ATTRIBUTIONS OF MENTAL HEALTH DIAGNOSES AND LOCUS OF CONTROL: THE EFFECT ON FAMILIES' SUPPORTIVE COMMUNICATION

by

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ABSTRACT

Research demonstrates that social support is a key element in close relationships, especially among families. In this study, the relationship between locus of control, attributions and social support among siblings as it relates to mental health diagnoses was explored. Using an experimental design, the relationship between variables such as perceived controllability of illness and effects they may have on sibling's willingness to offer different types of support was analyzed. Results indicated that there was not a significant relationship among willingness to offer different types of support and perceived controllability of the disorder. Thus, hypotheses 1-3 were not supported. However, results did indicate a connection between interpersonal solidarity and willingness to provide support. Additional tests showed that there is a significant difference between males and females for the level of social support that they would provide. Additionally, females were more likely to provide every type of support than were males. Limitations of the study's design are considered, and suggestions for extension of the study are presented.

DEDICATION

This dissertation is dedicated to my family who has supported me unconditionally through this process. To my fabulous husband, amazing parents, wonderful sisters, brothers-in-law, nieces, and my incredible George family (who happen to be the best in-laws on the planet), you will never know how important you are to me and how much your support motivates me to stay focused. I hope you all know how very much I love you and appreciate your support.

LIST OF ABBREVIATIONS AND SYMBOLS

α	Alpha, level of acceptable significance; in statistical hypothesis testing, the probability of making a Type I error; Cronbach's index of internal consistency (a form of reliability)
ANOVA	Analysis of Variance
df	Degrees of Freedom
F	*F* distribution, Fisher's *F* ratio
H	Hypothesis
RQ	Research Question
M	Sample mean, arithmetic average
n	Sample size; number of cases
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
t	Value of t-test
Pearson	Pearson Correlation
IRB	Institutional Review Board
SD	Standard deviation
Sig.	Significance
SPSS	Statistical Package for the Social Sciences
IS	Interpersonal Solidarity (Scale)

MHLC	Mental Health Locus of Control (Scale)
FWMI	Familiarity With Mental Illness (Scale)
MSPSS	Multidimensional Scale of Perceived Social Support
SS	Social Support (Scale)

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Chapter 1

INTRODUCTION

Research has indicated that social support is important in many facets of our lives. It has been shown to be important in organizations (Eisenberg et al., 2007), individual's emotional well-being, as well as social functioning and overall physical health (Edwards et al., 2008; Sherbourne et al., 1992). Burleson (2003) notes that the availability of emotional support specifically can have positive physiological, psychological and relational outcomes for individuals. In situations involving mental illness, as with any other health concern, social support is important. However, the provision of social support is not guaranteed and prior research has shown that social support is often contingent upon context, relationship, and attributions (Weiner, 1993; Mak et al., 2007). In addition, when considering types of attributions, those related to controllability are also thought to have a strong link to stigmatization (Corrigan, 2000). Stigma and attributions of controllability come into play when considering perceptions of mental health illnesses. In this study, I investigate the relationship between people's attributions and willingness to provide social support. More specifically, the purpose of this study is to explore family members' willingness to offer support to another family member who has been diagnosed with a mental health disorder as well as their willingness to offer different types of support.

The World Health Organization reports that in every country in the world, 20-

25% of the population suffers from a mental or neuropsychiatric disorder at some point during their lifetime (2001). Unfortunately, even considering this high percentage, stigma accompanies mental health illness. Goffman described stigmatization as being capable of reducing a person's identity "from a whole and usual person to a tainted, discounted one" (1963, p. 3). This ideology reveals how stigma related to mental illness can be highly influential in relationships. Minimizing stigmatization is crucial for persons who have been diagnosed with a mental illness. In fact, according to Romer and Bock (2008), "Combating stigma is among the highest priorities among advocates for persons with mental illness" (p. 742). They also explain factors that contribute to the stigmatization of those with a mental illness by noting that stereotypes contribute to this stigmatization. They note, "Two of these (stereotypes), that the mentally ill are less competent to assume regular responsibilities and that they are more unpredictable and violent than non-ill persons, contribute to the interaction nature of the stigma" (p. 743). Other research (Klin & Lemish 2008) points to the many potential negative ramifications of stigmatization of those with mental illnesses. They explain that negative social attitudes (especially as depicted in the media) toward those with mental illnesses interrupts an individual's social interactions, negatively affects their self-image, infringes on their civil liberties and even interferes with their family relationships.

Based on such stigma and other factors, certain attributions can be made of those who deal with mental health illnesses. These attributions are often based on the concept of locus of control (Pascarella et al., 1996). If an individual has an internal locus of control, then he or she believes that they have the power to determine their own destinies, that they are able to be rewarded based on our own efforts, and that essentially the

outcome of their lives is in their own hands. However, if an individual has an external locus of control, then he or she believes that they have little chance of controlling outcomes in their own life (Canary et al. 2008). Thus, based on this definition, attributions of mental health illnesses could follow this belief based on the idea of controllability. The question in focus in this study is related to how our social support follows these attributions.

Given that stigma affects attributions of controllability, it follows that the attributions may affect the social support that family members are willing to provide Furthermore, related to improving supportive communication among family members and other close relationships, considerations must be made in terms of how to defend against the stigma itself first. As Romer and Bock (2008) explain, "…There is a need to identify communication strategies that can combat both the stigma associated with mental illness and the perception that treatment is often ineffective" (p. 743). If individuals understand that there is a difference in the way that support is shown based not only on attributions but on our perception of locus of control, then how can supportive communication among family members be improved when dealing with a mental health diagnosis or crisis?

Chapter 2

LITERATURE REVIEW

Social Support

Cohen and Syme (1985) define social support as "The resources provided by other persons" (p. 4). Rittenour and Martin (2008) explain that in the field of communication, social support is defined as involving things like empathy, sympathy, concern, compassion, validation of feelings, and encouragement shown toward another. Social support is a fundamental component of many relationships. Edwards et al. (2008) claim that social support is a key component of social well-being. They noted that these components are a large part of our social development (Edwards et al., 2008). People want to feel supported by those that they share close relationships with, and human beings want to feel that support is available to them when it is needed. It is valued in our individual lives, in our close relationships and marriages (Cutrona, 1996; Cutrona and Suhr, 1994) and in organizations (Eisenberg et al., 2007). Social support has also been shown to not only be something that we value in relationships, but also something that we should value in terms of our overall well-being and health. It has been shown to aid in social functioning and point to higher levels of physical health (Edwards et al. 2008). In fact, social support has been shown to be a significant predictor of physical health status (Cutrona et al., 1986). Research has also shown us that social support may in fact play an important role in health maintenance and minimizing negative impacts of

illnesses (Sherbourne et al., 1992). In addition, social support reduces the negative impact of stress on one's mental health (Cutrona et al., 1986). A study conducted by MacGeorge et al. (2007) concluded that providing social support should be noted as a fundamental communication skills related to recovering from disastrous events. Additionally, a study conducted by Sherbourne et, al (1992) showed that patients who experienced high levels of social support also reported higher levels of physical functioning and emotional well-being, and they noted that these levels were significantly better. They found that patients who had a strong support system around them showed better outcomes in terms of emotional well-being as well as physical health. Because it is important in everyday relationships as well as individual health and the health of groups individuals are a part of, social support carries many implications for the communication among family members.

However, it is important to keep in mind that recipients of support reserve the right to make their own decisions regarding how that support is interpreted (Goldsmith and Fitch, 1997). In fact, a study conducted by Brashers et al. (2004) that examined the receiving of support by people living with HIV or AIDS revealed that receivers of support actually display strategies to manage support. They noted that some people living with this disease will reframe support or selectively allow others to be their support providers.

Received versus Perceived Support

Another integral component of social support is the idea of actual received support versus the perception that support is available to us. Wethington and Kessler

(1986) explain that there is a growing controversy among researchers about which is more important: the evaluation of actual, received social support or simply the perception that support is available to us. This controversy is often thought of as actuality vs. availability. Essentially, some researchers believe that social support should be defined as the actual transfer of supportive behavior from one individual to another, whereas others feel that it should simply be defined as an individual knowing that social support is available to him or her if they were to need it. *Furthermore,* Aquino et al. (1996) explained that the definition of social support can actually include both concepts. These researchers noted that the difference could be found in the way that support is measure. They asserted that it could be measured quantitatively or qualitatively, where quantitative measurements would include actual transfers of supportive behavior and qualitative measures would include the sense that support is available if an individual were to need it). Although the debate over the definition continues, some researchers have expressed their belief that however it is defined or measured, one is more beneficial to us than the other. Taylor et al. (2004) argued that perception that social support is available to us if we need it can not only be as important to us as received support, but can actually be more advantageous. This illustrates that knowing that there are people who are available to us if we need support can affect our health and overall well-being as much the actual experience of receiving that support. Taylor et al. (2004) claimed that social support "need not be activated to be helpful" (p. 355). In fact, research suggests that whether a person perceives that social support is available to him or her is actually a stronger predictor for how well that person will be able to cope with stressful life events than mobilized support.

Types of Support

Wills (2000) describes four types of social support: instrumental, information, emotional, and companionship support. Wills describes instrumental support as showing support toward another by doing things like helping with tasks, giving someone a ride, providing financial means, etc. Instrumental support primarily involves pragmatic ways in which we display support to one another through providing help to another individual. For example, if an individual's family member had to be in the hospital for an extended period of time, he or she might display instrumental support by offering to take care of her children while she was there.

Because humans so frequently need advice or help from another individual, informational support is an important type of support that can be very effective in maintaining close relationships. Wills (2000) describes informational support as things like giving advice or providing helpful information to another individual who needs it. Furthermore, informational support "is defined as providing knowledge that is useful for solving problems, such as providing information about community resources and services or providing advice and guidance about alternative courses of action" (p. 88). For example, if a patient were to seek information from a doctor or friend about potential courses of treatment, he or she would be seeking informational support in this sense because there is a need for support through providing the necessary information in order for him or her to find a solution to their problem. Furthermore, receiving informational support can be beneficial in situations that require problem-solving efforts (MacGeorge et al., 2005). Therefore, we can see that informational support is an invaluable resource

among relationships and can be critical among family members.

