., Link, Struening, Rahav, Phelan, & Nuttbrock (1997); Perlick, Rosenheck, Clarkin, Sirey, Salahi, Struening, & Link (2001)]. Overall, the DDS has consistently been considered by researchers in the mental health field as having excellent psychometric properties (Ritsher & Phelan, 2004).

Self-stigma. The Self-Stigma of Seeking Help Scale (SSOSH; Vogel et al., 2006) is comprised of 10 Likert-scaled items (1 = Strongly Disagree to 5 = Strongly Agree; see Appendix N) and was used to assess an individual's self-stigmatizing thoughts related to receiving mental health services. Example items include, "I would feel inadequate if I went to a mental health professional for mental health services," "I would feel worse about myself if I could not solve my own problems," and "It would make me feel inferior to ask a mental health professional for help." After reverse coding the necessary items, all items were summed and divided by 10 to arrive at an average score. High scores indicate higher levels of self-stigma towards seeking mental health services, whereas low scores reflect lower levels of self-stigma.

Using a definitional content rating of each item from the scale, professional counselors have assessed the content validity of the SSOSH and an analysis of the professionals' ratings demonstrated adequate consistency across items ($kappa = 0.78$) (Vogel et al., 2006). Confirmatory factor analysis has indicated a unidimensional factor structure and evidence of convergent validity with negative correlations to attitudes towards seeking professional help and intent to seek counseling ($r_s = -.53$ to $-.63$ and $-.32$ to $-.38$ respectively) (Vogel et al, 2006). The internal consistency of the SSOSH has been deemed acceptable at .91 (Vogel et al., 2006). In this study, the scale maintained good internal consistency (i.e., reliability) with a Cronbach's alpha of 0.88. The scale has also been used successfully with college populations.

Plan of Analysis

Sample demographics and preliminary analyses. Analysis began by importing the response data from the Virginia Tech web-based survey into a Predictive Analytics SoftWare (PASW) package from Statistical Package for the Social Sciences (SPSS). Descriptive data on the demographic information were then analyzed. Preliminary analyses were conducted to assess the basic assumptions (i.e., normality, linearity, and homoscedasticity) necessary for the regression analyses. Analyses of the control variables (ANOVA's) were then completed to explore inconsistencies noted in previous research and to avoid the potential distortion of outcomes due to the uniqueness of this sample (i.e., possible differences in participant responses as a result of the April 16th, 2007, shootings at Virginia Tech). More specific detail on these analyses are provided later in the results section.

Formal regression analyses. Guided by information from the current mental health literature (Broadhurst, 2003; Corrigan et al., 2001; Rothi & Leavey, 2006; Vogel et al., 2006) a hierarchical regression approach was used for the formal analyses because of its ability to allow for a particular order of statistical entry and specifically address the research questions. Consistent with a process described by Snyder and Mangrum (2005), specific factors were entered into the prediction equation using a hierarchical entry method. According to Snyder and Mangrum (2005), this method enables a researcher to test specific hypotheses through controlling predictor entry. The predictive focus of this research was on social and self-stigma, and how the factors of social proximity (i.e., level of familiarity with mental illness, level of familiarity with personally receiving services, and level of familiarity with others receiving services) predict these forms of stigma. However, although a clear pattern has not been established for gender or race/ethnicity, these factors do appear influential. To adequately

explore the social proximity variables of interest (i.e., aspects of familiarity with mental illness and familiarity with seeking services), a level of statistical control was necessary to contain the potential relationship of these other related factors (i.e., gender, race/ethnicity, university) with the two forms of stigma.

To address the research questions, two separate hierarchical multiple regression analyses were conducted. The first included social stigma as the dependent variable and the second used self-stigma as the dependent variable. Independent variables were entered in blocks of variables. As later noted in the results section, potential differences in the demographic variables of gender, race/ethnicity, and university were examined using an ANOVA. Due to differences in the preliminary ANOVAs and inconsistencies in research findings, each of these variables was subsequently entered into the first block of the hierarchical regression analyses. With strong support in the research literature suggesting relationships between level of familiarity and stigma (Corrigan et al., 2001) and seeking mental health services (Vogel, Wade, Wester, et al., 2007), the following social proximity variables were entered in the second block: level of familiarity with mental illness (LOF-MI), level of familiarity with others having received mental health services (LOF-RS), and personal familiarity with having received mental health services (RMHS). In the third block, the interactions between the demographic variables of the first block and the social proximity variables of the second block were entered. Specifically, combinations of Gender (G), Ethnicity (E), University (U), Proximity Level to Mental Illness (LOF.MI), Proximity to Other Individuals Seeking Mental Health Services (LOF.RS), and Immediate Proximity (RMHS) were entered: G x E, G x U, G x LOF.MI, G x LOF.RS, G x RMHS, E x U, E x LOF.MI, E x LOF.RS, E x RMHS, U x LOF.MI, U x LOF.RS, U x RMHS, LOF.MI x LOF.RS, LOF.MI x RMHS, LOF.RS x RMHS. The interaction terms were created

using procedures recommended by Aiken and West (1991). Any significant ($p < .05$) interaction terms were probed using a simple slope analysis. Given the continuous nature of the LOF-RS and DDS variables, and to help reduce multicollinearity, the interaction terms including these variables were centered utilizing procedures recommended by Aiken and West (1991). Specifically for each continuous measure, the sample mean of each item was subtracted from each participant's response for the corresponding item. These resulting calculations were then used in the analyses of the interaction effects.

Follow-up analysis. After completion of the two previous regression analyses, the researcher conducted a follow-up analysis to help place the current research findings in the context of previous stigma literature. Given that Vogel, Wade, and Hackler (2007) found that social stigma was a strong contributor to the experience of self-stigma, the predictive relationship of social stigma towards self-stigma was explored. Specifically, a hierarchical multiple regression analysis, similar to the previous analyses, was conducted for self-stigma, while controlling for the additional presence of social stigma. To allow for greater understanding of this follow-up analysis in connection to the current findings, more specific details are outlined in the results section.

Chapter IV

Results

Sample Demographics

After removing participants who did not meet the inclusion criteria and statistical outliers from the original sample ($N = 452$), the final sample size for statistical analysis was 410 participants. To reach the final sample size, data from 28 participants were removed because the participants did not meet the age requirement (i.e., being between 18-24 years of age). Data from four other participants were dropped due to no age being reported. Information from two participants was dropped because they were currently students in the researcher's psychology class. Information from six other participants was dropped due to other significant concerns (e.g., failure to respond to all items of the LOF-RS or failure to respond to two or more items of the SSOSH).

After removing these participants, outliers were examined. More specifically, statistics regarding the normal distribution (i.e., box plots, histograms, descriptive information, and normal curve estimates) of the dependent variables (i.e., SSOSH and DDS) and relevant independent variables (i.e., LOF-MI and LOF-RS) were reviewed to pinpoint potential outliers. An outlying score was deemed a significant outlier when a participant's score was over one standard deviation away from the most extreme score of the remaining sample. Based on this criterion, information from one participant was dropped given a significant outlying score on the LOF-RS. Data from one other participant score were dropped given an outlying score on the LOF-MI.

Basic client demographic information has been compiled and is presented in Table 1. Participants ranged in age from 18 to 24 years ($M = 20.55$, $SD = 1.46$). Approximately 65% ($n = 266$) of the participants were female. In terms of racial/ethnic background, the majority of the sample identified themselves as Caucasian/White ($n = 319$, 77.8%) while the remaining participants were from Black ($n = 31$, 7.6%), Asian/Pacific Islander ($n = 27$, 6.6%), Multiracial ($n = 11$, 2.7%), Hispanic ($n = 7$, 1.7%), Other ($n = 6$, 1.5%), Latino ($n = 4$, 1.0%), and Arab ($n = 2$, .5%) racial/ethnic backgrounds. Given the relatively small number of ethnic minority participants, for the purpose of the statistical analyses, all minority racial/ethnic groups were later combined into a Non-Caucasian/White group ($n = 88$, 21.5%).

Table 1

Sample Demographic Information (N = 410)

	Frequency	%	<i>M</i>	<i>SD</i>
Age			20.55	1.46
18	36	8.8		
19	64	16.6		
20	100	24.4		
21	109	26.6		
22	67	16.3		
23	19	4.6		
24	15	3.7		

Table 1 (continued)

	Frequency	%	<i>M</i>	<i>SD</i>
Gender Identity				
Female	266	64.9		
Male	143	34.9		
No Response	1	0.2		
Racial/Ethnic Background				
Arab	2	0.5		
Asian/Pacific Islander	27	6.6		
Black	31	7.6		
Caucasian/White	319	77.8		
Hispanic	7	1.7		
Latino	4	1.0		
Multiracial	11	2.7		
Other	6	1.5		
No Response	3	0.7		
Modified Racial/Ethnic Background				
Caucasian/White	319	77.8		
Non-Caucasian/White	88	21.5		
No Response	3	0.7		

Additional demographic information about the current sample is presented in Table 2. In regards to the geographic region of the participants, the majority of participants reported spending most of their lives in suburban areas ($n = 199$, 48.5%), followed by rural areas ($n = 111$, 27.1%), and urban areas ($n = 96$, 23.4%). Additionally, the gross annual income of participants' families over the past five years ranged from under \$10,000 ($n = 14$, 3.4%) to over \$150,000 ($n = 66$, 16.1%). The highest percentage of participants reported family incomes in the \$100,000-\$150,000 range ($n = 84$, 20.5%).

Table 2

Additional Sample Demographics (N = 410)

	Frequency	%
Geographic Region		
Urban	96	23.4
Suburban	199	48.5
Rural	111	27.1
No Response	4	1.0
Family's Gross Annual Income (Past Five Years)		
Under \$10,000	14	3.4
\$10,000-\$19,999	9	2.2
\$20,000-\$34,999	20	4.9
\$35,000-\$49,999	26	6.3
\$50,000-\$74,999	71	17.3
\$75,000-\$99,999	43	10.5

Table 2 (continued)

	Frequency	%
Family's Gross Annual Income (Past Five Years)		
\$100,000-\$150,000	84	20.5
Over \$150,000	66	16.1
Don't Know or Unsure	76	18.5
No Response	1	0.2

University-specific demographic information is presented in Table 3. Virginia Tech students comprised 74.6% ($n = 306$) of the participants, while WCU students comprised the remaining 25.4% ($n = 104$). Forty-one percent ($n = 168$) of the overall sample and 54% ($n = 137$) of the Virginia Tech sample were attending classes at Virginia Tech during the April 16th, 2007, tragedy. Thirteen percent ($n = 22$) of the Virginia Tech students present on April 16th, 2007, stated that the shootings did not significantly impact their lives. However, 63% ($n = 106$) of the students present on April 16th, 2007, stated the shootings impacted their lives to some degree, while 24% ($n = 41$) of the students stated it impacted their lives to a significant degree.

