How Do Biological and Psychosocial Perspectives of Mental Illness Affect Stigma?

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by

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ABSTRACT

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The stigma of mental illness may be better understood by examining the factors in the stigmatization process. The effect of a biological or psychosocial perspective of mental illness on perceptions of responsibility, identification, and stigma was examined.

Participants were 18–26 year-old college students; 44 men and 84 women. Participants read either schizophrenia or depression vignettes paired with either a biological or psychosocial perspective, and completed questionnaires consisting of a wide range of stigma-related variables. Perspective failed to influence stigma, but a psychosocial perspective was related to an increase in perceived responsibility; both a decrease in perceived responsibility and an increase in identification was correlated with a decrease in stigma. Targeting responsibility and group identification may prove useful for organizations and professionals interested in reducing the stigma of mental illness.
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by Matthew S. Kendra

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Table 1
Correlations for Schizophrenia and Depression

<table>
<thead>
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</table>

\(p < .05\) ** \(p < .01\) *** \(p < .001\) (two-tailed tests)

\(^a\)For Perspective, -1 = Biological, 1 = Psychosocial
How Do Biological and Psychosocial Perspectives of Mental Illness Affect Stigma?

Stigma encompasses the prejudice and discrimination endorsed by society towards the stigmatized (Goffman, 1963). The general public often believes that individuals with mental illness are (a) unpredictable and need to be isolated from the community, (b) irresponsible and need to have decisions made for them by other people, and (c) need to be cared for like children and given little responsibility in their everyday life (Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear, 1981). In addition, people are often less willing to hire individuals with mental illness or rent them apartments (Bordieri & Drehmer, 1986; Wahl, 1999; Webber & Orcutt, 1984). Furthermore, people are often less likely to pity, less likely to help and support, and more likely to become angry at persons with a mental illness as compared to individuals with a physical illness (Socall & Holtgraves, 1992; Weiner, Perry, & Magnusson, 1988). The public also tends to believe that individuals with mental illness have poor interpersonal skills (Segal, Coolidge, Mincic, & O’Riley, 2005) and the public also generally prefers to maintain social distance from persons with mental illness (Lauber, Nordt, Falcato, & Rossler, 2004). Finally, laypeople, influenced by the media portrayal of persons with mental illness, often believe that persons with a mental illness should not be allowed in the community because they are violent. However, public health research has failed to support this belief: “The public risk of criminal violence by a person with a mental disorder or a substance use disorder is low” (Stuart & Arboleda-Florez, 2001, p. 658).
In order to alleviate the unjust discrimination experienced by those with mental illness, non-governmental organizations such as the World Psychiatric Association, the National Mental Health Association, and the National Stigma Clearinghouse (“Contacts for,” 2003) have attempted to decrease the stigma surrounding mental illness. The obstacles to effective treatment and quality of life faced by persons with mental illness persist despite these efforts to reduce stigma (Corrigan, 2005; Penn & Wykes, 2003).

Mentally ill patients suffer, then, not only from their disorder but also from the ostracism they experience. This stigma is a source of private shame and other negative feelings for the sufferer and may have auxiliary negative effects on the mental health of the stigmatized (Corrigan, 1998). For example, psychiatric outpatients with high levels of internalized stigma (i.e., patients who accepted negative societal stereotypes for their mental illness) experienced more depressive symptoms and lower self-esteem when assessed four months after discharge than those who did not internalize stigma to such an extent (Ritsher & Phelan, 2004).

This dual threat of mental illness and stigma can cause persons with a severe mental illness to experience significant occupational and housing discrimination (Corrigan et al., 2003), may contribute to their significantly higher unemployment rates compared to the general population (Sturm, Gresenz, Pacula, & Wells, 1999), and even partially explains why 25% of these individuals live below the poverty level (Willis, Willis, Male, Henderson, & Manderscheid, 1998). Mental illness alone can decrease an individual’s ability to function in the community. For example, a depressed person may find it difficult to get out of bed and go to work everyday. Stigma makes it even more
difficult for a person with a mental illness to function: An employer may consider a clinically depressed employee to be of low moral character and lacking willpower. Though it is not entirely clear how much of this impairment results from unfair prejudice and discrimination (stigma) or from the actual effects of mental illness, stigmatization has nonetheless had a significant influence on the ability of these persons to contribute to society.

Stigma may also hinder effective treatment of mental illness (U.S. Department of Health and Human Services, 1999). Individuals who possess stigmatizing attitudes toward persons with mental illness are less willing to consider future mental health care for themselves (Cooper, Corrigan, & Watson, 2003). In addition, stigmatizing attitudes held by people at risk for (Leaf, Bruce, Tischler, & Holzer, 1987) and people with (Sirey et al., 2001) a mental illness may decrease both groups’ likelihood of treatment participation. Finally, patients referred to a psychiatrist often decline the referral because of the stigma associated with psychiatric treatment (Ben-Noun, 1996).