The third type of support, emotional support, which is "internal effort by a helper to assist a target in coping with a perceived state of affective distress" (Burleson, 2003, p. 552), can have positive effects on one's physical and emotional health (Jones and Wirtz, 2007). Wills (2000) describes emotional support as being emotionally available to another individual. Wills explains emotional support as "the availability of one or more persons who can listen sympathetically when an individual is having problems and can provide indications of caring and acceptance" (p. 88). According to Burleson (2003), the availability of adequate emotional support has positive physical, psychological, and relational outcomes for individuals. Therefore, social support necessitates others who are available to listen if a person needs someone with whom they can share his ore her personal emotions. Often, this type of support is one that is more uncomfortable for some people to provide because it requires that a support provider be emotionally present and engaged in the situation. Emotional support is central to close human relationships. MacGeorge, Samter, and Gilliahn (2005) explained that communication-based emotional support has a strong relationship with our communication networks.

Burleson (2003) notes, "it is useful to view emotional support as specific lines of communicative behavior enacted by one party with the intent of helping another cope effectively with emotional distress" (p. 552). It should be noted that in order for emotional support to be as effective as possible, it does need to be displayed adequately. When displayed adequately, there are many advantages to emotional support. Jones and Wirtz (2007) explain that it in addition to improving overall physical and emotional

health, adequately displayed emotional support can also improve and individual's coping skills.

Burleson (2003) argues that because emotional support can have these lasting, positive benefits, for an individual and is such a pivotal factor in a person's development, it needs to be displayed on a regular basis. He notes that it should not be saved for times of crisis or major events, but should be enacted in everyday minor occurrences (2003). By providing emotional support to a social network us on a regular basis, those who receive the support are more prone to sense that it is available to them when they need it the most. Moreover, Burleson (2003) noted that these minor, everyday events are what contribute the most to an individual's well-being, rather than life-changing, major events.

The last type of support that Wills (2000) describes is companionship support. This type of support involves being available if someone simply needs a friend, coworker, family member, etc. to be available to him or her to do something recreational and maybe get his or her mind off of their troubling situation for a while. This type of support is concerned with feeling the assurance that we have a companion with whom we can relax with and that is willing to spend time with us. Companionship support does not have to come into play only when situations are troubling, however. Even when there is not a particular problem that we are facing, we still want to know that there is someone who is willing to spend time with us.

Social Support and Mental Health

Extensive research has been conducted on the relationship between social support, life stressors, and mental health. Cohen and Syme (1985) explain that a "reason for

increased interest in the concept of social support is its potential for aiding in the conceptual integration of the diverse literature on psychosocial factors and disease" (p. 5) and that "social support provides a parsimonious conceptual model for the diversity of psychosocial findings related to health" (p. 5). Countless studies have reported a positive relationship between perceived social support and increased mental health benefits (Holahan & Moos, 1981; Andrews et al., 1978; Lin et al., 1979. Social ties have a strong relationship to mental health (Kawachi & Berkman, 2001). One study showed that social support is negatively related to psychiatric symptoms (Lin et al., 1979) and that social support is a stronger predictor of symptoms than even stressors are (Lin et al., 1979). Also, research indicates a negative relationship with social support and psychological maladjustment, and generally supports the notion that decreases in social support in work and family networks would be significantly related to increases in psychological maladjustment (Holahan & Moos, 1981). In addition, several studies point to a negative relationship between social support and psychological distress (Andrews et al., 1978; Henderson et al., 1978). Low amounts of support can even increase effects and perception of stressors in the unemployed (Gore, 1978). Specifically, research points to the relationship in symptoms of depression and support (or lack of) from romantic partners, that depressive symptoms of one partner is a primary predictor of an individual seeking reassurance from their partner (Knoblach et al., 2011). This indicates that negative health behaviors can lead people to seek support from those closest to them.

However, some researchers explore this relationship more closely by investigating what type of effect is actually taking place and if there are other confounding variables to be considered. Cohen and Wills (1985) examined whether

social support's positive correlation with well-being is due to a main effect of support or if social support buffers negative effects of stress. They concluded that both models are in fact correct, but they represent different components of the process. Researchers have found it difficult to determine sufficient causation models for social support and mental health, explaining that the relationship is complex (Kawachi & Berkman, 2001).

When considering cases of *serious* mental illness, sometimes the relationship looks a bit different. Research has shown that when social support is displayed in a large social network that is made up of relatives or when people with serious mental illness lives with or is financially dependent on family members, those with serious mental illnesses are actually more prone to violence (Estroff et al., 1994). Studies have also shown that mental illness is related to social structure and that class membership is related to psychological functioning. In fact, stress and social support are inextricably linked to economic class (Liem & Liem, 1978). One study found that those who are unemployed and are not strongly supported have higher levels of cholesterol, affective response and symptoms of illness (Gore, 1978). In a survey 155 homeless people, Irwin et al. (2008) tested whether social support among other forms of social capital matters when monetary capital is very limited and found that social capital (including religious social capital, group participation, social support, and social trust) was actually a better measure than perceived social support in terms of relationship with depressive symptoms in this population. This shows that at least when considering people in lower socioeconomic classes, perhaps a broader definition of social support is needed.

Other studies have focused on social support as an intervention mechanism. Gottlieb (1985) proposed ways that professionals in the health and human services field

can help find a balance between formal and informal help and support. Gottlieb explained the importance of empowering natural helping skills of people. Kawachi and Berkman (2001) explain that because there is some question regarding the causation models among social support and mental health research, further study is needed to investigate how social support can effectively be used as an intervention mechanism. Although research has indicated that social support can be a mechanism for intervention for people dealing with daily stress, these mechanisms still need better understanding (Thoits, 1995).

Social Support and Sex

Men and women differ in many different communication practices, including social support. Many studies have suggested that women are generally more emotionally expressive than men (Aries, 1996; Gilligan, 1982). This conclusion is supported by research that focuses more specifically on the ways in which men and women display supportive behaviors. Kunkel and Burleson (1998) explain that men and women differ in several ways related to social support, including receiving and seeking support and strategies used to display supportive behaviors. They also note that many researchers have explained sex differences in communication practices (including social support) as a cultural perspective, that there is a male culture and female culture.

Research suggests that there are several ways that men and women typically do not differ in terms of social support. Jones and Burleson (2003) found that both men and women feel that highly person-centered messages are the most comforting. However, research (Kunkel, 1995; Jones & Burleson, 1997) has examined this relationship and found that men found less person-centered messages as more sensitive, whereas women

found highly person-centered messages as more sensitive and effective than men. In this study, I will explore whether these conclusions hold true when considering social support as it relates to mental heath disorders and families.

Attribution Theory

Although the importance of social support has established, whether or not social support will be provided may be dependent on attributions. Attribution theory provides an outline for the model we use to explain others' and our own behavior (Fehr, 1993). Attributions are explanations of why someone acted in a certain way or performed a specific behavior or even why something happened (Kelley, 1967; Heider, 1958; Manusov and Spitzberg, 2008). Heider (1958) explained that we base our behaviors toward someone on our beliefs about their actions. Research indicates that humans often make attributions that benefit their personal interests (Manusov and Spitzberg, 2008; Hamachek, 1992). Heider (1958) noted that individuals either base our attitudes toward others' behavior on internal factors (observers assume something within actor that caused the action) or external factors (observers assume the actor's behavior was motivated by an external source). Responses then follow those attitudes.

Humans are also prone toward attributional biases. These biases point to the idea that people are more prone to overestimate the external causes for our own actions. Essentially, individuals are more likely to attribute successes or positive behaviors to internal causes (something we did or controlled) and our failures or negative behaviors to external causes (something out of our control) (Jong, Koomen, & Mellenbergh, 1988). Thus, attribution theory serves as a primary lens through which to explore family's supportive communication as it relates to mental health diagnoses and attributions made

of them.

Attributions and Mental Health

Attributions made about individuals can affect the way that people interact with them, and there can be many negative effects. When people perceive that a physical disease is personally controllable, it is more likely that lead to social rejection (Crandall and Moriarty, 1995). This is also particularly true when it comes to mental health. In fact, the public discriminates against mental health illnesses more than physical illnesses because of the attribution of controllability (Corrigan et al., 1999). In fact, (Corrigan et al. (1999) note that when people perceive an individual as having control over a situation (such as their mental health), this can lead to blame or attempts to avoid that person. Causal attributions (an attribution of an internal or external cause) affect a person's belief about how much responsibility someone has over their condition, and these beliefs can lead to emotional responses such as withholding help, segregations, or avoidance (Corrigan, 2000). Related to symptoms of mental disorders, Hinshaw (2005) explains, "Attribution theory predicts that when negative behavioral displays are ascribed to non-controllable causes (e.g. seizure disorder, physical disability), compassion is likely, whereas ascription to personal control yields blame and anger" (p. 716). People who attribute mental health problems to structural causes rather than individual causes are more willing to interact with that individual (Martin et al., 2000). This is also seen among family units. Family members of patients with schizophrenia are more likely to attribute antisocial behavior to causes that are controllable by the patients, and positive symptoms are believed to be less controllable (Brewin et al., 1991).