Table 3

University Demographic Information (N = 410)

	Frequency	%
University		
Virginia Tech	306	74.6
Western Carolina University	104	25.4

Table 3 (continued)

	Frequency	%
Attended Classes at Virginia Tech (04/16/07)		
Not Present	137	33.4
Present	168	41.0
No Response	1	0.2
Not Applicable (WCU Student)	104	25.4
Extent of 04/16/07 Shootings Impacting Participant's Life		
Not Present	241	58.8
Not At All	22	5.4
To Some Degree	106	25.9
To A Significant Degree	41	10.0

In regards to the participants' history of receiving mental health services (see Table 4), 277 or 67.6% of participants reported that they had not received mental health services from a licensed professional, while 126 (30.7%) stated that they had received mental health care. The timeline of receiving these mental health services ranged from having received services within the past week ($n = 10$, 2.4%) to receiving services over ten years ago ($n = 7$, 1.7%). Most individuals had sought outpatient services ($n = 90$, 22%), followed by "other" services ($n = 5$, 1.2%), inpatient services ($n = 4$, 1.0%), and day treatment services ($n = 3$, 0.7%). Although 144 participants (35.1%) had never had health insurance covering mental health services, the

majority of participants currently possessed health insurance that would cover mental health services ($n = 228, 55.6\%$).

Table 4

Mental Health Demographic Information (N = 410)

	Frequency	%
Received Mental Health Services		
No	277	67.6
Yes	126	30.7
No Response	7	1.7
Timeframe of Mental Health Services		
Within the Past Week	10	2.4
Within the Past Month	13	3.2
Within the Past Year	35	8.5
Within the Past 2-4 Years	35	8.5
Within the Past 10 Years	20	4.9
Over 10 Years Ago	7	1.7
Not Applicable	280	68.3
No Response	10	2.4
Mental Health Services Received		
Outpatient	90	22.0
Support Groups	2	0.5

Table 4 (continued)

	Frequency	%
Mental Health Services Received		
Day Treatment	3	0.7
Inpatient	4	1.0
Other	5	1.2
Outpatient/Support Groups	3	0.7
Outpatient/Day Treatment	1	0.2
Outpatient/Inpatient	3	0.7
Outpatient/Other	2	0.5
Support Groups/Day Treatment	1	0.2
All	2	0.5
Not Applicable	280	68.3
No Response	14	3.4
Possesses Mental Health Insurance		
Yes – Currently	228	55.6
No – But Previously	33	8.0
No – Never	144	35.1
No Response	5	1.2

Preliminary Analyses

Approaches to handling missing data and data transformations are discussed in this section. Preliminary analyses conducted to assess the basic assumptions (i.e., normality, linearity, and homoscedasticity) necessary for the regression analyses are also discussed. Results from the descriptive statistics and bivariate analysis are also explored.

Missing data. To cautiously address omitted results and ensure appropriate data analyses, missing data were dealt with utilizing a conservative approach. For example, for participants missing one or fewer items on the DDS (i.e., social stigma scale; $n = 4$), the mean of that particular item was used to replace the missing data. This process was also completed for individuals missing one or fewer responses on the SSOSH (i.e., self-stigma scale; $n = 9$). As previously noted, data from two participants were dropped due to missing more than one response on the self-stigma scale. While no changes due to missing data were made on the LOF-MI (i.e., level of familiarity with mental illness scale), data from four participants were dropped due to total incompleteness of the LOF-RS (i.e., level of familiarity with others having received mental health services). It is worthy to note that, outside of those participants whose data was eliminated from the final sample, these relatively minor changes impacted less than 5% of the overall sample.

Basic data transformations. To address the irregular distribution of specific variables, basic data transformations were performed. Regarding participants' ethnic/racial background, the number of individuals comprising the Non-Caucasian/White groups was relatively small for adequate statistical analyses. Subsequently, the category of race/ethnicity was transformed into a dichotomous variable (0 = Caucasian/White, 1 = Non-Caucasian/White). Specifically, the Non-

Caucasian/White group consisted of students from Arab, Asian/Pacific Islander, Black, Hispanic, Latino, Multiracial, and a variety of other racial/ethnic backgrounds ($n = 88$, 21.5%).

A number of the survey questions required open-ended responses from the participants. Given that several open-ended demographic questions allowed for a range of replies, special interpretations of responses were necessary prior to entering this response data into SPSS. For example, if a participant put “12 plus” for the number of months since they had last received mental health services, it was recalculated to the conservative response of “12 months.” Additionally, if participants answered with a broad range format (e.g., five to 10 people), the most conservative whole number closest to the average was taken (e.g., seven people). All participant responses were analyzed and if possible, relabeled appropriately.

Advanced data transformations. A series of preliminary analyses were used to assess the basic assumptions (i.e., normality, linearity, and homoscedasticity) necessary for the subsequent hierarchical regression analyses. Specifically, histograms, box-plots, Q-Q plots, and descriptive statistics were computed and examined. In assessing each measurement, results from these preliminary analyses appeared normally distributed and indicated no necessary formal transformations for the DDS (i.e., social stigma scale) or the SSOSH (i.e., self-stigma scale). However, an examination of the histogram revealed a strong multimodal distribution on the LOF-MI (i.e., level of familiarity with mental illness scale) and a positively skewed distribution on the LOF-RS (i.e., level of familiarity with others having received mental health services). Therefore, in order to meet the data assumptions necessary for the regression analyses, transformations were made to these particular scales. To address a strong multimodal distribution of the LOF-MI, scores were categorized into “high” or “low” levels of familiarity with mental illness. Participant responses were placed into the low level of familiarity category

if their score on the LOF-MI was between one and six, while participants were placed into the high level of familiarity category if their score was between seven and twelve. To address the positively skewed distribution of the LOF-RS, scores were recalculated using a logarithmic transformation. The skewness statistic, as reported by SPSS, before the transformation was 1.05. After the transformation, the skewness statistic reported by SPSS was 0.01. A factor analysis was also completed to examine the structure of the SSOSH and the DDS. Based on examinations of the scree plots, both measures appeared to demonstrate a unidimensional factor structure.

Descriptive statistics. After cleaning the data and ensuring that it met the assumptions necessary for regression analyses, descriptive statistics for the study variables were computed (see Table 5). Overall, participants' mean score for the Self-Stigma of Seeking Help Scale (SSOSH) was towards the middle or neutral range of scores ($M = 2.82$, $SD = 0.70$, $Range = 1.00 - 5.00$), while the mean score for the Devaluation-Discrimination Scale (DDS) was noted as being slightly more off-centered, and towards the higher stigma range of scores ($M = 3.79$, $SD = 0.68$, $Range = 1.58 - 5.67$). Participants' level of familiarity with mental illness was considered to be relatively high (Overall $M = 8.38$, $SD = 2.95$, $Range = 1.00 - 12.00$; Categorical $M = 0.70$, $SD = 0.46$, $Range = 0.00 - 1.00$), while averaging close familiarity with over one other individual that had received mental health services (Overall $M = 1.76$, $SD = 1.63$, $Range = 0.00 - 7.00$; Transformed $M = 0.37$, $SD = .26$, $Range = 0.00 - 0.90$).

Bivariate analyses. To begin to examine the nature of the relationships among the study variables, Pearson r correlations among the study variables were computed (see Table 6). Gender was positively related to Ethnicity ($r = .13$, $p = .01$), University ($r = .24$, $p \leq .001$), and self-stigma ($r = .13$, $p = .01$). Social stigma was positively associated with University ($r = .10$, p

Table 5

Descriptive Statistics for Study Variables (N=410)

	<i>M</i>	<i>SD</i>	Min	Max
Dependent Variables				
The Self-Stigma of Seeking Help Scale (SSOSH)	2.82	0.70	1.00	5.00
The Devaluation-Discrimination Scale (DDS)	3.79	0.68	1.58	5.67
Independent Variables				
Level of Familiarity with Mental Illness (LOF-MI)	8.38	2.95	1.00	12.00
Level of Familiarity with Receiving Services (LOF-RS)	1.76	1.63	0.00	7.00

=.05) and self-stigma ($r = .32, p \leq .001$), while level of familiarity with mental illness was positively related to personally receiving mental health services ($r = .20, p \leq .001$) and level of familiarity with others having received mental health services ($r = .43, p \leq .001$). The level of familiarity with others having received mental health services was also positively related to having received mental health services ($r = .39, p \leq .001$). Gender was negatively associated with level of familiarity with mental illness ($r = -.12, p = .01$), level of familiarity with others having received mental health services ($r = -.28, p \leq .001$), and having personally received mental health services ($r = -.19, p \leq .001$), while Ethnicity was negatively related to level of familiarity with mental illness ($r = -.10, p = .05$) and level of familiarity with others having received mental health services ($r = -.12, p = .02$). Level of familiarity with others having received mental health services was also negatively related to social stigma ($r = -.10, p = .04$), while stronger negative relationships were found for level of familiarity with others having received mental health

services and University ($r = -.17, p \leq .001$) and self-stigma ($r = -.18, p \leq .001$). A significant negative correlation was also found for having personally received mental health services and self-stigma ($r = -.18, p \leq .001$).

Table 6

Correlation Matrix of Study Variables

	Gender	Ethnicity	University	RMHS	LOF-MI	LOF-RS	DDS
Gender							
Ethnicity	.13*						
University	.24**	.06					
RMHS	-.19**	-.04	-.12*				
LOF-MI	-.12**	-.10*	-.03	.20**			
LOF-RS	-.28**	-.12*	-.17**	.39**	.43*		
DDS	.06	.04	.10*	.04	.01	-.10*	
SSOSH	.13**	.01	.07	-.18*	-.09	-.18**	.32**

Note: RMHS = Received Mental Health Services; LOF-MI = Level of Familiarity with Mental Illness; LOF-RS = Level of Familiarity with Others Receiving Services; DDS = Devaluation-Discrimination Scale; SSOSH = Self-Stigma of Seeking Help Scale.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Analysis of Control Variables

Gender. Due to the inconsistencies of gender differences noted in previous mental health research (Rothi & Leavey, 2006) and Vogel and colleagues (2006) findings that males tend to experience more stigma than females, ANOVAs based on participant gender were computed for all outcome and predictor variables. Although men and women did not differ in social stigma, males reported significantly higher levels of self-stigma than females $F(1, 407) = 7.38, p = .01$

(Females $M = 2.75$, $SD = .68$; Males $M = 2.94$, $SD = .72$). Additionally, compared to men, females reported significantly higher levels of familiarity with mental illness $F(1, 407) = 6.25$, $p = .01$ (Females $M = .74$, $SD = .44$; Males $M = .62$, $SD = .49$), familiarity with other individuals having received mental health services $F(1, 407) = 33.35$, $p \leq .001$ (Females $M = .39$, $SD = .22$; Males $M = .26$, $SD = .23$), and rates of personally seeking mental health services $F(1, 400) = 14.41$, $p \leq .001$ (Females $M = .37$, $SD = .49$; Males $M = .19$, $SD = .40$).