**Biological and Psychosocial Perspectives of Mental Illness**

The phenomenon of mental illness can be viewed from many different theoretical perspectives. Among them, the biological perspective characterizes mental disorders by bodily malfunctions (e.g., neurotransmitter dysregulation, abnormal brain structure, and genetics; Alloy, Riskind, & Manos, 2005). On the other hand, the psychosocial perspective characterizes mental disorders by abnormal psychological processes resulting from interactions between the person and the environment (e.g., poor upbringing, trauma, and life stress).
The general public may be more inclined to stigmatize if they believe mental illness is caused by “weak will” or “bad character” (Angermeyer & Matschinger, 2005). Viewing mental illness from a different perspective may improve attitudes towards persons with a mental illness. Thus, anti-stigma campaigns attempt to change these causal perceptions by re-educating the public about the causes of mental illness, informing the public that mental illness can be caused by biological and/or psychosocial factors. It is not entirely clear, however, which of these two perspectives more effectively decreases stigma. Similarly, little is known about the processes inherent in each perspective that contribute to stigma reduction; the processes of perceived responsibility and group identification may play an important role in alleviating stigma through perspective change.

Responsibility

Causal attributions (i.e., whether or not individuals perceive the cause of a person’s negative event to be under that person’s control) may explain the existence of some aspects of stigma (Weiner, 1980). Consider the following scenario: A man carrying a cane, who appears to be ill, is standing on a subway car, begins to stagger, and eventually falls over. A second man falls similarly, except he is holding a bottle of alcohol and appears to be intoxicated. Individuals may believe the cause of the latter person’s situation was more controllable than the former, and thus view the second person as more responsible and to blame for his current negative condition. The research in support of causal attribution theory (Graham, Doubleday, & Guarino, 1984; Schwarzer & Weiner, 1991; Weiner, 1980) found that participants feel greater pity for individuals
with uncontrollable causes for a negative event in comparison to people with controllable causes.

Weiner (1980) has posited that controllability and responsibility are synonymous. Thus, persons experiencing a negative event that is uncontrollable are viewed as less responsible for causing their present condition, whereas persons experiencing a negative event that is controllable are viewed as more responsible for causing their present condition. Perceiving an individual’s negative life event as controllable not only leads to an increase in perceived responsibility, but also leads to less sympathy and more disgust. Consistent with this idea, perceptions of illnesses associated with high perceived responsibility have been shown to elicit more anger, leading to less help-giving behavior. In contrast, perceptions of illnesses associated with low perceived responsibility have been shown to elicit more pity, leading to help-giving behavior (Schmidt & Weiner, 1988).

This relationship between responsibility, attitudes, and behavior was also found when attributions of responsibility for physically-based illnesses (e.g., Alzheimer’s disease, cancer) were compared to mental-behavioral illnesses (e.g., drug addiction, child abuser; Weiner et al., 1988, Experiment 1). Physical stigmas were associated with low perceptions of responsibility compared to mental-behavioral stigmas, and thus elicited more positive attitudes and behavior. As a result of the correlational nature of Experiment 1, Weiner et al. (1988, Experiment 2) manipulated the perceived responsibility for contracting a physical illness (e.g., a person contracted AIDS from a contaminated blood transfusion vs. sexual promiscuity) or a mental-behavioral illness (e.g., an individual...
became addicted to drugs because of previous pain treatment for an injury vs. experimental drug use) in order to examine a potential causal relationship between perceptions of responsibility, attitudes, and behavior. Participants’ perceptions of high responsibility for physically and mentally based illnesses led to negative attitudinal and behavioral responses, whereas perceptions of low responsibility caused positive attitudinal and behavioral responses.

The responsibility framework has also been applied specifically to the stigma of mental illness. If an individual perceives mental illness to be caused by uncontrollable factors (e.g., unlucky genetics, trauma), then that individual will also tend to perceive the person with a mental illness as less responsible for their condition, compared to an individual who perceives mental illness to be caused by controllable factors (e.g., long-term substance abuse causing psychosis; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003; Martin, Pescosolido, & Tuch, 2000). In addition, persons who view an individual with mental illness as more responsible for causing the onset of his or her condition tend to (a) report less helping behavior and greater emotional negativity toward those with a mental illness (Kymalainen & Weisman, 2004), (b) elicit anger and very little pity or helping behaviors toward those with a mental illness (Cooper et al., 2003; Corrigan et al., 2003), and (c) have an increased preference for social distance from a person with a mental illness (Angermeyer, Beck, & Matschinger, 2003).

Responsibility and biological/psychosocial stigma reduction.