The relationship between attributions and mental health can be seen across many different populations. Among a study of people who had committed serious criminal acts, there was a significant relationship found between attributions they made as to why they committed their crime and mental health problems such as Neuroticism and Depression (Gudjonsson, 1984). In the case of the unemployed, attributions of external factors (attributions made by those who are unemployed about their own situation) are associated with depression and mental illness. This indicates that if people want to offer help to the unemployed, more understanding needs to be gained relating to their own beliefs about causality and controllability (Furnham, 1984). Stigma also plays a large role in the relationship between attributions and mental illness. Frequently, people who label a person as having a mental illness choose to create more social distance from that person (Martin et al., 2000). There is also stigma that exists within the mental health realm relating to particular disorders. There is more stigma placed, for instance, on substance addiction than depression (Corrigan et al., 1999). Though most people now recognize schizophrenia and depression as mental illnesses, fewer people recognize alcohol or drug abuse as such (Link et al., 1999). Corrigan et al. (2005) conducted a study on adolescents and found that adolescents perceived their peers who abused alcohol more negatively than those who had another mental illness or a physical illness such as leukemia, especially in terms of factors such as dangerousness, anger and blame. The study concluded that the findings would most likely be the same for adult populations. Although most people now recognize that there can be multiple attributions made for any given mental illness, unfortunately, stereotypes of dangerousness and desire for social distance still exist (Link et al., 1999). However, familiarity with mental illness can reduce

such negative and discriminating responses (Corrigan, 2000).

Perhaps because of the stigma that exists regarding mental health, research reports that patients dealing with anxiety or depression make their own attributions about their mental health and frequently present "normalizing attributions" to their doctors to minimize the importance of their symptoms. This makes doctors less likely to offer a diagnosis of depression or anxiety (Kessler et al., 1999). Some research refutes the belief that self-stigma always lead to low self-esteem and explains that belonging to a stigmatized group can protect one's self-concept (Crocker and Major, 1989). Corrigan and Watson (2002) support this idea by pointing to the paradox that exists for self-stigma of mental illness by explaining that for some people, self-stigma lowers self-esteem while others are energized by the prejudice and display righteous anger.

With this research in mind, this study will add to the existing body of knowledge of mental health and social support by examining the role that an individual's locus of control has in moderating the relationship between perceived controllability and willingness to offer different types of support. The relationships are specifically explored among siblings. Thus, the following research questions and hypotheses emerged.

Research Questions and Hypotheses

H1: People will be more likely to provide emotional support to family members who have been diagnosed with a mental illness that has been described as non-controllable than those who have been diagnosed with a mental disorder that has been described as controllable.

H2: There will be a significant difference in willingness to display instrumental support to a family member diagnosed with a mental health disorder between those who believe that the disorder is controllable versus those who believe it is non-controllable.

H3: There will be a significant difference in willingness to display companionship support to a family member diagnosed with a mental health disorder between those who believe that the disorder is controllable versus those who believe it is non-controllable.

H4: Interpersonal solidarity among siblings will moderate the relationship between locus of control and willingness to display social support.

RQ1: Is there an interaction effect between a participant's locus of control and controllability towards willingness to offer social support?

RQ2: What role does sex of the support provider play in the display of social support to family members who are diagnosed with a mental illness?

Chapter 3

METHOD

Description of Experimental Design

In order to examine attributions related to mental health illness and the types of social support that follows those attributions, this study includes a web-based experimental design using hypothetical scenarios to collect data. The method of data collection (web-based) is ideal for many reasons, but especially because it helps to ensure a wide range of respondents that can be considered. The experiment method in general has several strengths. Bradley (2009) explains, "In terms of experimentation, its greatest strengths are causation and control. Ideally, an experiment allows a researcher to control every possible variable and measure only the effects of the independent variable being studied" (p. 161). Studies that employ the experiment method are intended to show cause and affect relationships (Reinard, 2008). Bradley notes, "By controlling outside influences and systematically manipulating variables of interest, experiments allow researchers to make inferences about causation. That is, a researcher can feel confident that her manipulations caused any changes observed in the dependent variable because every other possible cause was controlled" (p. 161). However, this ability to control for certain variables obligates the researcher to make sure that he or she is not accidentally manipulating other extraneous variables that are not intended to be manipulated. Reinard

explains, "…exercising control is not easy. When introducing variables, a careless researcher might manipulate other variables by accident" (p. 396). Therefore, while one of the greatest strengths of this method is the ability to control, this ability must be matched with absolute precision and extremely careful design.

Furthermore, experiments can give us a somewhat real-life sense for how communication variables interact, more so than other types of data collection such as surveys or content analysis (Bradley, 2009). Moreover, studies that use experimental design have a high level of external validity, meaning the results can be generalized to the real world (Bradley, 2009).

The use of the experimental design method is ideal for this study for many reasons. First and most importantly, it is ideal because it allows the researcher to control for specific variables. In this study, I explore perception of controllability and type of relationship as independent variables and relate them to willingness to provide support as a dependent variable. By using an experimental design, I was able to create three different hypothetical scenarios for participants to read. Each participant was presented with one of the scenarios and respond to questions that follow it. One of the scenarios instructs the participants to imagine that their sibling has been diagnosed with Anxiety disorder but presents the disorder as non-controllable, while the second scenarios presents the disorder as controllable by diet and exercise, and the third scenario does not include information about its controllability. Thus, I was able to test the variables individually.

Administering the experiments through the Internet serves as an efficient and effective tool for data collection for the study. It is an effective vehicle of data collection for several reasons. First, the sample population (college students) is familiar with online

methods of information gathering. Also, by collecting the data online, participants could complete the questionnaire in a setting that is private and thereby, participants could have been more willing to respond more openly. Finally, ease of data collection is a benefit of internet-based administration for the researcher as well as more consistency in processing the data. There were also benefits for the researcher that included swift turnaround time for results than traditional paper-based questionnaires.

Recruitment

Participants were recruited from a large, Southeastern public university and were the main source of participation for the study. Participants were required to have at least one sibling in order to participate in the study. In order to recruit participants for this study, two forms of recruitment were utilized. First, a research pool at the university where the study took place was utilized. Second, announcements were made via email to different classes about the study to inform students of the purpose of the study as well as any benefits or costs to them from participating in the study, according to IRB protocol. Study announcements were made to several small as well as a few large, undergraduate classes at the university to ask for voluntary participation. For some courses, there was a basic course obligation that they participate in at least one study over the course of the semester. For others, as an incentive to take part in the study, instructors offered extra credit for the course if they participated. Again, in either of these situations, the researcher made announcements to the classes in an electronic format, explained the purpose of the research, how the experiment would be set up, any costs or benefits to the participants, and asked for participants. Potential participants were also instructed to

contact their IRB representative if they had any questions about their rights or requirements as a human subject.

Instruments

In order to measure types of supportive communication and willingness to offer support to family members who have been diagnosed with a mental illness or disorder, the instrument used was an experimental design using hypothetical scenarios (see Appendix C). First, participants were instructed to respond to several sets of questions related to their level of interpersonal solidarity with their sibling, their locus of control as it relates to mental health, and their familiarity with mental illness. Next, participants were presented with one of three scenarios. They were instructed to read through the scenario carefully and then respond to a set of questions. The questions that followed measured how willing the participant would be to offer support to their sibling based on the information provided in the scenario.

Measures

The introductory section of the questionnaire provided information to the participant about the purpose of the study, their rights as participants (including a reminder that the study is voluntary and contact information for the researcher), and instructions for completing the study. Next, there was a place for participants to indicate whether they choose to continue with the study. This is where they could confirm or reject participation in the study. Participants were only be granted permission to continue

on to the next page if they select that they understood the consent form and chose to participate in the study.

The next section of the instrument focused on demographic information of the participant. Here, the participants indicated their own age, sex, race, and sex as well as that of the sibling that is closest to them in age. The purpose of gathering this information was so that the researcher could gain more detailed information about the sample population. Additionally, this information was used in the data analysis to see if there is a relationship with the dependent variable (willingness to offer support) and covariates such as sex, age and race. Also, here, participants indicated whether or not they had ever been diagnosed with a mental illness and whether anyone in their family has been diagnosed with a mental illness. Gathering this information was helpful in evaluating any covariates relating to personal experience with a particular mental illness.

The first measure was the Interpersonal Solidarity Scale (Wheeless, 1978). Reported reliability for this scale is .96 (Wheeless, 1978). Reliability of the scale was also reported in other studies in which the scale was used as .94 (Wheeless, Wheeless, and Baus, 1984) and .90 (Bell and Healey, 1992). For the present research, results indicated a high reliability score (α=.924). This scale measures how close the participant feels he or she is to the sibling that they are closest to. This scale is important because the solidarity variable could have an effect on one's willingness to provide support. Included in the scale are questions relating to how much the participant trusts their sibling, how much disclosure is present in the relationship, and a measure of understanding that exists in the relationship. Interpersonal solidarity was measured as a covariate in the study.

The next measure was the Mental Health Locus of Control Scale (Hill and Bale, 1980), which measured the participant's personal locus of control related to mental health. This was used to examine whether there is a relationship between an individual's willingness to offer support to a family member who has been diagnosed with a mental disorder and that individual's locus of control related to mental health. When testing the 22-point version of the scale, Hill and Bale (1980) calculated the alpha coefficient as .84. For the present research, results for reliability were good (α=.754). Moreover, this brief measure was included to test whether a person's belief about the controllability of life's outcomes affects their willingness to offer support to someone close to them with a mental disorder. The idea here is that if someone believes that every outcome in life is determined by his or her effort, then that individual may be less likely to offer support because he or she believes that the individual with a mental disorder should be able to gain control over their symptoms or even the disorder itself. This measure is pre-designed (Hill and Bale, 1980) and includes 28 questions with answer responses on a six-point Likert scale. Participants were instructed to read the statements carefully and respond on a scale from one to six as to whether they agreed with the statement (1 is "strongly agree" and 6 is "strongly disagree").

The third measure was the Familiarity With Mental Illness Scale (Holmes et al., 1999 using the Level of Contact Report). This scale assesses how familiar the participant is with mental illnesses in general. The scale includes 7 statements to which the participants are instructed to respond on an interval scale. Internal reliability was reported as .83 as a 12-item version of the scale in a study by Corrigan et al., (2001). For the present study, results for the reliability tests for this measure were strong as well

(α=.775). The purpose of this scale is to measure how familiar participants are with mental illness by having them indicate whether they have a relative who has been diagnosed with a mental illness, whether they have a job where they work closely with people with mental illnesses, and whether they have observed people with mental illnesses frequently. Familiarity was measured as a covariate in the study.