Ethnicity. Given the literature on help-seeking behavior, as it relates to race/ethnicity, appears inconclusive (Rothi & Leavey, 2006), ANOVAs were also computed for all outcome and predictor variables by race/ethnicity. No significant differences were found for white versus non-white participants for social stigma or self-stigma. However, significant differences were noted for several of the predictor variables. Specifically, white participants indicated higher levels of familiarity with mental illness, $F(1, 405) = 4.03$, $p = .02$ (White $M = .72$, $SD = .45$; Non-White $M = .61$, $SD = .49$), and higher familiarity with individuals who have received mental health services, $F(1, 405) = 5.80$, $p = .02$ (White $M = .36$, $SD = .24$; Non-White $M = .29$, $SD = .24$) than non-white participants. It is also worthy to note that a higher proportion of non-white participants were male $F(1, 404) = 6.40$, $p = .01$ (White $M = .32$, $SD = .47$, $n = 102$ of 319; Non-White $M = .47$, $SD = .50$, $n = 41$ of 88).

University. As previously noted, to avoid the potential distortion of outcomes, special attention was given to examining possible differences in participant responses as a result of the April 16th, 2007, shootings at Virginia Tech and as a result of other potential differences between university samples. Differences in the outcome and predictor variables between participants from Virginia Tech and WCU were examined using a series of ANOVA analyses. Although no significant differences were noted for self-stigma, social stigma was significantly lower, $F(1,$

408) = 4.06, $p = .05$, at Virginia Tech than at WCU (Virginia Tech $M = 3.75$, $SD = .70$; WCU $M = 3.91$, $SD = .61$). In regard to the predictor variables, the level of familiarity with others having received mental health services $F(1, 408) = 12.10$, $p \leq .001$ (Virginia Tech $M = .37$, $SD = .23$; WCU $M = .28$, $SD = .24$) and the number of individual students having received mental health services themselves $F(1, 401) = 5.69$, $p = .02$ (Virginia Tech $M = .34$, $SD = .48$; WCU $M = .22$, $SD = .42$), was significantly higher at Virginia Tech. It is also worthy to note that the number of female respondents at Virginia Tech was significantly higher than the number of female respondents at WCU $F(1, 407) = 24.02$, $p \leq .001$ (Virginia Tech $M = .28$, $SD = .45$, $n = 219$; WCU $M = .54$, $SD = .50$, $n = 47$).

4/16/07. Utilizing an ANOVA, the predictor and outcome variables of the Virginia Tech sample ($n = 306$) were analyzed in respect to whether the participant was present ($n = 168$) or not present ($n = 137$) for the events of 4/16/07 (No Response $n = 1$). The purpose of this analysis was to explore the extent to which one's presence on 4/16/07 might be associated with the differences between the Virginia Tech and WCU samples noted above. No significant differences were noted between the two samples on any of the relevant predictor variables or outcome variables. The only noted difference between groups was found with gender, with a higher percentage of males found in the present for 4/16/07 group than the not present for 4/16/07 group, $F(1, 303) = 5.42$, $p = .02$ (Present $M = .34$, $SD = .48$, $n = 57$ of 168; Not Present $M = .22$, $SD = .42$, $n = 30$ of 137). Given the relative lack of differences on any of the outcome or predictive variables between Virginia Tech students who were present for 4/16/07 and those who were not, the variable "4/16/07" was dropped from the formal analyses. However, the variable "University" maintained as a control variable in Model One of the subsequent hierarchical regression analyses.

Regression Analyses

Social stigma. Results of the hierarchical multiple regression analyses for social stigma are summarized in Table 7. For Model One, the overall model was not significant. Despite the addition of the proximity variables, Model Two was also not significant. This insignificant result was maintained with the addition of the interaction terms in Model Three.

Based on these findings, Hypothesis One is rejected. That is, higher levels of relational familiarity with mental illness (i.e., having a large number of relationships with individuals with a mental illness) were not associated with lower levels of perceived social stigma towards seeking services. Furthermore, Hypotheses Three and Five were also rejected because higher levels of familiarity with others receiving mental health services and higher levels of personal familiarity with receiving mental health services did not predict lower levels of social stigma. Hypothesis Seven was also rejected because variation in university (i.e., whether one is a Virginia Tech or WCU student) did not adequately predict varying levels of social stigma. As for the exploratory findings of Hypothesis Nine, race/ethnicity and gender did not predict lower levels of perceived social stigma.

Self-Stigma. Results of the hierarchical multiple regression analyses for self-stigma are summarized in Table 8. For Model One, the overall model was significant $F(3, 395) = 3.39, p = .02, Model R^2 = .03$, with gender (i.e., being male) as a significant predictor of higher levels of self-stigma at the $p = .01$ level, $Std. \beta = .14$. With the addition of the proximity variables, Model Two was significant $F(6, 392) = 4.01, p \leq .001, Model R^2 = .06$. Although the R-square change was significant ($R^2 \Delta = .03$), it accounted for only a modest 3% of the added variance. It is also worthy to note that gender was no longer significant in this model. However, having personally received mental health services was noted as being negatively related to self-stigma ($p = .04, Std.$

Table 7

Hierarchical Multiple Regression Analyses for Social Stigma (N = 410)

Variable	Model 1	Model 2	Model 3
	(All Models Reported in Standardized Beta's)		
Gender (G)	.03	.02	.06
Ethnicity (E)	.03	.02	.05
University (U)	.07	.07	.07
Level of Familiarity to Mental Illness (LOF-MI)		.07	.14
Level of Familiarity with Others Having Received MH Services (LOF-RS)		-.16**	-.00
Immediate Proximity: Having Received Mental Health Services (RMHS)		.10	.25
Model R ²	.01	.03	.07
R ² Δ	.01	.02*	.04
F	1.16	1.92	1.26
Df	3	6	21

Note: Interaction results are not shown due to the insignificance of the overall model and all interaction terms.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

$\beta = -.11$). With the addition of the interaction terms, Model Three continued to be significant, F

(21, 377) = 1.74, $p = .02$, *Model R*² = .09, although the change in r-square was not significant.

Also, none of the interaction terms or individual predictor variables were significant at the .05 level.

Table 8

Hierarchical Multiple Regression Analyses for Self-Stigma (N = 410)

Variable	Model 1	Model 2	Model 3
	(All Models Reported in Standardized Betas)		
Gender (G)	.14**	.09	.16
Ethnicity (E)	-.03	-.04	-.03
University (U)	.05	.03	-.04
Level of Familiarity to Mental Illness (LOF-MI)		-.02	.07
Level of Familiarity with Others Having Received MH Services (LOF-RS)		-.11	-.20
Immediate Proximity: Having Received Mental Health Services (RMHS)		-.11*	-.12
Model R ²	.03	.06	.09
R ² Δ	.03*	.03**	.03
F	3.39*	4.01***	1.74*
Df	3	6	21

Note: Interaction results are not shown due to the insignificance of all interactions.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

With these results, Hypotheses Two, Four, and Eight are rejected. Ultimately, level of familiarity to mental illness (Hypothesis Two) and level of familiarity with others having received mental health services (Hypothesis Four) were not found to be significant predictors of self-stigma. Additionally, Hypothesis Eight was also rejected because university (i.e., whether one is a Virginia Tech or WCU student) did not adequately predict varying levels of self-stigma. However, level of personal familiarity (Hypothesis Six) was confirmed, suggesting that

immediate mental health proximity (i.e., having personally received mental health services) is negatively associated with self-stigma. Although race/ethnicity was not found to be a significant predictor of self-stigma in Hypothesis Ten (exploratory), gender (i.e., being male) was found to be a significant predictor of self-stigma ($p = .01$) and provided consistent results with previous research (Vogel, et al., 2006). However, this finding was only significant in Model One.

Follow-Up Analysis

As previously noted, Vogel, Wade, & Hackler (2007) found that social stigma was a strong contributor to the experience of self-stigma, which ultimately influenced an individual's attitude and willingness to seek mental health services. To explore whether this same relationship occurred within the context of the current exploration of social proximity variables (i.e., levels of familiarity) and mental health stigma, an additional analysis was completed. However, given the modeled unidirectional relationship of social stigma towards self-stigma (i.e., public stigma contributing to the experience of self-stigma) outlined in Vogel, Wade, & Hackler (2007), a reciprocal regression analysis (i.e., controlling for self-stigma in a social stigma analysis) appears unsupported by this literature and was not conducted.

The hierarchical multiple regression analysis performed for self-stigma controlled for the presence of social stigma, along with the previous demographic control variables (i.e., gender, race/ethnicity, and university) in Model One. Consistent with the previous analyses, the following social proximity variables were entered into Model Two: level of familiarity to mental illness (LOF-MI), level of familiarity with others having received mental health services (LOF-RS), and personally having received mental health services (RMHS). In Model Three, the interactions between the demographic variables of Model One and the familiarity variables of Model Two were entered. Specifically, combinations of Gender (G), Ethnicity (E), University

(U), Public Stigma (DDS), Proximity Level to Mental Illness (LOF.MI), Proximity to Other Individuals Seeking Mental Health Services (LOF.RS), and Immediate Proximity (RMHS) were entered: G x E, G x U, G x LOF.MI, G x LOF.RS, G x RMHS, G x DDS, E x U, E x LOF.MI, E x LOF.RS, E x RMHS, E x DDS, U x LOF.MI, U x LOF.RS, U x RMHS, U x DDS, LOF.MI x LOF.RS, LOF.MI x RMHS, LOF.MI x DDS, LOF.RS x RMHS, LOF.RS x DDS, DDS x RMHS. The results of the hierarchical regression analyses are summarized in Table 9.

For Model One, the overall model was significant $F(4, 394) = 13.39, p \leq .001$, *Model R*² = .12, with gender (i.e., being male) and higher levels of social stigma being significant predictors of heightened self-stigma at $p = .01$, Std. $\beta = .13$, and $p \leq .001$, Std. $\beta = .31$, respectively. With the addition of the proximity variables, Model Two was also significant $F(7, 391) = 10.07, p \leq .001$ level, *Model R*² = .15. Along with the first model ($R^2 \Delta = .12, p \leq .001$), the change in r-square was also significant for this second model ($R^2 \Delta = .03, p \leq .01$). Specifically, having personally received mental health services was negatively related to self-stigma at $p = .01$, Std. $\beta = -.14$. A high level of social stigma was predictive of high self-stigma at $p \leq .001$, Std. $\beta = .31$. Gender was no longer considered significant in this second model. Model Three was also significant $F(28, 370) = 3.38, p \leq .001$, *Model R*² = .20, but the change in r-square was not significant. In Model Three, only one of the interactions among predictor variables was significant at the $p \leq .05$ level. None of the other variables were significant predictors of self-stigma. The interaction of social stigma and level of familiarity with others receiving mental health services was found to be a significant negative predictor of self-stigma at $p = .02$, Std. $\beta = -.14$. However, this interaction was not probed, as there was not a significant change in the amount of variance explained by the model after the interaction terms were entered.