It appears that individuals with physical problems that are normally perceived as uncontrollable are generally perceived as less responsible for their condition than
individuals with mental-behavioral problems. In addition, researchers have shown that the general public views physical problems more positively than mental-behavioral problems. These findings suggest that anti-stigma campaigns could reduce the stigma surrounding mental illness by framing mental illness in terms of a medical illness (i.e., using physical disease/biological terminology to characterize mental disorders), which may reduce the public perception of high responsibility. Not surprisingly, describing mental illness with a medical model has long been deemed an effective strategy to decrease the stigma of seeking psychiatric treatment (Bar-Levav, 1976). Indeed, many anti-stigma campaigns already portray mental illness as a medical illness (e.g., disease, biology), rather than a psychosocial disorder (e.g., poor parenting, stress) in an effort to reduce stigma (Corrigan & Watson, 2004). The National Alliance on Mental Illness (2006), for example, defines mental illness from a biological viewpoint: “Mental illnesses are biologically based brain disorders” (para. 5), and dismisses a psychosocial viewpoint: “Mental illnesses are not the result of…poor upbringing” (para. 3).

There is some conflicting evidence, however. Researchers (Luchins, 2004; Walker & Read, 2002) assert that calling mental illness a “brain disease” may not be the most effective way to decrease stigma, as some research suggests that a psychosocial explanation may reduce stigma better than a biological explanation. For example, participants who endorsed biological causes for mental illness tended to express a greater preference for social distance from those with a mental illness (Angermeyer et al., 2003; Dietrich et al., 2004). Furthermore, Mehta and Farina (1997) found that participants displayed harsher behaviors towards a confederate with mental illness described using
disease terminology (i.e., caused by chemical imbalances, treated with psychotropic medication) compared to psychosocial terminology (i.e., caused by a poor childhood environment, treated by talking about thoughts and feelings). Another study suggested that “individuals with a psychosocial perspective,” compared to a biological view, “tend to hold less negative attitudes and are less frightened of interacting with ‘mental patients’” (Read & Law, 1999, pp. 225–226). Specifically, those with a biological perspective of mental illness viewed mental patients as more dangerous and unpredictable than those with a psychosocial perspective.

Thus, the research examining the differential effectiveness of perspective (biological or psychosocial) in reducing the stigma of mental illness is inconclusive. One possible explanation for these disparate findings is that some studies examined different dependent measures of stigma (e.g., pity, anger, and fear vs. dangerousness, social distance, and unpredictability), and thus arrived at different conclusions as to which perspective better reduces stigma. Furthermore, it is unknown whether perceived responsibility for the cause of mental illness plays a mediating role in reducing stigma through these perspectives. In addition to perceived responsibility and differences in dependent measures, another factor inherent within both biological and psychosocial perspectives could also mediate the ambiguous relationship between perspective and stigma.

*Group identification*

Could the perceptions of individuals with mental illness be influenced by whether or not the public can identify with such individuals? Group identification may provide the
first step for the development of prejudice (i.e., stigma, see Corrigan & Penn, 1999). Specifically, the “in” group (people who identify with others having similar characteristics) utilizes signals in order to categorize people into a different, or “out” group (people with whom the in-group members do not identify; Allen & Wilder, 1975; Linville, Fischer, & Salovey, 1989). This simple identification with an in- or out-group could elicit both emotional and behavioral responses. For example, in-group bias (positive feelings and positive treatment for people in the in-group), as well as out-group derogation (negative feelings and negative treatment for people in the out-group) may result from group identification (Brewer, 1979). One motivation for group identification is boosting self-esteem (Tajfel, 1982), which only occurs when those in the in-group perceive their members as superior to the out-group, thus often leading to prejudice and discrimination against the out-group.

The stigma that group identification may create has been applied to mental illness. Link and Phelan (2001) conceptualized “cognitive separation”, the process by which signals create a separation of “us” (in-group) from “them” (out-group), as one of the main causes of mental illness stigma. Logically, if the perceived out-group includes persons with a mental illness, an in-group bias may develop for “normal” individuals who may subsequently stigmatize persons with a mental illness. Furthermore, this group identification may elicit emotional responses (e.g., fear, anger) that could lead to the derogation of the mentally ill out-group (Link, Yang, Phelan, & Collins, 2004). However, few (if any) experiments have been conducted explicitly connecting group identification to mental illness stigma.
Group identification and biological/psychosocial stigma reduction.

The process of group identification may have implications for the stigma of mental illness. Individuals may marginalize persons with a mental illness when the healthy majority fails to identify with these people. If the general public (in-group) could identify on some level with persons with a mental illness (out-group), then perhaps the former may feel some empathy for the latter, reducing stigma. However, previous experimental research has not thoroughly examined the role of group identification in the stigmatization of mental illness.