The next section of the instrument includes the hypothetical scenarios (created by the researcher). Again, there were three hypothetical scenarios included in the study; however, each participant was only presented with one of them. Determining which scenario each participant read was a random assignment. 86 participants (40.6%) were presented with the scenario that reported the disorder as being non-controllable (primarily a biological condition), 82 (38.7%) were presented with the scenario that presented the disorder as controllable, and 44 participants (20.8%) were presented with the control group scenario (did not specify whether the disorder was controllable or non-controllable). The scenarios were brief in nature, so that there could be more assurance that the participants would read it in its entirety and be able to really grasp the material in whole. The hypothetical scenarios instructed the participant to imagine that his or her sibling that is closest to the participant's age has been diagnosed with Anxiety Disorder. In the scenario, the specific symptoms of the disorder were described in detail. The symptoms that were described are high levels of anxiety, particularly in certain situations such as close spaces or being around loud noises, and persistent worry and fear about everyday situations. In one-third of the scenarios, it was explained that the disorder is entirely uncontrollable (both in symptom and onset). In another third of the scenarios, the information about the disorder and symptoms related to it being non-controllable or

controllable were eliminated, and in another third, it was presented as a controllable disorder. The purpose of this was to manipulate the relationship between perception of controllability and willingness to offer support.

In order to assess a participant's willingness to offer support based on the scenarios, the final measure was the willingness to offer social support measure that assessed participant's willingness to offer different types of support to their sibling who had been hypothetically diagnosed with a mental health disorder. The first part of this measure is derived from The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). Internal reliability of a 12-item version of the scale was reported as .93 by Canty-Mitchell and Zimet (2000). Reliability scores for were also calculated for both social support scales for the present research. For the Multidimensional Scale of Perceived Social Support, reliability was high (α= .966) as well as the social support scale created by the researcher (α= .974). The original purpose of the scale was to measure perception of support, so the items were reformatted to measure willingness to offer support. A few of the questions were omitted, as they were not compatible with this change in format. Also, 12 questions were added by the research (3 questions relating to each type of support) to further measure the participant's willingness to offer emotional, instrumental, informational, or companionship support specifically.

The final section of the instrument concluded with thanking participants for completing the study and again providing contact information of the researcher in case they had any questions or comments to submit. Also, there was a statement at the end of the survey to provide information related to Anxiety Disorder and clarify any misinformation that they might have been presented with in the scenario that they read.

Finally, should they have needed course credit of any form for completing the study, there was a link that was not attached to the study information that allowed them to provide their names and class information.

Chapter 4

RESULTS

General Description of Analysis

This section is divided into four sections. The first section includes a demographic profile of the participants in the experiment. The second section discusses the reliability of the scales and manipulations. The final section analyzes each hypothesis and research question with the appropriate statistical analyses.

All of the hypotheses in this study were analyzed using the SPSS 17.0 program, and ANOVA analyses were used to assess the relationships among the variables. First, descriptive statistics for each variable were calculated to understand the nature of the sample more fully (*n*=214). Second, ANOVA tests were run in order to understand the relationship between the variables of types of support, locus of control, and sex of the support provider. Finally, a factor analysis was conducted in order to investigate the variables further.

Descriptive Statistics

The sample for the study consisted of 214 college students (n=214). The descriptive statistics are outlined in Table 1. The average age of the respondents was 22.08 years old (*SD*= 4.58). The sample consisted of 54.2% female respondents (*n*=116)

and 45.8% male respondents (*n*=98). 79.0% of the population identified as White (*n*=169), 15.4% identified as black (*n*=33), and 2.8% identified as Native American (*n*=6). In addition, 55.6% of the sample reported that the sibling that they feel closest to is male (*n*=119) and 44.4% responded that the sex of the sibling they feel closest to is female (*n*=95). Also, 49.5% responded that their sibling that they feel closest to is older than them (*n*=106), and 50.5% indicated that their sibling that they feel closest to is younger than them (*n*=108). Moreover, 3.7% of the sample (*n*=8) indicated that they have been diagnosed with a mental health disorder, and 7.0% of the sample (*n*=15) reported that their sibling has been diagnosed with a mental health disorder at some point. These findings are outlined in Table 1.

Bivariate Correlations

The specific results and details of the bivariate correlations are outlined in Table 2. The bivariate correlations were examined to see if there was high collinearity between any two of the variables. Results indicated that there was relatively low collinearity between all of the variables.

Table 1

Demographic Profile

Variable	Category	Distribution
Gender	Male	98(45.8%)
	Female	116 (54.2%)
Sibling Closest	Sibling Older	106(49.5%)
	Sibling Younger	108(50.5%)
Sibling Closest	Male	119(55.6%)
	Female	95(44.4%)
Diagnosed MHD	Yes	8(3.7%)
	No	206(96.3%)
Sibling Diagnosed MHD	Yes	15(7.0%)
	No	99(93.0%)
Race	White/Caucasian	169(79.0%)
	African-American	33(15.4%)
	Native American	6(2.8%)

Table 2

Bivariate Correlations (n = 214)

		FWMI	SS	IS	MHLC
FWMI	Pearson	1	-.146*	-.059	.204**
	Sig (2-tailed)		.034	.396	.003
	N	212	211	212	212
SS	Pearson	-.146*	1	.333**	-.069
	Sig (2-tailed)	.034		.000	.320
	N	211	211	211	211
IS	Pearson	-.059	.333**	1	.064
	Sig (2-tailed)	.396	.000		.349
	N	212	211	213	213
MHLC	Pearson	.204**	-.069	.064	1
	Sig (2-tailed)	.003	.320	.349	
	N	212	211	213	213

Note: Correlations with an * are significant at the level of $p < .05$. Correlations with an **are significant at the level of $p < .01$.

Reliability Results

Tests for reliability of the instruments were run, and the results were as follows. For the solidarity scale, results indicated a high reliability score (α=.924). For the Mental Health Locus of Control, results for reliability were good (α=.754). Results for the reliability tests for the Familiarity With Mental Illness Scale were strong as well (α=.775). Reliability scores for were also calculated for both social support scales. For the Multidimensional Scale of Perceived Social Support, reliability was high (α= .966) as well as the social support scale created by the researcher (α= .974).

Table 3

Reliability Scores

Scale	Reliability Score
IS	α = .924
MHLC	α = .754
FWMI	α = .775
MSPSS	α = .966
SS	α = .974

Data Analysis

All of the data was analyzed using the SPSS 17.0 program. ANOVA analyses were performed to examine the relationships among the variables. Results were calculated using the data set obtained from participants' responses to the scales, and a discussion of the results follows.

For hypothesis 1 (people will be more likely to provide emotional support to family members who have been diagnosed with a mental illness that has been described as non-controllable than those who have been diagnosed with a mental disorder that has been described as controllable), the independent variable is controllability of the disorder (as manipulated in the scenarios), and the dependent variable is willingness to offer emotional support. The willingness to offer social support measure was used. A one-way ANOVA test was used to analyze the data. For this hypothesis, results were calculated and the findings were nonsignificant. After running ANOVA tests, factor analyses were run and results of those tests confirmed that there was no variance in the measure, so the researcher was not able to run the measure as fully as anticipated. Factor analyses results for willingness to offer emotional support showed no variance in the measure (M=1.35, SD=.603), nor did results for the variable of controllability of the disorder (M=1.81, SD=.759).

For hypothesis 2 (there will be a significant difference in willingness to display instrumental support to a family member diagnosed with a mental health disorder between those who believe that the disorder is controllable versus those who believe it is non-controllable), the independent variable is controllability of the disorder (as manipulated in the scenarios), and the dependent variable is willingness to offer

instrumental support. The willingness to offer social support measure was used, specifically the section of the questionnaire that measures willingness to offer instrumental support. A one-way ANOVA was used to analyze the data for this hypothesis. Results were calculated and the findings were nonsignificant. After running ANOVA tests, factor analyses were also run and tests indicated that there was no variation in the measure. There was no variation in the willingness to offer instrumental support measure (M=1.41, SD=.586), nor in the results for the variable of controllability of the disorder (M=1.81, SD=.759).

For the third hypothesis (there will be a significant difference in willingness to display companionship support to a family member diagnosed with a mental health disorder between those who believe that the disorder is controllable versus those who believe it is non-controllable), the independent variable is controllability of the disorder, and the dependent variable is willingness to offer companionship support. The Willingness to Offer Social Support measure was used, specifically the section of the questionnaire that measures companionship support. A one-way ANOVA was used to analyze the data for this hypothesis. Results were calculated and results were nonsignificant. ANOVA tests were run, and further confirmatory factor analyses indicated only one factor. There was no variation in the companionship support measure (M=1.36, SD=.603) nor in the results for the variable of controllability of the disorder (M=1.81, SD=.759).

For the fourth hypothesis (Interpersonal solidarity among siblings will moderate the relationship between locus of control and willingness to display social support), results were nonsignificant. There is a direct relationship between interpersonal solidarity

and condition (p=.047); however, it does not moderate the effect between social support and condition.

A one-way ANOVA was run to test the relationship between interpersonal solidarity and willingness to offer social support, and the results were significant ($F(73, 210) = 1.40$, $p = .046$). This tells us that the relationship between solidarity and support, though it is not a moderating one, is significant and could explain the lack of variance in willingness to offer support. Thus, people who feel close to their siblings are willing to display support because they are close and unrelated to the presence of a disorder or perceived controllability of said disorder.

For the first research question (is there an interaction effect between a participant's locus of control and controllability towards willingness to offer social support?), the independent variables are locus of control and controllability of the disorder, and the dependent variable is willingness to offer social support. The Mental Health Locus of Control Scale and Willingness to Offer Social Support measure was used. A factorial ANOVA was used to analyze the data for this research question. The Mental Health Locus of Control Scale and willingness to offer social support measure was used. A factorial ANOVA was used to analyze the data for this research question**.** Results were calculated, and the results indicate that there is no interaction effect (M= 1.28, SD=.505).