Table 9

Follow-Up Hierarchical Multiple Regression Analyses for Self-Stigma while Controlling for Social Stigma (N = 410)

Variable	Model 1	Model 2	Model 3
	(All Models Reported in Standardized Betas)		
Gender (G)	.13**	.09	.19
Ethnicity (E)	-.03	-.04	-.05
University (U)	.03	.01	-.06
Devaluation-Discrimination Scale (DDS)	.31***	.31***	.21
Level of Familiarity to Mental Illness (LOF-MI)		-.04	.09
Level of Familiarity with Others Having Received MH Services (LOF-RS)		-.06	-.24
Immediate Proximity: Having Received Mental Health Services (RMHS)		-.14**	-.13
DDS x LOF-RS			-.14*
Model R ²	.12	.15	.20
R ² Δ	.12***	.03**	.05
F	13.39***	10.07***	3.38***
Df	4	7	28

Note: Interaction results above $p \leq .05$ are not displayed.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Chapter V

Discussion

Summary

While reviews of the literature assert that mental health stigma is consistently one of the most prominent barriers to seeking mental health services (Vogel et al., 2006), the specific need to address forms of stigma in university populations has been emphasized (Cook, 2007; Vogel, Wade, & Hackler, 2007). General trends regarding the influence of demographic factors (i.e., gender and race/ethnicity) have been examined, but appear inconsistent (Rothi & Leavey, 2006; Broadhurst, 2003). Researchers have suggested that environmental factors (e.g., social proximity) are an important component to consider when examining aspects of mental health stigma (Corrigan et al., 2001), however, few researchers have explored factors that contribute to the development of social and self-stigma, especially from an ecological perspective. Utilizing an ecological systems approach (Bronfenbrenner, 1989), this study examined select social proximity variables (i.e., familiarity with mental illness and receiving mental health services), that may be contributing to the social and self-stigma associated with seeking mental health services in university students. Through the examination of several hypotheses, the present study examined the broad research question, “Within a university sample, do levels of familiarity with mental illness and mental health services, along with the demographic variables of university, gender, and race/ethnicity, predict social and self-stigmatizing beliefs towards receiving mental health services?”

The results of the study supported the hypothesis that personally receiving mental health services is associated with less self-stigma towards receiving mental health care. Consistent with previous research findings (Vogel et al., 2006), the results also suggest that gender may be

relevant to self-stigma; females had significantly lower levels of self-stigma in this study.

However, when the social proximity variables were added in the second model, it is worthy to note that gender was no longer a significant predictor. The results did not support the hypotheses that higher levels of relational familiarity with a mental illness (i.e., relationships with others living with a mental illness), higher levels of familiarity with others having received mental health services, or racial/ethnic and university differences would predict lower levels of social stigma or self-stigma. Furthermore, none of the models predicting social stigma were significant. However, follow-up analyses confirmed previous results in the stigma literature (Vogel, Wade, & Hackler, 2007) by demonstrating a strong positive relationship between social stigma and self-stigma, and further established that having personally received mental health services was a significant predictor of lower levels of self-stigma.

Social Stigma

Of all of the results, the most surprising outcome is what was not significant: that the demographic and proximity variables did not predict social stigma. From an ecological and theoretical lens (Bronfenbrenner, 1989), the varying levels of environmental and social proximity influences, such as relationships and familiarity with mental illness and seeking services, that interact and impact an individual's decisions, values, and perceptions, were anticipated to predict the participants' sense of social stigma. Beyond the negative correlation found between familiarity with others having received mental health services and social stigma in the preliminary analyses, the lack of relationship between the predictor variables and social stigma was unexpected and is considered novel. That is, this outcome appears to provide a wealth of potential explanations relevant to the development of stigma in university populations. For instance, if social stigma is truly not associated with proximity and some demographic

variables, perhaps social stigma should be viewed as a pervasive and consistent notion in our university settings, varying minimally in regards to demographics or familiarity levels with mental illness. From an ecological systems perspective (Bronfenbrenner, 1979), the results of this study raise the possibility that social stigma may actually be an underlying part of a university's subculture, or macrosystem. This interpretation is consistent with Bronfenbrenner's (1979) definition of the macrosystem: a consistency that exists at the level of a subculture or culture as a whole. Accepting social stigma under these terms, as an underlying problem associated with culture, rather than a few biased individuals, could possibly enhance our understanding of social stigma and help develop new approaches to combating social stigma. Although other ecological factors (e.g., geographic region, parenting styles, personality characteristics, financial concerns, etc.) should be explored in more detail to fully understand the factors that influence social stigma, this conceptualization appears consistent with many of the approaches used to combat stigma in the President's New Freedom Commission on Mental Health (2003).

Also of interest, previous research (e.g., Vogel, Wade, & Hackler, 2007) is beginning to highlight the underlying importance of self-stigma in relation to social stigma and the willingness to seek mental health services in university populations. The present study confirmed aspects of this research, in that higher levels of social stigma were associated with higher levels of self-stigma. In other words, although the environmental factors predicting social stigma remain elusive, possessing high levels of social stigma appears to be a significant predictor of self-stigma. From an ecological perspective (Bronfenbrenner, 1989), one could speculate that the underlying perception of society stigmatizing an individual receiving services may interact with an individual's personal characteristics and ultimately affect his or her

discriminating thoughts about themselves if they were to receive services. Again, this contribution to self-stigma appears to be an important component in the help-seeking literature, given that increased levels of self-stigma are strongly associated with diminished help-seeking attitudes and willingness to seek mental health services (Vogel, Wade, & Hackler, 2007). However, given the lack of specific predictors found in this research towards social stigma and previous research stressing the importance of self-stigma (Vogel, Wade, & Hackler, 2007), conceptualizing social stigma at Bronfenbrenner's (1979) macrosystem level and refocusing on factors related to self-stigma may be more effective in combating individual hindrances to seeking mental health services in university students than attempting to differentiate individuals by social stigma levels. Overall, there remains a wealth of variance yet to be explained for both social and self-stigma and calls for further research.

Self-Stigma

In regards to self-stigma and the social proximity variables, the only significant predictive relationship was found between having personally received services and self-stigma. Specifically, having personally received mental health services predicted lower levels of self-stigma. Explanations of this relationship, although promising, appear complex. From an ecological perspective (Bronfenbrenner, 1989), one could speculate that based on the interactions of the individual and the therapeutic environment, once an individual has received mental health services, he or she may internally develop relatively lower levels of self-stigma. Others may suggest that university students having sought services only later develop lower levels of self-stigma to ease their apprehension of seeking services. From this viewpoint, the action to reduce potential discomfort between conflicting beliefs and actions (i.e., attempting to reduce self-stigma despite potentially experiencing social stigma) is consistent with Festinger's (1957)

theory of cognitive dissonance. Dissonance theory (Festinger, 1957) holds that cognitive elements may contain non-fitting relationships among themselves and create pressure to reduce and avoid dissonance through both behavioral and cognitive changes. Given the apparent broad scope of social stigma in these university populations, cognitively lowering one's internal self-stigma to better correspond with one's behavioral action to seek mental health services appears to be a reasonable deduction from the conceptualization of cognitive dissonance. However, since directionality is unknown, one could also hypothesize that individuals seeking mental health services are simply those individuals with lower levels of self-stigma. Although each of these perspectives appear reasonable, it is worthy to note that causality from these interpretations can not be deducted at this time and should be explored in future research.

Given the conceptualization of stigma from an ecological systems approach (Bronfenbrenner, 1989), finding no significant predictive relationship between the other social proximity variables (i.e., level of familiarity with mental illness and/or level of familiarity with others having received mental health services) and self-stigma in the formal analyses was somewhat bewildering. Given related findings in previous social proximity studies (Rickwood and Braithwaite, 1994; Corrigan et al., 2001), these results were clearly not the expected outcome. Following the ecological systems perspective (Bronfenbrenner, 1989), one would have likely deducted that being embedded in a context of familiarity with individuals diagnosed with mental illness or seeking services would promote a level of acceptance or low levels of personal stigma towards seeking services. However, only preliminary correlations and minor trends in these proposed directions were found. In this particular sample of university students, the overall findings suggest that having numerous friends, family members, and coworkers with mental illness was not significantly related to one's level of self-stigmatizing thought towards seeking

mental health services. Furthermore, interacting with many individuals that have previously sought services was also not significantly related to one's self-stigma towards seeking mental health services.

Ironically, although using an ecological approach (Bronfenbrenner, 1989), these findings may be a result of too narrowly focusing on one particular ecological aspect: social proximity variables. Given the numerous other cultural influences on mental health stigma, perhaps future researchers could further expand the focus beyond social proximity variables and include other personal and cultural aspects related to stigma. Examples of these variables include: quality of relationships, age, education, community, varying geographic region, social system policies, and mental health knowledge.

Gender and Ethnicity Differences

In exploring how types of stigma are associated with the demographic variable of gender, the only significant relationship was found between gender and self-stigma. Consistent with the results from the preliminary analysis (ANOVA), being female predicted lower levels of self-stigma toward seeking mental health services. It is worthy to note this significance was only present in Model One, and vanished upon adding in the social proximity variables of Model Two. However, these initial trends appear to be consistent with the gender differences in help-seeking thoughts and behavior described in previous studies (e.g., Garland and Zigler, 1994; Moller-Leimkuhler, 2002; Vogel et al., 2006). For example, Vogel and colleagues (2006) also noted higher levels of self-stigma in male college populations.

When exploring these findings in the context of gender schema theory (Bem, 1981), with an understanding that gender schemas and roles are derived from cultural expectations and interpreted through an individual's cognitive structure, one could speculate that gender

differences in self-stigma may be due to more traditional and culturally sensitive gender roles influencing the behavior of males and females, with more acceptance of help-seeking cognitions (i.e., less self-stigma) in females over males. In other words, with traditional male gender schemas in American culture being associated with traits seemingly counter to help-seeking behavior [i.e., independence, courageousness, and toughness (Williams, Sawyer, & Wahlstrom, 2006)], gender role differences emphasized in a society may play an important part in the development of self-stigma associated with seeking mental health services. However, these differences were only noted for self-stigma and not social stigma. Again, this appears to speak to the consistent presence of social stigma found in this study and on other university campuses (Vogel, Wade, & Hackler, 2007), along with demonstrating consistency with the previously proposed view of social stigma as one of Bronfenbrenner's (1979) macrosystem characteristics (i.e., an underlying part of a university's subculture).

In regards to the exploratory hypotheses regarding race/ethnicity, no significant relationship between race/ethnicity and either form of stigma was found. Interestingly, the findings of the ANOVA revealed that white participants reported higher levels of familiarity with mental illness and others receiving services than non-white participants. Although this finding may appear consistent with the President's NFC on Mental Illness (2003), suggesting that racial and ethnic minority populations are underserved in regards to mental health services, one must recall that the sample of white students in this study was composed of a significantly higher percentage of females than the non-white student sample. Additionally, due to low numbers of non-white participants, the variable of race/ethnicity was transformed into two groups (i.e., white and non-white). Obviously, these sample characteristics limit the overall interpretation of this variable. However, it is worthy to note that the results indicating no social

stigma differences based on either race/ethnicity are consistent with the previously proposed view of social stigma as an underlying part of a university's subculture. An understanding of social stigma from this ecological viewpoint could perhaps validate a lack of social stigma differences found between these groups in this study.