Furthermore, the effect of perspective (biological or psychosocial) on stigma through the process of group identification remains unclear. For instance, individuals could identify more with a biological perspective of mental illness because that perspective is more salient (e.g., television commercials citing biochemical imbalances as causal factors in mental illness). In addition, a biological perspective could enhance the idea that we are all made of the same biological entities (genes, etc.) and thus a mental disorder could happen to any of us.

On the other hand, when people conceptualize a “biological” mental illness, they may believe that these “diseased” persons have dissimilar/abnormal genes, neurotransmitters, and brain chemistry. Researchers suggest that these biological differences may “induce us to view those with mental disorders as set apart from the rest of humanity” (Mehta & Farina, 1997, p. 416). Perspectives of individuals with mental illness “…that create or exaggerate differences between that group and the rest of us seem unlikely to increase contact, the first step in breaking the vicious cycle” of stigma.
(Walker & Read, 2002, p. 322). Though it may be difficult for a healthy person to identify with a mentally ill individual, it may be easier for the layperson to identify with an individual whose mental illness was caused by chronic psychological and social stressors (including poor upbringing, life stress, poverty, etc.), as opposed to attempting to identify with a “brain diseased” and biologically distinct person. A layperson may cognitively separate this biologically distinct individual into an out-group and stigmatize them. Thus, a psychosocial perspective may reduce stigma through group identification better than a biological perspective.

The amount of stigma will likely depend on whether or not an individual perceives a person with mental illness to be a part of the in-group. However, it is not entirely clear which perspective will elicit greater levels of group identification and thus reduce stigma more effectively.

Summary

The stigma surrounding mental illness may be partly influenced by the processes of perceived responsibility and group identification attributed to persons with a mental illness. Furthermore, perceptions of responsibility and group identification may be influenced by the perspectives of mental illness: biological (i.e., arising from physical factors such as neurotransmitters, genetics, or abnormalities in brain structure), or psychosocial (i.e., arising from psychological and social factors such as life stress, unstable home environment, or poor upbringing). Thus, the public perception of mental illness causation (biological or psychosocial), through the processes of perceived
responsibility and group identification may account for much of the stigma experienced by persons with a mental illness.

Current Study

The purpose of this study was to better understand how, exactly, a biological or psychosocial perspective may influence stigma (namely, through the processes of perceived responsibility and group identification). Increased knowledge in this domain would thereby provide anti-stigma campaigns with an evidence-based approach to combating stigma and improve the lives of many individuals with a mental illness who struggle to cope with unjust prejudice and discrimination.

The current study attempted to answer two questions. First, does either a biological or psychosocial perspective predict an increase or decrease in stigma? As discussed previously, although research (for a review, see Read, Haslam, Sayce, & Davies, 2006) has investigated the effect of a biological or psychosocial perspective on mental illness stigma, there is little consensus on which perspective effectively reduces stigma. Furthermore, these unclear findings may be explained by the disparate use of dependent measures of stigma. For example, some researchers may use different stigma-related measures than others and thus come to different conclusions. Thus, the current study seeks to reconcile previous findings by incorporating a broad range of stigma-related dependent variables.

Second, do the processes of group identification and responsibility inherent in a biological or psychosocial perspective mediate the effect of perspective on stigma? Though there has been some research examining responsibility and the
biological/psychosocial perspectives, little experimental research has been conducted on group identification and perspective.

To examine whether the severity of mental illness influences perceptions of responsibility and group identification in different ways, two different mental illnesses were used: schizophrenia and depression. For example, participants may view an individual with schizophrenia as equally not responsible in both the biological and psychosocial conditions because such a disorder is so severe. However, either a biological or psychosocial perspective may predict a difference in perceived responsibility for a much less severe disorder like depression. Furthermore, a more severe disorder like schizophrenia may not predict a difference in identification regardless of perspective. With a less severe and more common disorder like depression, either a psychosocial or biological perspective may predict a difference in identification.

Hypotheses

Hypothesis 1. The effect of perspective (biological or psychosocial) on stigma will be mediated by levels of perceived responsibility and group identification. Specifically, lower levels of perceived responsibility and higher levels of group identification will lead to a decrease in stigma for both perspectives.

It is hypothesized that group identification and perceived responsibility will together account for much of the variance between perspective (biological or psychosocial) and stigma. Specifically, when individuals identify with someone (i.e., they perceive that person to be in their in-group) there is less prejudice and discrimination (stigma) towards that in-group member, though this has not been explicitly connected to
mental illness. Furthermore, perceiving an individual with mental illness as responsible or to blame for his or her condition has been associated with greater levels of stigma (Corrigan et al., 2003; Martin et al., 2000).