For the second research question (what role does sex of the support provider play in the display of social support to family members who are diagnosed with a mental illness?), the independent variables are controllability of the disorder, locus of control, and sex, and the dependent variable is willingness to offer social support. Results were

calculated, and the results are as follows. There is a significant difference between males and females for the level of social support that they would provide. An independent-samples t-test was run, and the results are significant (t (209) = 3.073; p= .003). Results indicated that females (M= 1.26) are more likely to provide support than are males (M=1.48). In addition, results were calculated for all four types of support and sex, and all four types indicated a significant difference when measured against sex. For example, when measured against sex, informational support was significant (p=.003). At all four levels, females are more likely to provide support. These results can be seen Table 4. A summary of results for all hypotheses and research questions can be seen in Table 5.

Table 4

Means for Sex of Support Provider

	Males	**Females**
Instrumental	1.51	1.31
Emotional	1.47	1.24
Companionship	1.45	1.28
Informational	1.51	1.27
TOTAL	1.48	1.26

***All of the differences in means are significant at the 0.05 level.**

Table 5

Summary of Results for Hypotheses and Research Questions

Hypothesis/RQ	Results	Mean	Standard Deviation	Additional Tests
Hypothesis 1	nonsignificant	1.35* 1.81**	603* .759**	
Hypothesis 2	nonsignificant	1.41* 1.81**	.586* .759**	
Hypothesis 3	nonsignificant	1.36* 1.81**	.603* .759**	
Hypothesis 4	nonsignificant			$F(73, 210) = 1.40$ $p = .046$***
RQ 1	no interaction effect	1.28	.505	
RQ 2	significant			t (209) = 3.073 p= .003

*Reports for factor analyses of dependent variable
**Reports for factor analyses of independent variable
***Though results to test for moderating effect were nonsignificant, these reports indicate the ANOVA test for IS and SS

Chapter 5

DISCUSSION

Summary of Study

This study aims to address the relationships among variables such as perception of controllability of mental health disorders and one's willingness to offer social support to a family member diagnosed with the disorder. Additionally, it focuses on interaction effects and covariates in the relationship such as one's personal sense of locus of control, one's familiarity with mental illness in general, and sex. If research can point to the ways that these variables relate to one another, then assessments can be made regarding the quantity as well as quality of support behaviors among family members when an individual is dealing with a mental illness.

In regard to the first three hypotheses, results were unexpected and nonsignificant. Hypothesis 1 states that, "People will be more likely to provide emotional support to family members who have been diagnosed with a mental illness that has been described as non-controllable than those who have been diagnosed with a mental disorder that has been described as controllable." Hypothesis 2 states that, "There will be a significant difference in willingness to display instrumental support to a family member diagnosed with a mental health disorder between **t**hose who believe that the disorder is controllable versus those who believe it is non-controllable." Hypothesis 3 states that "There will be a significant difference in willingness to display companionship support to a family

member diagnosed with a mental health disorder between those who believe that the disorder is controllable versus those who believe it is non-controllable." The lack of significance in the results in the first three hypotheses was not an expected result given the theoretical underpinnings and expectations. However, potential limitations in the experimental design that may have contributed to the minimal variation were given careful consideration. For example, it was considered that perhaps the manipulations should be reconfigured for future study or perhaps a more suitable social support scale would be of benefit in future investigation (e.g. Xu and Burleson, 2001).

In addition, the fourth hypothesis stated that interpersonal solidarity among siblings would moderate the relationship between locus of control and willingness to display social support. The results of participants' reports in this area could account for some of the lack of variation as well. Overall, participants reported that they would be willing to provide all types of social support to their siblings no matter the cause of the disorder or perceptions of controllability. This could be explained by the premise that humans are more likely to report that they *would be willing* to do a particular action than they would be to actually perform that action in a real-life scenario, otherwise known as a type of cognitive bias known as response bias (Furnham, 1986). This can be explained by general limitation of experimental research overall which will be noted later in the discussion (Bradley, 2009). However, interpersonal solidarity as a covariate could explain this finding as well (see Wheeless, 1976). If participants reported that they would provide support in every category, it could relate to the finding that overall, they feel very close to their sibling. Thus, those siblings who have a very close relationship are likely to provide support regardless of condition or perception of controllability of the disorder.

For the first research question (Is there an interaction effect between a participant's locus of control and controllability towards willingness to offer social support?), results indicated that there was no interaction effect. However, for the second research question (What role does sex of the support provider play in the display of social support to family members who are diagnosed with a mental illness?), results were significant and indicated that females were likely to provide every type of support than were males.

Discussion of Results

Though the variability of locus of control may not have had a significant effect on a participant's willingness to offer support, it is important to keep in mind that interpersonal solidarity and willingness to offer support had a strong connection. Participants overall reported a strong sense of closeness with their siblings, and there was a significant relationship between degree of solidarity and willingness to display support to their sibling who was diagnosed with anxiety disorder. If people are more likely to display support to family members that they feel emotionally closer to, then this might be a variable that should be considered even more (or et least equal to) than perceptibility of control factors. Furthermore, it may be that perceptions of controllability of mental disorders are an important factor, but that interpersonal solidarity simply has a stronger relationship with support (see Wheeless, 1976). People who feel very close to their siblings may be willing to provide support no matter the presence of any factors or perceptions (simply because of that bond). Therefore, it may be that if this study were replicated on a non-family group that there would be a more significant relationship

between locus of control and support. Perhaps when examining family members, other factors that would effect willingness to display support do not carry as much weight because the general thinking is that one should be willing to help a family member no matter the causes or consequences. Some might argue that it is just what you do for family.

Moreover, another factor that is potentially in the participant responses in this study is the tendency of some individuals when participating in a study to respond to survey questions as to how they feel they *should* respond in a given situation, rather than how they would *actually* respond (also referred to a response bias) (Furnham, 1986). This could be at work in this study for a number of reasons, but primarily because the population under investigation is family members. In our society, there is an underlying mantra that family comes first, family should be our priority, we should do anything for our family members, etc. With this in mind, it is important to note that participants were responding as to how willing they would be to provide support to one of their siblings. Furthermore, they were asked to respond as to how willing they would be to provide support to the sibling *he or she feels closest to*. Though the United States (where the study took place) is commonly categorized as an individualistic society, there is still a very strong American thread of the importance of the family unit, not to mention the natural bond among family members, no matter their cultural affiliation. This is certainly a concept to bear in mind. Perhaps participants' overall responses of very high levels of willingness to display support has more to do with a cultural and biological tie to their family members than it does whether they perceive their diagnosis as controllable or not.

Continuing with this idea of controllability of the disorder, there are implications in this study relating to mental health disorders in general. The stigma that surrounds mental health disorders (see Romer and Bock, 2008 and Klin & Lemish 2008) is a profound one. However, perhaps not as much stigma exists in one's mind when considering family members. Perhaps that stigmatization looks a bit different, or maybe more importantly, individuals are more likely to look past the stigmas surrounding mental health when it comes to one of their family members. With all of the research that exists involving stigmatization and mental health disorder, there is a gap in that research when it comes to the adaptations of that stigma when concerning family members. It could also be that the stigma takes different forms or enacts itself differently. Again, perhaps the stigma or perception of control still matters, but not enough to change one's decision about whether or not to support that family member, because well, they are family.

In fact, stigmatization may look very different when dealing with family members. Many family members do not want to believe that their sibling's (or parent's, child's, grandparent's, etc.) mental health diagnosis is accurate or even in some cases, reality. So, in this case, I argue that stigmatization could actually have the opposite effect when it comes to family members who have very high interpersonal solidarity scores. We do not stigmatize them in the same way, because in a sense, we live in fear of their symptoms or in disbelief that they are not the exception to the rule. This is where so many emotional factors come into play. In a sense, our reflexes to not truly buy into their diagnosis can serve as an emotional coping mechanism. We do not want to believe that our family member truly cannot control their disorder, because we do not want to believe that they cannot overcome it. So, even when a health professional tells us that they have

been diagnosed with X, we tend to believe that with just the right amount of will and determination, they can overcome it (see Solomon & Draine, 1995). Though this can be classified as stigmatization (as it relates to perceptions of controllability), still there are vast implications for how we measure stigma and mental health as it specifically relates to families and that there are many implications in the present study that have to do with the specific factor or relationship between members.

As previously mentioned, for the fourth hypothesis (Interpersonal solidarity among siblings will moderate the relationship between locus of control and willingness to display social support), results were nonsignificant. This was an expected result after the researcher discovered that there was no variance in the participants' scores on willingness to display social support.

Additionally, results showed a significant relationship between participants' sex and willingness to display social support. Also, females reported that they were more willing to display every type of support than were males. This is consistent with previous research, which states that women are generally more emotionally expressive than men (Aries, 1996; Gilligan, 1982) and that men and women differ in many ways in terms of how they receive and offer support (Kunkel & Burleson, 1998). Future research should focus on how this premise relates to the family construct specifically (e.g. are men more likely to provide support to male siblings? Are females more likely to offer support to male siblings than are other male siblings?) In addition, results from this study as it relates to sex are grounded because of the distribution of males and females who participated in the study (the sample consisted of 54.2% female respondents (n=116) and 45.8% male respondents (n=98)).

Implications

Despite the lack of support for the premises of the hypotheses, the implications are worth consideration. This study offers much consideration for the way that we study families and their communication. By eliminating overall locus of control and perceptions of controllability as it relates to a mental health disorder as potential variables that affect a family member's willingness to offer support to a sibling, then we can hone in on additional constructs (such as overall family dynamics and stigma related therein) that could have a strong effect on the relationship with social support. Furthermore, this study tells us a great deal about our assumptions related to locus of control, that maybe our locus of control does not relate to every facet of our lives. Perhaps there are some exceptions (like the way we think about family) when it comes to our overall framework of control.

Moreover, this study lays groundwork for future research as it relates to mental health and stigma, specifically as it relates to the communicative behaviors involved in family units. Research involving family stigma and mental health disorders contains several gaps where this investigation could contribute. These hypotheses and findings set the stage for future research in communicative patterns in terms of how families display social support behaviors. More importantly, this research can be used to set the groundwork for exploring ways in which stigmatization of mental health disorders operates among family members.