University Context and 4/16/07

Given that a significant portion of this research sample had been exposed to a unique event (i.e., the shootings of April 16th, 2007, at Virginia Tech) and consequently exposed to elevated levels of mental health services and discussions of mental illnesses, findings regarding the potential impact of those events on Virginia Tech students are of considerable interest to the Virginia Tech community and other university communities. Surprisingly, no specific differences exist for social stigma or self-stigma between those Virginia Tech students present on 4/16/07 and those not present. In other words, the events of 4/16/07 and the related responses to the university tragedy did not appear to be associated with any differences in social or self-stigma levels for these university students.

Although this study did not control for potential changes of the university as a whole over time (i.e., controlling for future students being affected by events and responses to the tragedy experienced by previous university students), using an ecological lens (Bronfenbrenner, 1989), one may have still reasonably theorized that students exposed to this tragedy would likely have significantly different levels of social or self-stigma as a result of this exposure. For instance, the events of 4/16/07 immediately affected service response and mental health availability on the campus of Virginia Tech with outreach to students and families (Nordboe et al., 2007). Therefore, Virginia Tech students present during the time of the tragedy immediately had varying levels of their environmental systems altered, especially in the context of exposure to

mental illness and mental health services. With interactive individual/environmental relationships as an essential component to an ecology of human development (Bronfenbrenner, 1989), one could have reasonably speculated that a unique outcome related to mental health stigma may occur. However, this was not consistent with the findings of this research. For social stigma, this may speak to the previously discussed possibility of an underlying social stigma characteristic found in the culture of college campuses. For self-stigma, one could further hypothesize that the lack of differences between the groups could be due to a variety of other factors (e.g., general characteristics of Virginia Tech students, personal reactions to the events of 4/16/07 and not one's presence, etc.).

In comparison to WCU students, Virginia Tech students displayed a significantly higher level of familiarity with others having received mental health services and higher levels of personally receiving services. Although this may appear to be consistent with the elevated levels of university mental health exposure as a result of the April 16th, 2007, shootings, a number of other factors could be contributing to this difference between universities. For example, WCU students had significantly higher levels of social stigma than Virginia Tech students. Along with other significant demographic differences noted between universities (e.g., gender), it is possible these discrepancies may be due to other unrelated characteristics of these universities or university students, not necessarily differences relevant to the events of 4/16/07. As alluded to by previous researchers (Vogel, Wade, & Hackler, 2007), further exploration into various university samples are needed to help pinpoint university-specific characteristics and generalizable university characteristics. For example, some potential explanations for the differences noted above include geographical differences, campus events, variation in local

mental health access, and aptitude differences. Again, it is worthy to note that in the formal regression analyses, university was not a significant predictor of either type of stigma.

Limitations

Although this study provides new insight into social proximity and mental health stigma, it is not without limitations. First, because the university sample was based on convenience and recruited from two rural, southeastern university communities, the findings may not generalize to the larger population of university students in the United States or to the general population. Diversity in racial/ethnic background, as well as other demographic characteristics, such as financial income, was also limited, further restricting the generalizability of the study. A more diverse sample of participants from differing schools, ages, and backgrounds would help further validate a study of this nature.

Second, due to its correlational nature, no causal relationships could be drawn between the chosen social proximity factors (i.e., level of familiarity with receiving services, level of familiarity with others receiving services, and familiarity with mental illness) and social or self-stigma. In other words, directionality is still a concern. For example, the results are consistent with the hypotheses contending that individuals who seek services experience lower ratings of self-stigma. However, the results can not rule out the potential opposing view of this relationship; that lower levels of self-stigma lead to higher levels of seeking mental health services. The inability of this research to fully address the directionality of this relationship (i.e., *seeking mental health services* → *self-stigma* versus *self-stigma* → *seeking mental health services*) is a limitation that could be overcome with variations in the research design (e.g., a controlled experimental study).

Third, the method of data gathering (i.e., internet survey) precluded obtaining direct observations of social or self-stigmatizing behavior. Thus, the research is limited to perceptions of the participants and incorporates the limitations commonly found with a self-reporting method (e.g., no objective ratings, etc.). In many self-reports, validity is considered to be negatively influenced by the lack of objective ratings or potential biases, given that the participant's report may be at inconsistent with actual behavior (Bordens & Abbot, 1996). The potential for projecting oneself in a socially desirable manner (e.g., minimizing stigmatizing behaviors) in an attitudinal study is also a concern (Bordens & Abbot, 1996). Given the research format used to gather participants, a potential selection bias is also a limitation. Future approaches involving direct observation of behavior or random sampling may be useful in overcoming these limitations.

Finally, although this research explored stigma development from an ecological approach, environment was narrowly defined. Thus, a clear understanding of the environmental factors associated with social and self-stigma remains incomplete. For instance, the limited variance uniquely accounted for in this research suggests that a vast number of additional factors that contribute to the development of self-stigma are still unaccounted for. Based on Bronfenbrenner's (1989) ecology of human development, one might consider exploring other properties of an individual's environmental contexts (i.e., more expansive layers of an individual's environment or culture) while also considering more personal characteristics.

Implications for Future Research

As noted in the limitations of this study, there is still much to be understood about the factors related to social and self-stigma. To expand the understanding of the development, identity, and behavior associated with social and self stigma, perhaps a qualitative approach (e.g.,

descriptive, phenomenological, etc.) would be useful in gaining new insight into individuals struggling with mental illness that are currently seeking mental health services and those that are not. Specifically, the following questions may be helpful in expanding the knowledge of both social stigma and self-stigma in our society: “How do close relationships (e.g., friends, family) respond to individuals seeking mental health services?,” “How do more distant relationships (e.g., coworkers, church members, general public) respond to individuals seeking mental health services?,” “What is the personal experience of receiving stigmatizing thoughts or behavior as a result of seeking mental health services?”.

Along with exploring more diverse samples of participants (e.g., ethnic/racial backgrounds, universities, age, socioeconomic status, etc.), future quantitative research would benefit from exploring alternative personal and ecological variables potentially involved in the development of mental health stigma. Some of these variables might include individual personality characteristics (e.g., introversion, extroversion, conscientiousness, etc.), level and types of mental illness, and/or level and types of services sought. In regards to the role of social proximity variables, future studies may also benefit from exploring the depth of relational factors. For example, examining an individual’s degree of relational closeness to his or her family members or friends that have sought mental health services may prove insightful in determining differences in the presence of stigma. As noted in the findings from this study, much of the variation in social and self-stigma remains to be explained.

Given the significant differences in self-stigma for males and females found in the ANOVA’s and aspects of the regression analyses, researchers could explore the factors that aid in the development and maintenance of lower levels of self-stigma in females to help incorporate those factors in efforts targeting male populations. For example, Leong and Zachar (1999)

suggest that acceptance levels of mental health services still differ significantly in our society. In a college sample, Leong and Zachar (1999) not only found that female students had more positive attitudes towards seeking mental health services, but that one's opinion about mental illness (e.g., more benevolent, less authoritarian, etc.) accounted for a greater percentage of more positive attitudes towards help-seeking beyond that found by gender. Further exploration into the specific characteristics of individuals with low stigmatizing attitudes and behavior, beyond gender, appears to be warranted.

Furthermore, researchers may find it beneficial to overcome the limitations of a questionnaire based approach of this nature. Rather than using a self-reflective report, researchers may be able to devise a professional interview method to obtain a more non-biased, valid, and accurate representation of the stigma currently associated with seeking services by compiling information directly from a variety of groups, such as individuals currently seeking services, individuals waiting to seek services, and individuals that have finished seeking services. By including a more direct approach with comparison samples, future research may be able to acquire more accurate personal accounts of stigmatizing characteristics and more precisely describe the experience of stigma from a variety of perspectives.

Implications for the Therapeutic Field

Findings from this study have a number of implications for marriage and family therapists (MFTs) and other mental health professionals. Based on information from this study, MFTs and other mental health practitioners working with university populations should be educated and aware of the potential for social stigma and self-stigmatizing thoughts negatively affecting clients prior to, after, and in and out of therapy sessions. With this research and previous studies (Vogel et al., 2006) demonstrating higher levels of self-stigma among males,

awareness of gender differences (i.e., that males may be more sensitive to self-stigma) may be helpful to clinicians in properly addressing these concerns with their clients through a psychoeducational approach. If necessary, acknowledging and working through stigmatizing situations or thoughts as they relate to one's identity, self-esteem, social resources, and interactions with others may also be helpful to many of these male clients. From a family systems viewpoint, a marriage and family therapist may also find it necessary to address the stigmatizing statements or behavior of a family group member towards another member of the family system (e.g., identified patient). For example, raising awareness of potential negative patterns of communication specifically relevant to the mental illness stigma of a family member, along with processing through these negative attitudes and behaviors, may be critical in the restructuring of more effective communication patterns and promote continuation with therapy.

Additionally, educational activities to increase knowledge of mental illness and strategies to increase mental health are part of the recommendations of the President's NFC on Mental Health (2003) to help reduce stigma associated with seeking services. To help address social stigma found among university campus populations, mental health clinicians could work towards addressing the issue of social stigma on campuses by establishing anti-stigma campaigns. As an example, SAMHSA's Resource Center to Promote Acceptance, Dignity, and Social Inclusion Associated with Mental Health (ADS Center) (2008) promotes taking action (i.e., planning an event, activity, or program) and offers specific resources, guides, tips, and more information on how to help reduce mental health stigma. Educational workshops for faculty, staff, students, and local schools addressing the topic of stigma also appear to be a realistic avenue for clinicians to help address social stigma concerns in their community. Given the findings from the current study and previous findings on the relationship between social and self-stigma (Vogel, Wade, &

Hackler, 2007), one could reasonably speculate that helping to address social stigma would also ultimately help address self-stigma.

With the lowest levels of self-stigma being found in individuals having personally received mental health services, and the correlational trend between low levels of stigma and familiarity with others having received services, one might speculate that individuals having successfully received mental health services may be able to aid individuals not seeking services. In other words, people who have received mental health treatment may directly benefit others by sharing his or her story of mental illness or help-seeking behavior with them. Coordinating public speakers willing to share his or her story or creating a support network for those experiencing mental illness, similar to the concept behind the “What a difference a friend makes” campaign by SAMHSA (2009), may be helpful modes of outreach to those otherwise feeling stigmatized by society.

Conclusions

This research has attempted to expand the understanding of the mental health help-seeking process by examining demographic and social proximity factors that may be contributing to the social and self-stigma associated with receiving mental health services among university students. While controlling for gender, race/ethnicity, and university, the results confirmed that having personally received mental health services was strongly related to lower levels of self-stigma. However, higher levels of relational familiarity with mental illness, higher levels of familiarity with others having received mental health services, race/ethnicity, and university differences did not predict lower levels of social or self-stigma. With the addition of the social proximity variables, gender was also not a significant predictor of social or self-stigma. Furthermore, none of the models utilizing social proximity factors to predict social stigma were

significant. However, consistent with previous literature (Vogel, Wade, & Hackler, 2007), a strong positive relationship between social stigma and self-stigma was confirmed. Applicable research, practice, and social implications have been discussed.