**Hypothesis 2.** There will be no relationship between perceived responsibility and a biological or psychosocial perspective.

Weiner et al. (1988) suggested that perceiving mental illness as a physical/biological condition may reduce stigma by decreasing the perceived responsibility for acquiring a physical illness (as opposed to a mental-behavioral illness). However, a person who experienced an unstable childhood environment, a poor relationship with parents, and significant life stress would not likely be held more responsible for the disorder than an individual with abnormal brain structures, genetics, and neurotransmitters. Similar to the biological factors, these psychosocial factors seem uncontrollable, and thus it is hypothesized that the public would not perceive either person as responsible and worthy of blame for acquiring his/her mental illness.

**Hypothesis 3.** A psychosocial perspective of mental illness will elicit greater levels of group identification compared to a biological perspective.

Previous research has not adequately analyzed the effect of a biological or psychosocial perspective on group identification; thus, it is difficult to hypothesize which perspective is more effective at increasing group identification. However, it is hypothesized that a layperson may more easily identify with an individual exhibiting psychosocial stress compared to a “diseased” and biologically distinct individual. Consequently, the decrease in the level of group identification will elicit greater levels of
stigma for a person described with biological (as opposed to psychosocial) terminology. Other researchers support this notion (e.g., see Mehta & Farina, 1997; Walker & Read, 2002), though this hypothesis has not yet been supported experimentally.

_Hypothesis 4._ A psychosocial perspective will elicit less stigma than a biological perspective.

The research is inconclusive as to which perspective more effectively reduces stigma (Corrigan & Watson, 2004), and the answer to this empirical question will likely depend on the previous hypotheses. If these hypotheses are confirmed, and the null effect of perspective on responsibility (i.e., no difference in perceived responsibility due to perspective) is combined with the hypothesized positive effect of a psychosocial perspective on group identification, it is reasoned that a psychosocial perspective will elicit lower levels of stigma than a biological perspective.

**Method**

**Participants**

128 participants were used from the subject pool of introductory psychology students. Subjects consisted of 44 men and 84 women, ages 18–26, and all received partial credit toward a research course requirement for their participation.

**Design and Procedure**

Participants were told that the purpose of this study was to examine attitudes towards other people and that they would be reading a scenario and answering questions based on that scenario. Participants gave informed consent (Appendix A) and completed a demographics questionnaire (Appendix B). Participants then read one of two vignettes
(Appendix C): the story of a college student with (a) schizophrenia, or (b) depression (both vignettes were adapted from Angermeyer, Matschinger, & Corrigan, 2004). Next, participants read either (a) a biological description, which portrayed the mental illness in terms of biological contributing factors, or (b) a psychosocial description, which portrayed the mental illness in terms of psychological/social factors (Appendix D). Thus, the between-subjects design included perspective (biological, psychosocial) crossed with mental illness type (schizophrenia, depression), resulting in four different vignettes.

The biological and psychosocial manipulations were described using diatheses for both schizophrenia and depression that have received some research support. The biological description utilized biological contributing factors for both disorders, including (a) a genetic predisposition (schizophrenia: Kety, 1976; depression: Drevets, 2001), (b) abnormal brain structure (schizophrenia: Hulshoff et al., 2001; depression: Drevets, 2001), and (c) irregular neurotransmitter levels in the brain (schizophrenia: Thompson, 1990; depression: Drevets, 2001). The psychosocial description utilized psychological and social contributing factors for both disorders, including (a) an unstable home life as a child (schizophrenia: Olin & Mednick, 1996; depression: Alloy, Abramson, Smith, Gibb, & Neeren, 2006), (b) a poor relationship with parents (schizophrenia: Olin & Mednick, 1996; depression: Alloy et al., 2006), and (c) life stress (schizophrenia: Day et al., 1987; depression: Wilhelm et al., 2006).

Participants then completed a packet of questionnaires (Appendix E) including pity, anger, fear, helping, and perceived responsibility (adapted from the “Attribution Questionnaire” in Corrigan et al., 2003); dangerousness and unpredictability (in Walker
& Read, 2002); likability (adapted from “The Reysen Likability Scale,” in Reysen, 2005), social distance (adapted from the social distance scale in Lauber, Anthony, Ajdacic-Gross, & Rossler, 2004), and group identification. A question examining the perceived severity of illness was included. Questions were also included to test behavioral intentions by measuring monetary preference for illness (i.e., whether or not the participant preferred to support medical illness [cancer] or mental illness [schizophrenia or depression]). Two questions also served as manipulation checks designed to assess participants’ reading and understanding of the vignette, asking (a) what type of disorder was diagnosed in the vignette, and (b) what type of contributing factor was present (biological or psychosocial).