This investigation also has implications for sibling bonds and family commitment overall. As previously mentioned, although there was not a significant relationship found

between controllability of disorder and willingness to offer support to one's sibling, interpersonal solidarity did have a connection. Commitment is certainly a strong variable among all types of family relationships, and that commitment level affects closeness (solidarity), which in turn, can ultimately affect an individual's willingness to provide support to their family member. Thus, how close one feels to his or her family member may simply be a stronger predictor of support than is the disorder itself. Galvin and Brommel (2000) state, "Commitment implies intense singular energy directed toward sustaining a relationship" (p. 153). This energy can be a strong force among families and can ultimately affect one's willingness to offer help or provide support to an individual who has received a mental health diagnosis. Additionally, Myers and Bryant (2008) found that emotional support and informational support are two behaviors in which siblings express their commitment to one another. They also found that support was a strong predictor of communication and relational satisfaction. Thus, commitment and solidarity are strongly connected to social support behaviors among families.

Limitations

There are several potential limitations of this study. There are general limitations with any experimental design, such as questions related to whether participants would act in a real-life situation the way that they responded to questions about that type of scenario in a hypothetical manner (Bradley, 2009). This argument relates to the questions in this study regarding how willing participants would be to provide support to a sibling who was diagnosed with a mental health disorder. When people are asked how willing they would be to offer things like support, those items are often viewed as benevolent or

helping behaviors. In other words, people often feel that they *should* respond in a particular manner, also known as responding because of social desirability (Furnham, 1986). Of course this is variable regarding whether they would *actually* perform that behavior in a real-life situation. Also, the experimental manipulation might not have been strong, and there are limitations of using hypothetical scenarios. There was no variation in the measures, so everyone perceived that they were giving good support. Thus, the experimental manipulations should be re-worked (as it outlined in the following "future research" section). If the study had been conducted in a more naturalistic setting, perhaps there would have been more significant findings.

Additionally, participants' preconceived views of anxiety could have affected outcomes of the study. A section that measures these views should have been presented at the beginning of the experiment to offer a baseline for participants' knowledge about anxiety specifically. Since this was not part of the experiment, there is no way to explore whether their preconceived views affected their responses to the questions.

Another potential limitation relates to the experimental manipulation itself. The manipulation might not have been strong, and therefore this might account for the lack of variance between experimental groups. It could be that the distinctions between the experimental groups (based on control variable) need to be more clearly stated or more strongly worded. If participants had more clarity on the control distinctions, they might have been more or less willing to offer different types of support. Also, if the hypothetical scenarios had offered more detailed descriptions of the disorder and more specific descriptions of encounters with the sibling with the disorder (specifically how

behaviors play out in everyday situations rather than simply listing general symptoms of the disorder), more variance might have been seen in willingness to provide support.

In addition, there are several potential limitations as it relates to the sample for the study. The sample was mostly White (79.0% of the population identified as White (n=169)); therefore, the sample was skewed to one cultural demographic, and there may have been more variation if more groups had been represented. Also, the sample was a college student population, so it is possible that studying a population with more life experience would have rendered different results.

Directions for Future Research

Implications have been drawn regarding ways to improve communication about mental illness in general (specifically related to perceptions of controllability) in order to potentially improve supportive communication among family members when one of the members is diagnosed with a mental disorder.

There is a significant gap in the research when it comes to stigma involving family members. More specifically, more attention is needed in the area of stigma as it relates to mental health and family. Scholars should be addressing how stigma is developed when it comes to family members, because clearly this process can look very different when dealing with our closest loved ones. Additionally, research should focus on physical illnesses in this way also. Although mental illness certainly seems to carry stigma more than does physical illness in some ways, there are still many physical illnesses that are still greatly stigmatized. For example, when diagnosed with lung cancer, many people initially assume that individual is or was a smoker and thus, that measure of

controllability comes back into play. Also, HIV and breast cancer are still very much stigmatized in some cases, and these areas need to be considered with these research questions in mind as well. The question of whether or not one's family is willing to provide support in these cases needs to be addressed with mental and physical illnesses that are stigmatized.

Therefore, we not only have to think about stigma differently when it comes to stigmatizations of those we consider closest to us, but we also have to measure families' perceptions and responses differently. We cannot simply formulate survey questions as we would when asking participants to think about strangers or even friendships. Again, the element of participant bias comes into play when one is responding, where a participant (because hypothetical questions are being presented as to how one would support a family member) naturally responds in an affirmative manner, because that is the supposed *preferred* response. In that vein, an alternative option to this survey method with hypothetical questions is to conduct a study in which participants respond to qualitative, open-ended questions regarding their experience with their family member's mental health disorder and how they cope with it. Questions could be centered on how the participant emotionally qualifies the disorder, what the development of their thinking has been and continues to develop as, and then how they cope with their family member's behavior that is related to their disorder. For example, a question could be, "What is the most difficult part of supporting your sibling who has been diagnosed with Anxiety Disorder?" or "Elaborate on daily routines that you experience with your sibling" or "How are those routines affected by his or her mental health disorder?" These questions could begin to address another prime area of interest for future research. There is vast

area of research regarding the experience of the support provider in this context. The burden of caretaking when it comes to a family member with a mental illness is of most importance. Support providers who experience burnout from long-term care of family members who have been diagnosed with a mental illness is an area of interest for further exploration. Moreover, when studying this area in a qualitative manner such as this, the avenue of communication competence and/or skill could be addressed. Even if a person is willing to offer support, the question of whether they have the skills necessary to do so should be explored.

Future research should also focus on comparing different mental health disorders. The stigmas related to different disorders vary greatly, and it would be worthwhile to investigate the perceptions of controllability across different diagnoses and if the stigma that accompanies a particular diagnosis would affect one's willingness to offer a specific type of support. For example, Schizophrenia has an entirely different set of stigma than does Bipolar Disorder, Anxiety Disorder, or Clinical Depression. Future research should focus on the comparison of the different disorders, their accompanying perceptions of controllability, and whether the support structures vary at all based on the individual diagnosis.

Additionally, the manipulations would need to look very different when studying family members. If it was concluded to still utilize experimental design with the family members, then it might in fact be that a pre-study would be conducted where the participants essentially create their own scenarios. Open-ended questions would be asked to encourage the participant to elaborate on a situation in which their sibling who has been diagnosed with a mental health disorder is in need of much support. Then, based on

these scenarios, in a follow-up study, different participants could be presented with these scenarios and asked to respond as to whether they would be willing to offer support in these situations. Subsequently, an alternate social support scale should be employed (Xu and Burleson, 2001) for stronger validity results. Also, it would be important to consider the perception of receiving support as well, to investigate the experience of the person with the disorder when it comes to support. There are vast differences when it comes to willingness to provide support and perceptions of receiving it. This would be a new avenue to explore entirely, but one that is worth much considering.

Finally, implications involving race, religion, and class should be explored in relation to mental health, families, and social support. There is much depth of research in these areas and identity, but questions should be posed as to how they intersect with mental health and willingness to support family members. The effect of these factors should be considered in terms of how they might relate to one's motivation to offer support, one's overall sense of locus of control (especially in regard to religion), and one's belief about how to identify mental health in general. The link between the way that we think about mental health and they way we identify in terms of these constructs should be explored in depth.

Overall, this study shows us that hypothetical measurement may not be the best method to study the ways that family members support one another when one member is diagnosed with a mental health disorder, but we do know that social support is important. Therefore, a different avenue should be explored to measure social support with this population. It is important to continue study in this area, because as mentioned previously, the implications are vast.

The theoretical implications of this study should continue to be pursued because research has consistently established that health and social support are so inextricably linked. Studying this concept in the realm of families is simply new territory, and research in this area should be continued in order to examine the complexities of the relationship closeness and quality to learn more about how family members make decisions regarding whether (and how) to support their other members. Additionally, this study opens doors for further study in stigma as it relates to families and mental health. Areas of investigation in this vein are vital to the exploration of family dynamics and coping with mental health diagnoses.

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Appendix A
Institutional Review Board Certification

Office for Research

Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF
ALABAMA
RESEARCH

May 24, 2012

Ashley Joiner
Communication & Information Sciences
The University of Alabama
Box 870172

Re: IRB # 12-OR-189: "Attributions of Mental Health Diagnoses and Locus of Control: The Effect on Family's Supportive Communication"

Dear Ms. Joiner,

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver/alteration of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on May 23, 2013. If the study continues beyond that date, you must complete the IRB Renewal Application. If you modify the application, please complete the Modification of an Approved Protocol form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure (Investigator) form.

Should you need to submit any further correspondence regarding this application, please include the assigned IRB application number.

Good luck with your research.

Sincerely,

Carpantato T. Myles, MSM, CIM
Director & Research Compliance Officer
Office for Research Compliance
The University of Alabama

358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066

Information Sheet:

You are being asked to participate in a research study. This study is called "Attributions of mental health diagnoses and locus of control: The effect on family's supportive communication." This study is being done by Ashley Joiner George, a doctoral student in the College of Communication and Information Sciences at The University of Alabama. Ms. George is being supervised by Dr. Carol Mills, an Associate Professor in the Communication Studies department at The University of Alabama. You must be at least 18 years of age to participate in this study.

What is this study about?
The purpose of the study is to gain insight into how family members support each other (whether it is by being there for them if they need to talk, giving them rides, helping them witht their medication, or other supportive behaviors) when dealing with health concerns. Research shows that support is a key element in close relationships, especially among families. In this study, I explore the relationship between perceptions of whether or not someone can control their disorder and social support among family members as it relates to mental health diagnoses.

Why is this study important—What good will the results do?
I hope to learn what factors influence a person's willingness to provide support to their family member who has been diagnosed with a mental health illness. I hope by assessing these factors, we can then gain more knowledge about family members and how they process mental health diagnoses.

Why have I been asked to take part in this study?
You were recruited by the researcher, and your instructor has provided you with an opportunity to participate in this study, potentially for extra credit in a specified class.

How many other people will be in this study?
The investigator hopes to survey approximately 200 people.