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Appendix A

Figure Captions

Figure A1. An individual in an ecological systems context (Visual of Bronfenbrenner, 1989).

Figure A2. The mental health help-seeking process (Visual of Rothi & Leavey, 2006).

Figure A1. An individual in an ecological systems context (Visual of Bronfenbrenner, 1989).

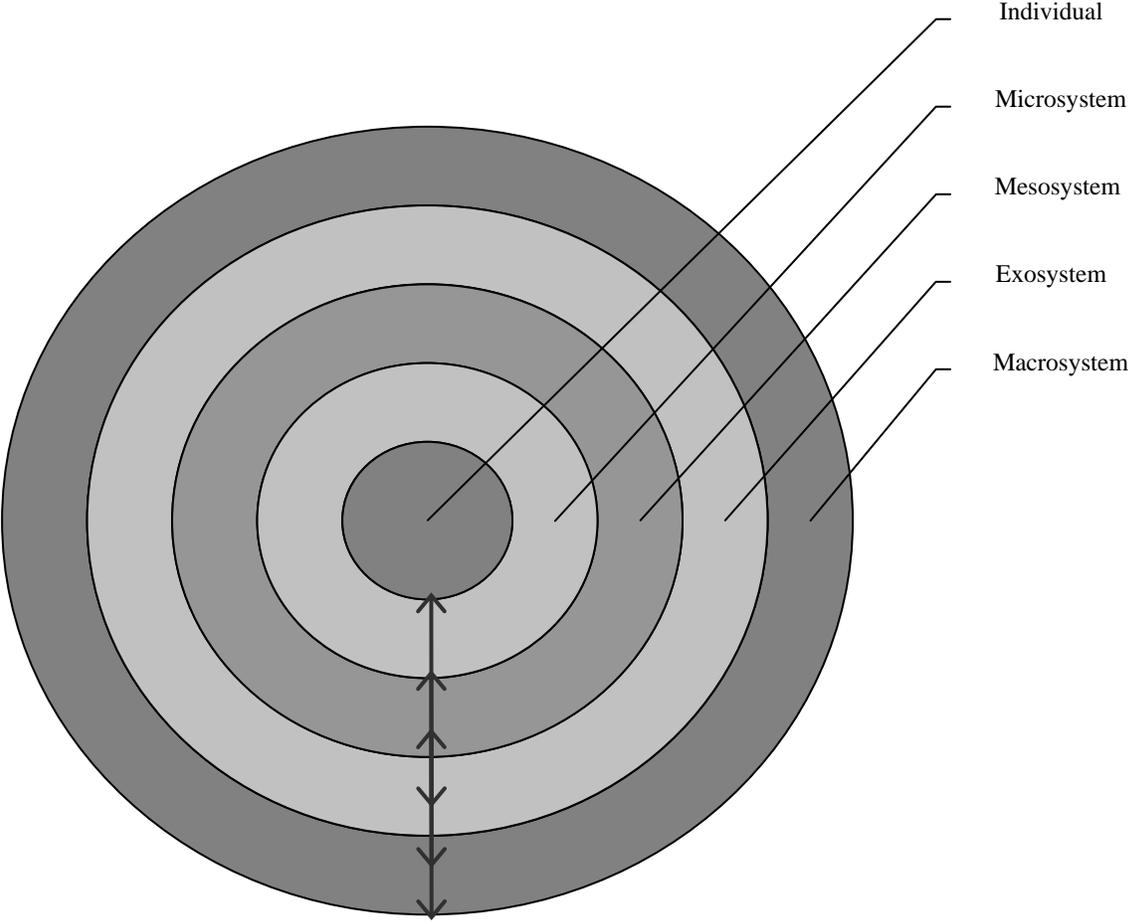
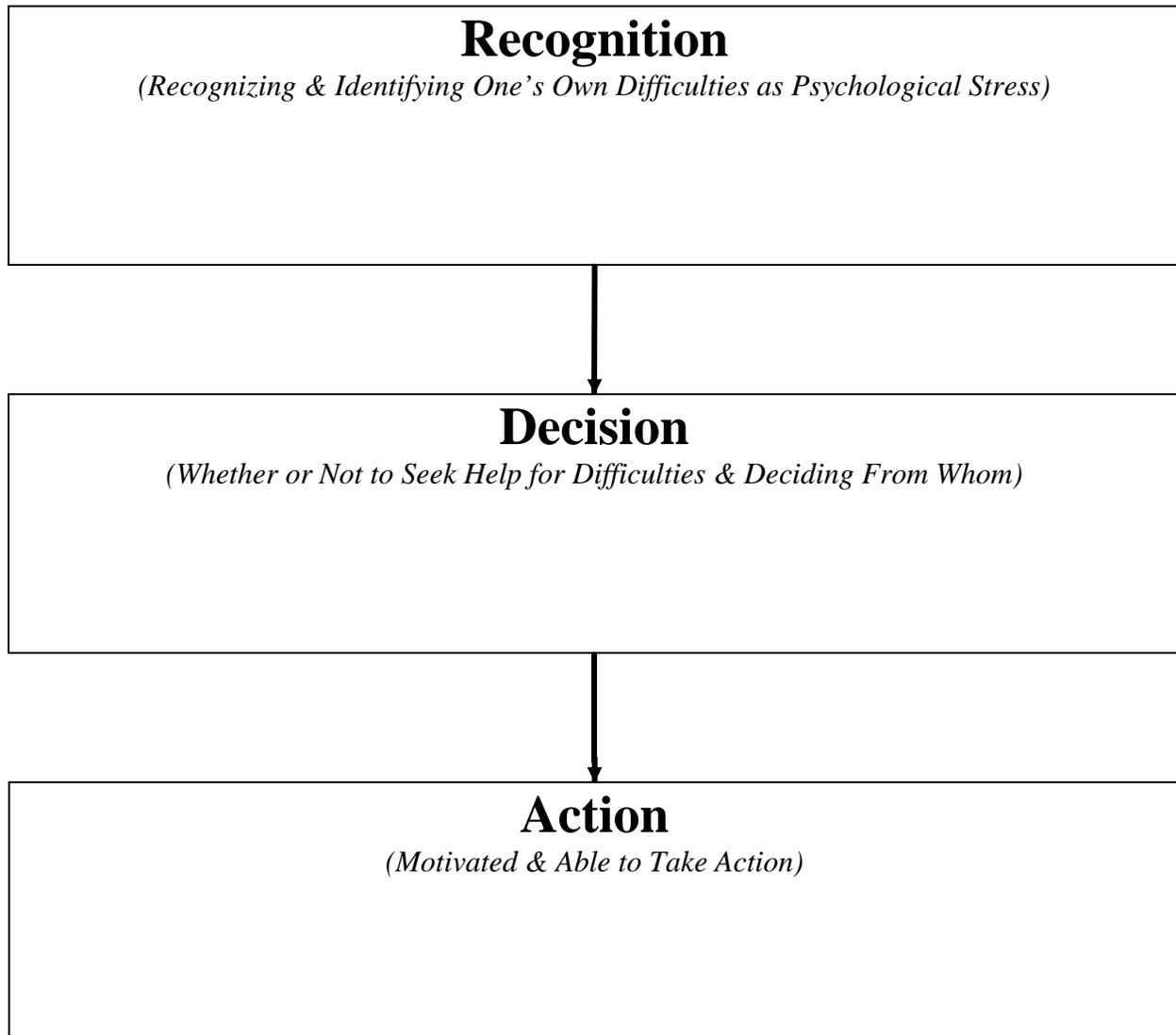


Figure A2. The mental health help-seeking process (Visual of Rothi & Leavey, 2006).



Appendix B

Recruitment Letter to University Instructors

Brandon Rodgers, Doctoral Candidate
Department of Human Development
Virginia Tech
Family Therapy Center of Virginia Tech (0515)
840 University City Boulevard, Suite 1
Blacksburg, VA 24061

Insert Date

Dear (*Instructor*),

My name is Brandon Rodgers and I am a doctoral candidate at Virginia Tech. Under the supervision of Dr. Megan Dolbin-MacNab, I am in the process of recruiting participants for my dissertation on attitudes towards mental health and mental health services (*IRB Approval Number: 09-003*).

I am writing to ask for your assistance. Would you be willing to invite the students in your (*Insert Class Name/Course Number Here*) class to participate in this study? The study is web-based and takes approximately 15-25 minutes for your students to complete. Your students can access the survey at: <https://survey.vt.edu/survey/entry.jsp?id=1238072592018>. I have also included a flyer for you to share with your students. If you are willing, I would also be happy to arrange a time to speak with your class about this research.

As an incentive, five different randomly selected participants will receive \$40.00 gift cards to Olive Garden. Additionally, if you are interested, I would be willing to work with you so that your students may earn extra credit for their participation in this study.

If you would like to pursue the extra credit option for your students or if you have any additional questions, please feel free to contact me at brodgers@vt.edu. Thank you for your support of mental health research.

My Best,

(*Insert Signature Here*)

Brandon Rodgers, Doctoral Candidate
Department of Human Development
Family Therapy Center of Virginia Tech (0515)
840 University City Boulevard, Suite 1
Blacksburg, VA 24061

Appendix C

Recruitment Email Letter to University Instructors

Dear (*Instructor*),

My name is Brandon Rodgers and I am a doctoral candidate at Virginia Tech. Under the supervision of Dr. Megan Dolbin-MacNab, I am in the process of recruiting participants for my dissertation on attitudes towards mental health and mental health services (*IRB Approval Number: 09-003*).

I am writing to ask for your assistance. Would you be willing to invite the students in your (*Insert Class Name/Course Number Here*) class to participate in this study? The study is web-based and takes approximately 15-25 minutes for your students to complete. Your students can access the survey at: <https://survey.vt.edu/survey/entry.jsp?id=1238072592018>. I have also attached a flyer for you to share with your students. If you are willing, I would also be happy to arrange a time to speak with your class about this research.

As an incentive, five different randomly selected participants will receive \$40.00 gift cards to Olive Garden. Additionally, if you are interested, I would be willing to work with you so that your students may earn extra credit for their participation in this study.

If you would like to pursue the extra credit option for your students or if you have any additional questions, please feel free to contact me at brodgers@vt.edu. Thank you for your support of mental health research.

My Best,

Brandon

Brandon Rodgers, Doctoral Candidate
Department of Human Development
Family Therapy Center of Virginia Tech (0515)
840 University City Boulevard, Suite 1
Blacksburg, VA 24061

Appendix D

Flyer Included with Instructor Letter and Email

*Win One of Five \$40.00 Gift Cards to
Olive Garden!*



Who:

(Insert WCU/VT) College students between 18 and 24 years old

What:

*Complete a short research questionnaire on attitudes towards mental
health and mental health services*

When:

At your convenience

How Long:

Approximately 15-25 minutes of your time

Potential Winnings:

*Your name will be entered into a drawing for one of FIVE \$40.00 gift
cards to Olive Garden*

(Odds of winning are approximately 1 in 35)

***To Participate, Please Go To The Following Link:
(Insert Website Address Here)***

Contact Person:

**Brandon Rodgers, Doctoral Candidate
Department of Human Development**

**Virginia Tech
brodgers@vt.edu**

Appendix E

Psychology Study Participant Manager (PSPM) Posting

The Role of Social Proximity and Stigma in Seeking Mental Health Services:

This is a Virginia Tech research study exploring attitudes towards mental health and mental health services among college students (18-24 years of age). The study is web-based and takes approximately 15-25 minutes to complete.