Ten participants were excluded from the study for incorrect responses on either manipulation check, with the idea that their responses to the items were based on faulty or inadequate memory of the vignettes themselves. The total number of participants included in the final analysis was 118, with 56 “biological” subjects, and 62 “psychosocial” subjects. Also, 62 were in the schizophrenia condition (30 “biological”, 32 “psychosocial”), and 56 were in the depression condition (26 “biological”, 30 “psychosocial”).

Results

A reliability analysis was conducted to ensure inter-item reliability. Due to low inter-item correlations, one “responsibility” question ($\alpha = .36, .27, \text{ and } .33$: “How controllable is the cause of Jim’s disorder?”) and one “helping” question ($\alpha = .31, .20, \text{ and } .13$: “How certain are you that you would help Jim?”) were eliminated from each of
the respective scales. Reliability analyses revealed high inter-item reliability for the following scales, including “responsibility” (α = .93), “pity” (α = .80), “anger” (α = .76), “fear” (α = .94), “helping” (α = .73), “social distance” (α = .90), and “likability” (α = .80). Finally, the new scale of “identification” had an inter-item reliability of α = .86.

Pearson product-moment correlations were conducted in order to test the hypothesized relationships among perspective (biological or psychosocial), responsibility, group identification, and stigma. Correlations for both the schizophrenia and depression conditions are presented in Table 1.

Hypothesis 1 was not supported. Stigma was not significantly related to perspective (-1 = biological, 1 = psychosocial) for either the schizophrenia condition (r = .13, ns, the power to detect this effect at α = .05 was equal to .16) or the depression condition (r = .15, ns, the power to detect this effect at α = .05 was equal to .20). The assumptions needed for a mediation analysis were not met, and neither responsibility or group identification were found to be mediators of the hypothesized relationship between perspective and stigma. Thus, the results also failed to support Hypothesis 4: A difference in perspective was not related to a difference in any of the stigma-related variables for either disorder (see Table 1).

Hypothesis 2 predicted “no relationship” between perspective and perceived responsibility. However, compared to a biological perspective, a psychosocial perspective was significantly related to an increase in perceived responsibility for the schizophrenia condition (r = .26, p < .05). A non-significant trend was also found between a
psychosocial perspective and an increase in perceived responsibility for the depression condition ($r = .24, p = .07$, the power to detect this effect at $\alpha = .05$ was equal to .43).

Hypothesis 3 was not supported. No relationship between a psychosocial perspective and group identification was found for either the schizophrenia condition ($r = .01$, $ns$, the power to detect this effect at $\alpha = .05$ was equal to .05) or the depression condition ($r = -.16, ns$, the power to detect this effect at $\alpha = .05$ was equal to .21).

**Responsibility**

*Schizophrenia.* Post-hoc correlations examined the relationship between perceived responsibility and stigma in the schizophrenia condition. The belief that Jim was more responsible for his schizophrenia was positively correlated with fearing Jim ($r = .22, p = .08$, approaching significance), perceived dangerousness ($r = .25, p < .05$), preference for social distance ($r = .29, p = .02$), anger towards Jim ($r = .35, p = .005$), and stigma ($r = .47, p < .001$).

*Depression.* Post-hoc correlations examined the relationships between perceived responsibility and stigma in the depression condition. The belief that Jim was more responsible for his depression was correlated with feeling more anger towards Jim ($r = .26, p < .06$, approaching significance), a decrease in the amount of money given for depression treatment ($r = -.33, p = .01$), and greater stigma ($r = .31, p = .02$).

**Identification**

*Schizophrenia.* Post-hoc correlations were also conducted to examine the relationship between group identification and stigma in the schizophrenia condition. Identification with Jim’s schizophrenia was significantly related to a greater interest in
helping Jim \( (r = .29, p = .02) \), a preference for less social distance from Jim \( (r = -.37, p = .003) \), finding Jim more likable \( (r = .25, p < .05) \), and less stigma \( (r = -.39, p = .002) \).

**Depression.** Post-hoc correlations examined the relationships between group identification and stigma in the depression condition. Identification with Jim’s depression was significantly related to an increase in the amount of money given for depression treatment \( (r = .32, p = .02) \) and depression research \( (r = .28, p = .04) \), a greater interest in helping Jim \( (r = .55, p < .001) \), finding Jim more likable \( (r = .31, p = .02) \), a preference for less social distance from Jim \( (r = .59, p < .001) \), less perceived dangerousness \( (r = -.32, p = .02) \), and less stigma \( (r = -.64, p < .001) \).

**Severity**

Participants viewed schizophrenia as more severe than depression, \( t(116) = 2.85, p < .01 \), and also stigmatized schizophrenia more than depression \( t(116) = 3.35, p = .001 \). In the schizophrenia condition, an increase in the perceived severity of Jim’s schizophrenia was positively correlated with the amount of pity felt for Jim \( (r = .31, p = .02) \).