What will I be asked to do in this study?
If you agree to be in this study, you will read hypothetical scenarios where you are asked to imagine that one of your siblings has been diagnosed with a mental health disorder. Then you will answer a series of survey questions that follow. You will complete all of the study activities online. You will be asked some basic demographic questions about your sex, race, etc. as well as some questions regarding your relationship with your sibling that you are closest to in age. You will also be given some statements regarding mental health issues and asked to rate these statements on a scale from 1 (strongly agree) to 6 (strongly disagree).

How much time will I spend being in this study?
The participation will entail taking a survey, and it should take about 15-20 minutes to complete the survey.

Will being in this study cost me anything?

The only cost to you from this study is your time.

Will I be compensated for being in this study?
The opportunity to receive extra credit in your class is at the discretion of your instructor.

What are the risks (problems or dangers) from being this study?

There are no risks related to your physical well-being by participating in this study. However, if in the unlikely event that you were to become distressed at any point during the study, you can contact the UA health center at (205) 348-2778 or the UA counseling center at (205) 348-5454.

There are essentially no risks to your psychological well-being by participating in this study. You are required to read a brief scenario where you imagine that one of your siblings has been diagnosed with Anxiety Disorder and respond as to how willing you would be to offer support to that sibling. It is possible that reflecting on this could pose somewhat of a threat to your emotional well-being. However, the risks are minimal, and again, if you were to become distressed at any point during the study, you can contact the UA health center or counseling center. The questions are noninvasive, there is no deep emotional probing, and you can choose not to participate or end participation at any time.

There are no risks related to one's political, economic, or social well-being by participating in this study.

What are the benefits of being in this study?
There are no direct benefits to you. However, indirect benefits of participating in the study could include: helping you to become more introspective about your views about whether or not you value the availability of social support about health issues and whether or not you feel that it is indeed available, as well as becoming more introspective about your own response to support messages.

How will my privacy be protected?
You will be completing this survey online, so you are free to choose an isolated, private environment in which to complete the survey.

How will my confidentiality be protected?
The data will be anonymous. The only place where your name appears in connection with this study is to receive extra credit for your participation. Your name will not be attached to the surveys or to the results in any other way or for any other purpose than to document your extra credit. The survey data itself will be kept completely confidential, and any reports of data will be kept securely in the Principle Investigator's office. The only people that will have access to the data will be the Principle Investigator and her faculty advisor. Results from the study may be disseminated in a journal publication or presented at a conference; however, no names will be reported in publications or presentations that indicate any identifying information.

What are the alternatives to being in this study?
The only alternative is not to participate.

What are my rights as a participant?
Being in this study is totally voluntary. It is your free choice. You may choose not to be in it at all. If you start the study, you are free to stop at any time. Not participating or stopping participation will have no effect on your relationships with the University of Alabama.

The University of Alabama Institutional Review Board is a committee that looks out for the ethical treatment of people in research studies. They may review the study records if they wish. This is to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

Who do I call if I have questions or problems?
If you have any questions about the study, please feel free to contact the principal investigator, Ashley Joiner George. Feel free to contact her via e-mail at aejoiner1@crimson.ua.edu or by phone at (205) 482-1113. Dr. Carol Mills can be reached at cbmills@ua.edu or (205) 348-6165. Also, if you have questions, concerns, or complaints about your rights as a participant in this research study, you may contact Ms. Tanta Myles, the Research Compliance Officer at the University of Alabama, at (205)-348-8461 or toll free at 877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email them at participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

APPENDIX B

Email Invitation Manuscript

Study Announcement:

Hi. My name is Ashley Joiner George. I am a graduate student in the College of Communication and Information Sciences. I am here to talk to you about a research study I am conducting. I would greatly appreciate your participation. In this study, I will be evaluating social support and its implications in the university setting in regard to health behaviors. My goals for this study will be to assess how such factors as perceptions of control and attributions affect one's willingness to display social support to a family member who has been diagnosed with a mental health disorder. The participation will entail taking a survey, and it should take about 15-20 minutes to complete the survey. Participation in this study is completely voluntary, and you are under no obligation to participate. **However, participants must be at least 18 years of age or older and must have at least one sibling.** There will be no privilege (except class extra credit as specified by your instructor) or penalty in class for your participation. Also, there are no direct benefits to you from completing the study. There will be virtually no risks to your physical well-being, as you are simply completing a survey. Also, there are no more than minimal risks to your social well-being. There are essentially no risks to one's psychological well-being by participating in this study. Participants are required to read a brief scenario where you imagine that one of your siblings has been diagnosed with Anxiety Disorder and respond as to how willing you would be to offer support to that

sibling. Reflecting on this could pose somewhat of a threat to your emotional well-being, particularly if you have a family member who has been diagnosed with this disorder. However, I do not think the risks are greater than would be incurred from everyday activities. The questions are noninvasive, there is no deep emotional probing, and participants can choose not to participate or end participation at any time.

You can access the survey through a web link that I will provide to you should you be interested in participating. The survey will be completed through an online survey tool called Survey Monkey, and I will distribute the link to you. The survey should take approximately 15-20 minutes to complete.

If you have any questions about the study, please feel free to contact me. Feel free to contact me via e-mail at aejoiner1@crimson.ua.edu or by phone at (205) 482-1113. Also, if you have questions about research participants' rights, feel free to contact Tanta Myles at (205)-348-8461 and toll free 877-820-3066. Finally, I want to remind you to not include your name on the survey.

APPENDIX C

Subject Questionnaire

Dear Participant,
Thank you for agreeing to participate in this study. My goal for conducting this study is to gather information concerning social support among close relationships related to mental health diagnoses. Your participation will help me to understand how social support functions families in which one family member has been diagnosed with a mental health illness or disorder. Participation in this study is voluntary, and you are free to withdraw at any time. Please respond to the following questions as accurately and completely as possible. Thank you again for your assistance.

Age:_____ **Sex**: M F

Race (circle all that apply): American Indian Asian Hispanic

African American/Black White Other (please specify): _____

What is the sex of the sibling that you are closest to in age?

Have you been diagnosed with a mental health disorder? Yes No

Has anyone close to you been diagnosed with a mental health disorder? Yes No

Interpersonal Solidarity Scale: (Wheeless, 1978)
Reliability: .96 (Wheeless, 1978) .94 (Wheeless, Wheeless, and Baus, 1984) .90 (Bell and Healey, 1992)

Instructions: Please mark these scales to indicate how you relate to your sibling that is closest to you in age. Please mark the following statements to indicate whether you: strongly agree, agree, moderately agree, are undecided, moderately disagree, disagree, or strongly disagree.

1.) We are very close to each other.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

2.) This person has a great deal of influence over my behavior.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

3.) I trust this person completely.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

4.) We feel very differently about most things.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

5.) I willingly disclose a great deal of positive and negative things about myself, honestly and fully (in depth) to this person.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

6.) We do not really understand each other.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

7.) This person willingly discloses a great deal of positive and negative things about him/herself, honestly and fully (in depth) to me.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

8.) I distrust this person.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

9.) I like this person much more than most people I know.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

10.) I seldom interact/communicate with this person.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

11.) I love this person.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

12.) I understand this person and who he/she really is.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

13.) I dislike this person.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

14.) I interact/communicate with this person much more than with most people I know.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

15.) We are not very close at all.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

16.) We share a lot in common.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

17.) We do a lot of helpful things for each other.

1 2 3 4 5 6 7
Strongly Agree Agree Moderately Agree Undecided Moderately Disagree Disagree Strongly Disagree

18.) I have little in common with this person.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

19.) I feel very close to this person.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

20.) We share some private way(s) of communicating with each other.

1	2	3	4	5	6	7
Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree

Mental Health Locus Of Control Scale: (Hill and Bale, 1980)

Instructions: This questionnaire consists of 28 statements about issues concerning mental health. Professionals in this field do not agree on many of these issues. The questionnaire is concerned with your own personal opinion about these statements.

Each statement is followed by a six-point scale on which you can express how much you agree or disagree with that statement. Please check one of the six spaces provided.

(Filler) 1.) A person with an IQ of 160 would be considered abnormal in a statistical model of normality.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 2.) Psychotherapy is for people who can't make it alone and need someone stranger than themselves to lean on.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 3.) To recover from a serious mental problem you must first be willing temporarily to surrender all responsibility to an experienced professional.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(Filler) 4.) According to psychoanalytic theory the stage of development in which the Oedipal conflict occurs is known as the penal stage.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(I) 5.) People with psychological problems should play a large part in planning their own treatment.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 6.) Someone receiving psychiatric help should not make any important decisions without seeking advice.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(Filler) 7.) In reactive schizophrenia the onset is slow and insidious.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 8.) When a psychiatric patient is trying out new behaviors a professional should decide which behaviors he/she should try first.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(I) 9.) The decision as to when to end psychotherapy should be taken by the patient rather than the therapist.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 10.) The lives of people with psychological problems are so complicated that it is almost impossible for them to figure out what they should do to make things better.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 11.) If psychotherapy is like building a house, a good therapist should not only give you the tools but should design the house for you.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(Filler) 12.) Thomas Szasz takes the view that mental illness is a myth.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 13.) Psychotherapists should tell their patients how to lead a healthy life instead of waiting to see if they find out for themselves.

1	2	3	4	5	6

Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(E) 14.) Patients should try hard to accept their therapist's opinion as to what is right and wrong.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(I) 15.) When an individual goes to a therapist for help, that individual should expect to take most of the responsibility for getting better.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(Filler) 16.) The conscious and deliberate avoidance of thoughts that cause anxiety is known as rationalization.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(I) 17.) In psychotherapy, what the therapist thinks is less important than what the client thinks.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(E) 18.) Most patients leaving psychiatric hospitals should be strictly supervised for some period of time.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(I) 19.) The goals of psychotherapy should be set by the client rather than the therapist.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(E) 20.) In group therapy the individuals who benefit most are almost always those who pay most attention to the group leaders.