To volunteer, first sign up for the study on the PSPM system. Then begin the study, at your convenience, at the following web address: *(Insert Website Here)*.

Contact Person:
Brandon Rodgers, Doctoral Candidate
Department of Human Development
Virginia Tech
828-227-2457
brodgers@vt.edu

*Please Note: If you are a current student of Mr. Brandon Rodgers (PSY-150-07), you are **NOT** eligible for participation in this particular study. Please consult PSPM for additional studies you may qualify for.*

Appendix F

Virginia Tech Institutional Review Board Approval



Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, Virginia 24061
540/231-4991 Fax 540/231-0959
e-mail moored@vt.edu
www.irb.vt.edu

PVA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: April 6, 2009

MEMORANDUM

TO: Megan Dolbin-MacNab
Brandon Rodgers

Approval date: 4/6/2009
Continuing Review Due Date: 3/22/2010
Expiration Date: 4/5/2010

FROM: David M. Moore 

SUBJECT: **IRB Expedited Approval:** "The Role of Social Proximity and Stigma in Seeking Mental Health Services", IRB # 09-003

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective April 6, 2009.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:

If you are conducting **federally funded non-exempt research**, please send the applicable OSP/grant proposal to the IRB office, once available. OSP funds may not be released until the IRB has compared and found consistent the proposal and related IRB application.

cc: File

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE UNIVERSITY AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Appendix G

Western Carolina University IRB Authorization Agreement

Western Carolina University & Virginia Tech Institutional Review Board (IRB) Authorization Agreement

Name of Institution or Organization Providing IRB Review (Institution/Organization A):

Virginia Polytechnic Institute & State University (Virginia Tech)

IRB Registration #: IRB00000667 Federalwide Assurance (FWA) #, if any: FWA00000572

Institution Relying on the Designated IRB (Institution B):

Western Carolina University (FWA #00010411, IRB # 00005537)

The Officials signing below agree that Western Carolina University may rely on the designated IRB for review and continuing oversight of its human subjects research described below:

This agreement is limited to the following specific protocol(s):

Name of Research Project: The Role of Social Proximity and Stigma in Seeking Mental Health Services
Name of Principal Investigator: Megan Dolbin-MacNab, Ph.D., Assistant Professor
Name of Research Team Member: Brandon Rodgers, MA, CAS, Doctoral Candidate
Sponsor or Funding Agency: not sponsored Award Number, if any: N/A

The review performed by the designated IRB will meet the human subject protection requirements of Western Carolina University's OHRP-approved FWA. The IRB at Virginia Polytechnic Institute & State University will follow written procedures for reporting its findings and actions to appropriate officials at Western Carolina University (WCU). Relevant minutes of IRB meetings will be made available to WCU upon request. WCU remains responsible for ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This document must be kept on file by both parties and provided to OHRP upon request.

Signature of Signatory Official (Institution/Organization A):

[Handwritten Signature] Date: 3/24/09

Print Full Name: Dr. David M. Moore Institutional Title: Associate VP for Research Compliance

Signature of Signatory Official (Institution B):

Meagan Karvonen Date: [Blank]
Digitally signed by Meagan Karvonen
DN: cn = Meagan Karvonen, o = US, ou = Western Carolina University, ou = IRB Chair
Reason: I agree to the terms defined by the placement of my signature on this document.
Date: 2009.04.12 08:52:35 -04'00'

Print Full Name: Institutional Title:

Appendix H

Introduction, Progressing, & Conclusion Statements

The Role of Social Proximity and Stigma in Seeking Mental Health Services

Introduction Statement:

Welcome to the questionnaire for "The Role of Social Proximity and Stigma in Seeking Mental Health Services". This survey consists of a 3-step process. This entire process should take approximately 15-25 minutes.

Step 1: CONSENT FORM

Read the consent form and acknowledge consent by clicking on the SUBMIT button below.

Step 2: THE SURVEY

Read and complete the five short sections of our survey.

Step 3: PERSONAL INFORMATION

In order to be eligible for the Olive Garden gift card drawing, please provide your appropriate information during this step of the process. Additionally, for those individuals eligible to receive extra credit or course credit for their participation in this research, please provide your appropriate information during this step of the process.

Thank you for your time! Please begin with Step One below:

Statement after Reading of Consent Form:

If you agree to participate, please click on the SUBMIT button below to proceed:

Statement after Clicking on First SUBMIT Button:

Click Here to Continue to Step 2 (The Survey)

Survey Conclusion Statement:

Please take a moment and review your responses for any items you may have accidentally skipped. Once you have responded to each item, you may continue to the final step (Personal Information) by clicking on the SUBMIT button below. **IMPORTANT:** In order to be eligible for the Olive Garden gift card drawing, please provide your appropriate information during this upcoming step of the process. Additionally, for those individuals eligible to receive extra credit or course credit for their participation in this research, please provide your appropriate information during this upcoming final step of the process.

Statement after Clicking on Second SUBMIT Button:

Click Here to Continue to Step 3 (Personal Information)

Final Conclusion Statement:

You have reached the end of the questionnaire. You may finish and complete your questionnaire by clicking on the SUBMIT button below. Thank you for your help in this research!

After Submission of Questionnaire:

Thank you again for your help in our research!

Appendix I

Institutional Review Board Consent Form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants
in Research Projects Involving Human Subjects

Title of Study:

The Role of Social Proximity and Stigma in Seeking Mental Health Services

Investigator(s):

Megan Dolbin-MacNab, Ph.D., Assistant Professor and Principal Investigator
Brandon Rodgers, MA, CAS, Doctoral Candidate

I. Purpose of this Research Project

The purpose of this study is to explore how levels of familiarity with mental illness and mental health services relate to an individual's perceived stigma towards seeking mental health services. Approximately 175 undergraduate students from Virginia Tech and Western Carolina University are expected to participate in the study. The results of this study may be used for publication in professional journals and for professional presentations.

II. Procedures

To participate, you must be between the ages of 18-24. This research questionnaire consists of a 3-step process. This entire process should take approximately 15-25 minutes. In the first step (Consent Form), you will review the research consent form. After reviewing the consent form and acknowledging that you agree to participate in the study, you will be able to begin the second step (The Survey), by accessing a separately maintained secure website where you will complete the actual survey questions. The survey will consist of questions about demographic characteristics, level of familiarity with mental illness, level of familiarity with receiving mental health services, public stigma associated with seeking mental health services, and self-stigma associated with seeking mental health services. Upon completing the second step, you will be able to access the third step (Personal Information), where you will be able to provide your personal information (i.e., name, email address, etc.) separately from your survey responses. The personal information you share during this third step will not be connected to your survey responses and will only be used to contact you if you win a gift card, or to acknowledge your participation if you are eligible for extra/course credit. Given the web-based design of the research study, where you complete the survey will vary depending on your personal web-access point. The multiple secure websites used for maintaining your shared information are all supported by Virginia Tech (<http://survey.vt.edu/>).

III. Risks

The potential risks (i.e., mental, social, financial, legal, dignity, or physical) of participating in this study are minimal. However, given the sensitive nature of some of the survey questions, some participants may experience emotional distress caused by remembering unpleasant experiences or events. If you experience any unpleasant stress associated with completing the survey, you may stop participating at any time. If you believe that you need additional support, you can contact the following resources:

Virginia Tech Students:

The Family Therapy Center of Virginia Tech: (540) 231-7201
Virginia Tech's Cook Counseling Center: (540) 231-6557

Western Carolina Students:

Western Carolina University's Counseling & Psychological Services Center: (828) 227-7469

If you seek counseling services as a result of participating in this study, you are responsible for the costs associated with such services.

IV. Benefits

No promise or guarantees of benefits have been made to encourage you to participate. However, through participating in this research, potential societal benefits include enhancing society's knowledge and understanding of mental illness and mental health services.

V. Extent of Anonymity and Confidentiality

All of your identifying personal information and survey responses will remain confidential. Given the three step process of this research, your personal identifying information will be submitted and maintained separately from your survey responses. With this submission method, it will not be possible to accurately link your survey responses to your name. Documents related to this study will be encrypted, password protected, and access will be limited to the researchers.

If you are earning extra/course credit for participating in this study, your name will be given to your course instructor. However, your instructor will not see your responses to the survey questions.

It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research. After completion of the research study, responses will be maintained securely with an encryption code, on a password protected computer, with access limited to the researchers. When the study is over, all personal information (i.e., names, email addresses, etc.) will be destroyed. A database containing only your answers to the questions will be kept for future use, but only the research team members will be able to access and use this database.

VI. Compensation

For participating in the study, you will be entered into a drawing for one of five \$40.00 gift cards to Olive Garden, a well known nationally-based restaurant. At the completion of data collection, the researchers will randomly select the five gift card recipients. Those not selected as one of the five winners, will not receive compensation. Once the five winning participants have been chosen, they will be individually informed via email. At that time, the winners will be asked for their mailing address. Once the participants have provided their mailing addresses to the researchers, their gift cards will be sent to them. Winning participants that do not respond to this email within the three week grace period will relinquish their gift card and a different participant will be chosen. Given the number of estimated participants (175), the odds of winning are 1 in 35.

Some participants may be offered extra/course credit for participating in this research study. Instructors interested in offering extra credit have been informed that equal alternatives to research participation must be provided to students and that extra credit earned through research participation should not raise a student's grade by a whole step (e.g., from a B to an A). If participating, your instructor will inform you of the impact this extra credit will have on your grade. It is your responsibility to find out whether your instructor is offering extra credit for your participation prior to completing this study.

WCU students participating in the PSPM program may complete this study for acknowledgement of participation in one research study.

VII. Freedom to Withdraw

You are free to withdraw from the study at any time without penalty. If you withdraw from the study at any time after beginning the survey questionnaire and have submitted your contact information, you will still be entered into the gift card drawing and have an equal chance of winning. Additionally, if you are eligible for extra/course credit and withdraw from the study, you will also be awarded your appropriate credit.

VIII. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

If the participant has any questions about this form or if questions arise during the course of completing the questionnaire, the participant is to contact the investigator with his or her questions at the following: brodgers@vt.edu or (828) 227-2457. The participant holds no further responsibilities after completion of the questionnaire.

IX. Subject's Permission

I have read the Consent Form and conditions of this project. I have had all my questions answered. By proceeding with this questionnaire, I hereby acknowledge the above and give my voluntary consent.