In the depression condition, an increase in the amount of perceived severity was significantly related to a biological perspective \( (r = -.35, p = .009) \). In addition, participants who believed Jim’s depression was more severe were more likely to believe that Jim was less responsible for his depression \( (r = -.38, p = .004) \), feel more pity for Jim \( (r = .54, p < .001) \), and were also more likely to give more money for depression treatment \( (r = .35, p = .009) \).
Discussion

The present findings failed to support the hypothesis that a biological or psychosocial perspective predicted stigma for either schizophrenia or depression. Thus, Hypothesis 1 was not supported, and the effect of perspective on stigma was not mediated by responsibility and group identification. In addition, the results also failed to support Hypothesis 3, that participants would be more likely to identify with a psychosocial perspective compared to a biological perspective. Finally, the findings failed to support Hypothesis 4, that a psychosocial perspective would elicit less overall stigma than a biological perspective. There was no difference between the two perspectives for either the schizophrenia condition or the depression condition. The power to detect such effects was relatively low for all of these three hypotheses, however.

In contrast to the original hypothesis, Hypothesis 2 did reveal a significant relationship between perceived responsibility and perspective: A psychosocial perspective predicted more perceived responsibility than a biological perspective in both the schizophrenia and depression conditions. Interpreted according to causal attribution theory (Weiner, 1980), both perspectives may not have been viewed as having equally uncontrollable causes as originally hypothesized. A psychosocial perspective of mental illness may have been viewed as more controllable and thus a person with a psychosocial mental illness was viewed as more responsible than a person with a biological mental illness, although the amount of controllability was not explicitly measured.

This finding could be interpreted differently, however. Increased responsibility for a psychosocial perspective may not be solely due to a controllability difference, but
could also result in part from a difference in perceived severity, at least in the depression condition. Participants in the biological condition tended to find Jim’s depression more severe than the psychosocial condition, and finding Jim’s depression more severe led to viewing Jim as less responsible for his condition, an increase in pity, and an increase in the amount of money given for depression treatment. Thus, the positive effect of the biological perspective predicting a decrease in responsibility on stigma may be related to both the greater controllability associated with a psychosocial perspective and/or the greater severity associated with the biological perspective.

Further analyses were conducted in an effort to elucidate the relationship between perceived responsibility, group identification and stigma. The results of these analyses strongly suggest that perceived responsibility and group identification play a role in stigma. For responsibility, the belief that Jim was more responsible for schizophrenia predicted greater stigma on four (out of ten total) different stigma variables (three significant, one approaching significance), and also predicted greater overall stigma. Moreover, believing Jim was more responsible for depression predicted greater stigma on two different stigma variables (one significant, one approaching significance), and also predicted greater overall stigma. For identification, participants who could identify with Jim’s schizophrenia reported less stigma on three different measures (all three significant) and also tended to report less overall stigma. Finally, participants who could identify with Jim’s depression reported less stigma on six different variables (all six significant), and also less stigma overall. The present findings, though correlational in nature, support the idea that encouraging the public to believe that individuals with a
mental illness are less responsible for acquiring their illness will lead to a decrease in stigma. These results also support the idea that encouraging individuals to identify more with a person with a mental illness will result in a decrease in stigma towards such individuals.

In light of such findings, the hypotheses concerning the relationship between perspective, responsibility, group identification, and stigma may need some revision. Although there was no mediation (i.e., group identification and responsibility were not mediators of the hypothesized relationship between perspective and stigma), group identification and responsibility do seem to play a significant role in stigma reduction based on correlation analyses. Thus, hypotheses focusing on the relationships among perspective, responsibility, group identification and stigma could have been more useful than mediation hypotheses.

Because these data reflect a wide variety of stigma-related variables, inferences regarding the differential effectiveness of responsibility and group identification can be made between illnesses. For example, group identification seems to be a more influential variable for a less severe illness such as depression: Seven different stigma-related variables (including overall stigma) tended to decrease when identification increased, compared to only four for schizophrenia. However, perceived responsibility may have a more profound effect when viewing a more severe disorder like schizophrenia: Five different stigma-variables decreased when participants viewed Jim as less responsible for schizophrenia, compared to only three for depression.
Previous research (Angermeyer et al., 2003; Dietrich et al., 2004; Lam, Salkovskis, & Warwick, 2005; Mehta & Farina, 1997; Read & Law, 1999) and a recent review article (Read et al., 2006) suggest that a psychosocial perspective elicits less stigma than a biological perspective on at least some stigma-related variables, but the present study failed to find such an effect. One possible explanation for these inconsistencies is that college students may find it more difficult than the general public to identify with a psychosocial description of mental illness caused by an unstable home life, poor relationship with parents, and life stress. This specific population of 18–26 year old college students may not reflect the experiences of the general public, comprised of a larger age range and perhaps a more diverse socio-economic status. These differences could make the general public more likely to have experience with psychosocial factors of mental illness. Thus, group identification may not appear to be related to a psychosocial perspective in this study, because participants may not have been able to identify with psychosocial factors as much as the general public. Another explanation for these disparate findings may be the use of different variables to assess stigma, compared to previous studies. For example, one study may use dangerousness and unpredictability (Walker & Read, 2002) to assess stigma, whereas another may use pity and anger (Weiner et al., 1988), arriving at different conclusions. One of the goals of the current study, however, was to examine stigma through a large number of different stigma-related variables.