1 2 3 4 5 6
Strongly Agree Agree Probably Agree Probably Disagree Disagree Strongly Disagree

(I) 21.) The mentally ill should not be encouraged to have others take care of their everyday needs.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(I) 22.) If a psychiatric patient feels sure he/she is well enough to stop taking medication, that is what he/she should do.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 23.) The aim of anyone who gets into psychotherapy is to seek the advice of an expert and to act on it.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 24.) As a general rule psychiatrists should feel OK about making decisions on behalf of their patients.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(Filler) 25.) The argument that normal and abnormal behaviors are acquired in a similar manner is a central part of the learning-theory approach to maladjustment.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(I) 26.) A good psychotherapist expects clients to decide for themselves what they should do.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 27.) Going to a professional to discuss your problems is better than talking to friends because the advice of a professional is more valuable.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

(E) 28.) When experiencing psychological problems the person least likely to come up with solutions is oneself.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

Familiarity With Mental Illness Scale: (Holmes et al., 1999 using the Level of Contact Report)

Familiarity with Mental Illness

1. My job involves providing services/treatment for persons with mental illness.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

2. I have observed, in passing, a person I believe may have had a severe mental illness.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

3. I have observed persons with a severe mental illness on a frequent basis.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

4. I have worked with a person who had a severe mental illness at my place of employment.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

5. A friend of the family has a severe mental illness.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

6. I have a relative who has a severe mental illness.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

7. I live with a person who has a severe mental illness.

1	2	3	4	5	6
Strongly Agree	Agree	Probably Agree	Probably Disagree	Disagree	Strongly Disagree

Scenario 1: Non-controllable

Imagine that your brother or sister that you are closest to in age is diagnosed with Anxiety Disorder. Psychiatrists conclude that in your sibling's case, while stress can increase the amount of anxiety that your brother or sister experiences, it is primarily a biological condition that he or she has virtually no control over. Researchers have found that its onset is not caused by any lifestyle component on the part of your sibling.

Symptoms include extreme anxiety during certain situations, especially close spaces and loud noises, yet there can also be periods of anxiety or panic that are very random and unrelated to the aforementioned situations. Also included in the common symptoms of this disorder are persistent worry over everyday activities or situations and chronic fear that is not specific to any one thing or event. For your sibling, this anxiety has begun to affect his or her everyday life. He/she has not accepted your past few invitations to hang out because he/she is too anxious about being in a crowd. You have always noticed that your sibling has seemed preoccupied with worry at times, but since the diagnosis, you have noticed that the anxiety has always been a chronic part of their life.

Manipulation Checks:

1.) Which diagnosis was presented in this scenario?

Depression Schizophrenia Anxiety Disorder Bipolar Disorder

2.) The scenario suggested that the diagnosis is primarily a _____ condition.

Biological Environmental Ecological

3.) Which of these is not a symptom listed in the scenario for this disorder?

Periods of Panic Extreme Anxiety in Certain Situations Persistent Worry Hallucinations

Scenario 2: Neither Controllable or Noncontrollable (Info about controllability excluded)

Imagine that your brother or sister that you are closest to in age is diagnosed with Anxiety Disorder. Symptoms include extreme anxiety during certain situations, especially close spaces and loud noises, yet there can also be periods of anxiety or panic that are very random and unrelated to the aforementioned situations. Also included in the common symptoms of this disorder are persistent worry over everyday activities or situations and chronic fear that is not specific to any one thing or event. For your sibling, this anxiety has begun to affect his or her everyday life. He/she has not accepted your past few invitations to hang out because he/she is too anxious about being in a crowd. You have always noticed that your sibling has seemed preoccupied with worry at times, but since the diagnosis, you have noticed that the anxiety has always been a chronic part of their life.

1.) Which diagnosis was presented in this scenario?

Depression Schizophrenia Anxiety Disorder Bipolar Disorder

2.) The scenario indicates that your _____ has been given this diagnosis.

Sibling Parent Child Friend

3.) Which of these is not a symptom listed in the scenario for this disorder?

Periods of Panic Extreme Anxiety in Certain Situations Persistent Worry Hallucinations

Scenario 3: Controllable

Imagine that your brother or sister that you are closest to in age is diagnosed with Anxiety Disorder. Psychiatrists conclude that in your sibling's case, although stress can increase the amount of anxiety that your brother or sister experiences, it is primarily a controllable condition that he or she could moderate with certain lifestyle changes. Researchers have found that its onset is caused by certain lifestyle habits of your sibling, include lack of a proper diet and exercise.

Symptoms include extreme anxiety during certain situations, especially close spaces and loud noises, yet there can also be periods of anxiety or panic that are very random and unrelated to the aforementioned situations. Also included in the common symptoms of this disorder are persistent worry over everyday activities or situations and chronic fear that is not specific to any one thing or event. For your sibling, this anxiety has begun to affect his or her everyday life. He/she has not accepted your past few invitations to hang out because he/she is too anxious about being in a crowd. You have always noticed that your sibling has seemed preoccupied with worry at times, but since the diagnosis, you have noticed that the anxiety has always been a chronic part of their life.

1.) Which diagnosis was presented in this scenario?

Depression Schizophrenia Anxiety Disorder Bipolar Disorder

2.) The scenario indicates that your sibling's diagnosis is caused by _____.

Nothing; it's just a biological disorder Poor diet and exercise Environmental issues Smoking

3.) Which of these is not a symptom listed in the scenario for this disorder?

Periods of Panic Extreme Anxiety in Certain Situations Persistent Worry Hallucinations

The Multidimensional Scale of Perceived Social Support: derived from this measure (Zimet et al., 1988)

1.) I would be around for my brother or sister when he or she needs me.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

2.) I would be there for my sibling if he or she wanted to talk about his or her joys or sorrows.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

3.) I would really try to help my brother or sister.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

4.) I would try to provide emotional help and support to my sibling when it is needed.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

5.) I would be a source of comfort to my sibling.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

6.) My sibling can count on me when things go wrong.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

7.) I would be there for my sibling if he or she needed to talk about their problems.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

8.) I would be willing to help my sibling make decisions if they needed it.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

9.) I would care about my sibling's anxiety and feelings.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

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10.) I would be willing to give my sibling a ride to their doctor's appointments if needed.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

11.) I would be willing to pick up my sibling's prescription for their anxiety if needed.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

12.) I would be willing to loan my sibling money to help with doctor's appointments or medication for his or her anxiety if needed.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

13.) I would be there for my sibling if he or she needed help making a decision about treatment options for this disorder.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

14.) I would be available for my sibling if he or she wanted to discuss which doctor to see about this disorder.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

15.) I would be there for my sibling if he or she needed information about where to go to get help for their disorder.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

16.) I would be there for my sibling if he or she just needed someone to talk to when he or she was feeling anxious or overwhelmed.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

17.) I would be available for my sibling if he or she needed someone to listen when they were feeling sad about their disorder.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

18.) I would be there to listen to my sibling if he or she was becoming anxious about an everyday task.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

19.) I would be available to my sibling if he or she wanted to go to the movies if they were feeling anxious.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

20.) I would be willing to make time for my sibling if he or she was feeling especially anxious and just wanted to hang out.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

21.) I would be willing to go over to my sibling's house and just spend time with him or her if he or she was dealing with a panic attack.

Strongly Agree Agreee Neither Agree or Disagree Disagree Strongly Disagree

Appendix D
Results Tables

Table 1

Demographic Profile

Variable	Category	Distribution
Gender	Male	98(45.8%)
	Female	116 (54.2%)
Sibling Closest	Sibling Older	106(49.5%)
	Sibling Younger	108(50.5%)
Sibling Closest	Male	119(55.6%)
	Female	95(44.4%)
Diagnosed MHD	Yes	8(3.7%)
	No	206(96.3%)
Sibling Diagnosed MHD	Yes	15(7.0%)
	No	99(93.0%)
Race	White/Caucasian	169(79.0%)
	African-American	33(15.4%)
	Native American	6(2.8%)

Table 2

Bivariate Correlations (n = 214)

		FWMI	SS	IS	MHLC
FWMI	**Pearson**	**1**	**-.146***	**-.059**	**.204****
	Sig (2-tailed)		**.034**	**.396**	**.003**
	N	**212**	**211**	**212**	**212**
SS	**Pearson**	**-.146***	**1**	**.333****	**-.069**
	Sig (2-tailed)	**.034**		**.000**	**.320**
	N	**211**	**211**	**211**	**211**
IS	**Pearson**	**-.059**	**.333****	**1**	**.064**
	Sig (2-tailed)	**.396**	**.000**		**.349**
	N	**212**	**211**	**213**	**213**
MHLC	**Pearson**	**.204****	**-.069**	**.064**	**1**
	Sig (2-tailed)	**.003**	**.320**	**.349**	
	N	**212**	**211**	**213**	**213**

Note: Correlations with an * are significant at the level of $p < .05$. Correlations with an **are significant at the level of $p < .01$.

Table 3

Reliability Scores

Scale	Reliability Score
IS	α = .924
MHLC	α = .754
FWMI	α = .775
MSPSS	α = .966
SS	α = .974

Table 4

Means for Sex of Support Provider

	Males	**Females**
Instrumental	1.51	1.31
Emotional	1.47	1.24
Companionship	1.45	1.28
Informational	1.51	1.27
TOTAL	1.48	1.26

***All of the differences in means are significant at the 0.05 level.**

Table 5

Summary of Results for Hypotheses and Research Questions

Hypothesis/RQ	Results	Mean	Standard Deviation	Additional Tests
Hypothesis 1	nonsignificant	1.35* 1.81**	603* .759**	
Hypothesis 2	nonsignificant	1.41* 1.81**	.586* .759**	
Hypothesis 3	nonsignificant	1.36* 1.81**	.603* .759**	
Hypothesis 4	nonsignificant			$F(73, 210) = 1.40$ $p = .046$***
RQ 1	no interaction effect	1.28	.505	
RQ 2	significant			t (209) = 3.073 p= .003

*Reports for factor analyses of dependent variable
**Reports for factor analyses of independent variable
***Though results to test for moderating effect were nonsignificant, these reports indicate the ANOVA test for IS and SS