Should I have any pertinent questions about this research or its conduct, and research participants' rights, and whom to contact in the event of a research-related injury to myself, I may contact:

Investigator(s) Telephone/e-mail:

Brandon Rodgers / 828-227-2457/ brodgers@vt.edu

Faculty Advisor Telephone/e-mail:

Megan Dolbin-MacNab / 540-231-6807 / mdolbinm@vt.edu

Institutional Review Board Chair Telephone/e-mail:

David M. Moore / 540-231-4991/ moored@vt.edu

David M. Moore
Chair, Virginia Tech Institutional Review
Board for the Protection of Human Subjects
Office of Research Compliance
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, VA 24060

Appendix J

Questionnaire: Demographic Information

Clarifying Definitions for Terms Used in the Survey

When the following terms are used (Mental Health Services & Mental Illnesses), please use the definitions below to help facilitate your responses.

*The term “**Mental Health Services**,” unless otherwise noted, refers to in-person individual, group, couple, or family treatment from a **licensed** and professionally trained mental health professional (e.g., a licensed psychologist, a licensed marriage and family therapist, a licensed substance abuse counselor, etc.).*

*“**Mental illnesses**” are commonly defined as medical conditions that disrupt a person’s thinking, feeling, mood, ability to relate to others, and daily functioning (National Alliance on Mental Illness, 2009). Examples of mental illnesses include major depression, schizophrenia, bipolar disorder, obsessive compulsive disorder (OCD), panic disorder, and many other illnesses that often result in a diminished capacity for coping with the ordinary demands of life (National Alliance on Mental Illness, 2009).*

Demographic Characteristics

Please answer the following questions regarding your demographic characteristics:

1. How old are you (in years)? ____

2. How do you define your gender identity?

Male

Female

Other

3. How would you classify your racial or ethnic background?

Arab

Asian/Pacific Islander

Black

Caucasian/White

Hispanic

Indigenous or Aboriginal

Latino

Multiracial

Other (Please Specify): _____

4. What is the name of the College/ University you are attending?

Virginia Tech

Western Carolina University

4. a. If you answered “Virginia Tech” for the previous question, were you taking classes at Virginia Tech during the spring semester of 2007?

No

Yes

4. b. If you answered “Yes” for question 4a, to what extent did the shootings of April 16th, 2007 impact your life (i.e., did you lose a friend, did you struggle to finish the academic semester, did you struggle with returning to day-to-day living, etc.)?

Not at all

To some degree

To a significant degree

5. What is your University Course Name/Number (If offering extra/course credit for participating in this research): _____ (e.g., Family Relationships/HD 2304, General Psychology/PSY-150) If not applicable, please insert N/A.

6. Have you ever received mental health services from a licensed professional?

No

Yes

6. a. If you answered “Yes” for question 6, how recently have you received mental health services? I received mental health services...

within the past week.

within the past month.

within the past year.

within the past 2-4 years.

within the past 10 years.

over 10 years ago.

6. b. If you answered “Yes” for question 6, please estimate the number of months since you last received mental health services: ____

6. c. If you answered “Yes” for question 6, please mark all the types of mental health services that you have ever received: (Select all that apply):

Outpatient (i.e., individualized therapy, family therapy, etc.)

Support Groups

Day Treatment

Inpatient

Other (Please specify): _____

7. Over the course of your life, approximately how many people have you had a close relationship with (e.g., friends, family members, coworkers, etc. / i.e., someone more than just a casual acquaintance) that have had a *diagnosed* mental illness (e.g., depression, anxiety, etc.)? ____

8. Over the course of your life, approximately how many people have you had a close relationship with (e.g., friends, family members, coworkers, etc. / i.e., someone more than just a casual acquaintance) that have *sought* mental health services from a licensed professional? (i.e., went to a licensed counselor, licensed therapist, etc., for individual, group, family, or couples treatment)? ____

9. Which of the following best describes your family’s gross (before taxes) annual income during the past five years? (In US Dollars)

Under \$10,000

\$10,000 – \$19,999

\$20,000 – \$34,999

\$35,000 – \$49,999

\$50,000 – \$74,999

\$75,000 – \$99,999

\$100,000 – \$150,000

Over \$150,000

Don’t Know or Unsure

10. Which of the following best describes the area where you have lived most of your life?

Urban (All territory, population, and housing units in urbanized areas and urban clusters; e.g., Charlotte, NC, Roanoke, VA, Asheville, NC, etc.)

Suburban (Residential area around an urban territory; e.g., Swannanoa, NC, Arden, NC, Vinton, VA, etc.)

Rural (All territory, population, and housing units located outside of urbanized areas and urban clusters; e.g., Floyd, VA, Clyde, NC, etc.)

11. Which of the following best describes your religious affiliation or personal beliefs?

Atheist

Protestant Christian

Roman Catholic

Jewish

Muslim

Hindu

Buddhist

Agnostic

Other (Please specify): _____

12. How would you rate your personal adherence to your spiritual beliefs/religious faith (i.e., day-to-day compliance with doctrine, dogma, or philosophy, etc.)?

Not Applicable

Not strong

Mildly strong

Moderately strong

Extremely strong

13. How would you rate the importance of spiritual faith/religion in your life?

Not important

Mildly important

Moderately important

Extremely important

14. Have you ever had health insurance that covers mental health services?

Yes, I currently have insurance that covers mental health services.

I have previously had insurance that covers mental health services, but do not now.

No, I have never had insurance that covers mental health services.

Appendix K

Questionnaire: Level of Familiarity with Mental Illness (Holmes et al., 1999)

Please select "No" or "Yes" for the following questions:

1. I have watched a movie or television show in which a character depicted a person with mental illness.
2. My job involves providing services/treatment for persons with a diagnosed mental illness.
3. I have observed, in passing, a person I believe may have had a mental illness.
4. I have observed persons with mental illness on a frequent basis.
5. I have a diagnosed mental illness.
6. I have worked with a person who had a diagnosed mental illness at my place of employment.
7. I have never observed a person that I was aware had a mental illness.
8. My job includes providing services to persons with a diagnosed mental illness.
9. A friend of the family has a diagnosed mental illness.
10. I have a relative who has a diagnosed mental illness.
11. I have watched a documentary on the television about mental illness.
12. I live with a person who has a diagnosed mental illness.

Appendix L

Questionnaire: Level of Familiarity with Receiving Services

(Modified from Vogel, Wade, Wester, et al., 2007)

Please answer the following question regarding your level of familiarity. Fix spacing with mental health services:

1. I know or have known someone who has received help from a licensed mental health professional in the past (e.g., licensed therapist, psychologist, counselor, etc.). "No" or "Yes"

1a. If you answered yes on question one, please indicate the nature of your relationship with the individual(s) that sought help from a licensed counselor or licensed mental health professional (Select ALL that apply):

A friend

An immediate family member (child)

An immediate family member (spouse)

An immediate family member (parent)

An immediate family member (sibling)

A coworker

A friend of the family

Distant relative

Close relative

Myself (i.e., I have received mental health services in the past.)

Other

Appendix M

Questionnaire: Devaluation-Discrimination Scale (Link et al., 1989)

Please answer the following questions using the scale "Strongly Disagree" to "Strongly Agree":

1. Most people would willingly accept an individual that had received mental health services as a close friend.
2. Most people believe that a person who has been in a mental hospital is just as intelligent as the average person.
3. Most people believe that an individual that has received mental health services is just as trustworthy as the average citizen.
4. Most people would accept a fully recovered individual that had received mental health services as a teacher of young children in a public school.
5. Most people feel that entering a mental hospital is a sign of personal failure.
6. Most people would not hire an individual that had received mental health services to take care of their children, even if he or she had been well for some time.
7. Most people think less of a person who has been in a mental hospital.
8. Most employers will hire an individual that had received mental health services if he or she qualified for the job.
9. Most employers will pass over the application of an individual that had received mental health services in favor of another applicant.
10. Most people in my community would treat an individual that had received mental health services just as they would treat anyone.
11. Most young women would be reluctant to date a man who has been hospitalized for a serious mental disorder.
12. Once they know a person was in a mental hospital, most people will take his or her opinions less seriously.

Appendix N

Questionnaire: Self-Stigma of Seeking Help Scale (Vogel et al., 2006)

Please answer the following questions with the scale "Strongly Disagree" to "Strongly Agree":

1. I would feel inadequate if I went to a mental health professional for mental health services.
2. My self-confidence would NOT be threatened if I sought mental health services.
3. Seeking mental health services would make me feel less intelligent.
4. My self-esteem would increase if I talked to a mental health professional.
5. My view of myself would NOT change just because I made the choice to see a mental health professional.
6. It would make me feel inferior to ask a mental health professional for help.
7. I would feel okay about myself if I made the choice to seek mental health services.
8. If I went to a mental health professional, I would be less satisfied with myself.
9. My self-confidence would remain the same if I sought mental health services for a problem I could not solve.
10. I would feel worse about myself if I could not solve my own problems.

Appendix O

Personal Information Questions

1. Your Name _____

(This information will be used to contact you if you win a gift card or are eligible for extra/course credit)

2. Your Email Address _____

(This information will be used in order to contact you if you win a gift card. Please choose an email address you anticipate using regularly during the next three to nine month period)

3. Your Instructor's Name (If offering extra/course credit) _____

(e.g., Dr. Smith) If not applicable, please insert N/A.

4. Course Name and Number (If offering extra/course credit) _____

(e.g., Family Relationships/HD 2304) If not applicable, please insert N/A.

5. Your University's Name:

Virginia Tech

Western Carolina University

Appendix P

Email Letter to Gift Card Drawing Winners

Insert Date, 2009

Dear (*Insert Name of Winning Participant*),

Thank you for participating in the study, *The Role of Social Proximity and Stigma in Seeking Mental Health Services*. Your name was entered into a drawing for a \$40.00 Olive Garden gift card. I am pleased to inform you that your name was randomly chosen as a winner. To receive your gift card, please respond to this email (brodgers@vt.edu) and include the following within the next three weeks:

1. Your full name
2. Your mailing address

(Once your response email is received with your mailing information, I will mail out one gift card to you via USPS with delivery and signature confirmation.)

Please Note:

Winning participants that do not respond to this email within the three week grace period will relinquish their gift card and a different participant will be chosen.

If you have any questions, please feel free to contact me at brodgers@vt.edu. Thank you again for your support of mental health research.

My Best,
Brandon Rodgers

Brandon Rodgers, Doctoral Candidate
Department of Human Development
Family Therapy Center of Virginia Tech (0515)
840 University City Boulevard, Suite 1
Blacksburg, VA 24061
brodgers@vt.edu

Appendix Q

Formal Letter to Gift Card Drawing Winners

Insert Date, 2009

Dear (*Insert Name of Winning Participant*),

Thank you for participating in the study, *The Role of Social Proximity and Stigma in Seeking Mental Health Services*. Your name was entered into a drawing for a \$40.00 Olive Garden gift card. I am pleased to inform you that your name was randomly chosen in the drawing. Your gift card has been included with this letter. Thank you for your participation!

If you have any questions, please feel free to contact me at brodgers@vt.edu. Thank you again for your support of mental health research.

My Best,
Brandon Rodgers

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Blacksburg, VA 24061