Contrary to the suggestions of Mehta and Farina (1997) and Walker and Read (2002), a psychosocial perspective did not result in an increase of identification compared
to a biological perspective. Although identifying more with Jim’s schizophrenia or depression decreased stigma, identification was not influenced by perspective, thus these results do not suggest that the difference in perspective influences the amount that the public can identify with such individuals. Caution is warranted, however, when interpreting null findings, especially because there was relatively low power to detect an effect between perspective and identification.

Future research may seek to test a more comprehensive model of educating the public about mental illness. Rather than presenting to the public each perspective alone (biological or psychosocial), future research could analyze the effect of presenting both perspectives of mental illness (biological and psychosocial). This also would provide a more inclusive and perhaps more widely accepted bio-psycho-social model of mental illness. In addition, the “weak willed” and “low moral character” perspective of mental illness causation could be compared to the biological and psychosocial perspectives. Future research may also analyze the effect of other mental illnesses (e.g., anxiety disorders) on responsibility, group identification, and stigma.

One key factor in future research should be to determine how to manipulate perceived responsibility and identification to decrease stigma. It seems that responsibility can be influenced by the perspective in which we view mental illness: A biological perspective seems to reduce responsibility/blame for mental illness, which may then reduce stigma. Perspective difference alone, however, seems to have no overall effect on stigma, so presenting to the public this idea that mental illness is a solely biological
phenomenon, i.e., “a disease like any other”, by itself may have no greater stigma reduction capability than presenting a mental illness as a psychosocial phenomenon. Group identification may be more difficult to influence, as it was not correlated with a biological or psychosocial perspective and may instead be a stable personality trait. Nonetheless, finding a way to increase identification with individuals with mental illness may be an important asset to combat the stigma such individuals experience. Previous research suggests that contact with individuals with a mental illness may reduce stigma (Couture & Penn, 2006; Reinke, Corrigan, Leonhard, Lundin, & Kubiak, 2004) and thus future research may examine if such contact would also produce an increase in group identification with such individuals.

Admittedly, these results reflect attitudes of college students and thus may not generalize to the general population. In addition, these analyses are correlational in nature, and thus it is difficult to conclude, for example, that an increase in responsibility causes an increase in stigma (though researchers have shown such an effect for both physical illness [Weiner et al., 1988] and mental illness [Corrigan et al., 2003]). Such correlations do, however, effectively illustrate the interrelatedness of perspective, responsibility, group identification, and stigma. Finally, the extent to which such stigmatizing attitudes translate into actual behaviors is unclear; however, a series of questions were included in an effort to examine behavioral intention by having participants allocate money for schizophrenia or depression treatment and research, compared to cancer.
The present findings offer directions for future research on the stigma of mental illness and also provide an empirical basis for organizations and professionals in their effort to decrease stigma. Understanding the role of complex variables in the stigmatization process (e.g., responsibility and group identification) can provide guidance for what, specifically, should be targeted in order to reduce stigma. These results also suggest that anti-stigma organizations and professionals may target specific variables for specific disorders, e.g., using strategies to increase the level of identification with a disorder like depression, and using techniques to decrease perceptions of responsibility and blame for individuals with more severe mental illnesses like schizophrenia. Discovering methods of influencing group identification and perceived responsibility will be one of the many goals of future research in the effort to alleviate the unjust stigma and discrimination experienced by individuals with a mental illness.
References


Appendix A: Participant Consent Form

Participant Consent Form

The purpose of this study is to examine attitudes towards other people. The primary goal of this study is to improve our understanding of people’s attitudes towards each other.

You must be 18 or older to participate in this study. If you choose to participate, you will be asked to read a scenario and answer questions based on that scenario. Performing this study should not be harmful to you in any way. Your participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits. Additionally, you are free to discontinue your participation at any time without penalty or loss of benefits. You are also free to decline to answer any questions asked of you in this study.

Your participation in this study does not guarantee any beneficial results. The entire study will require a ½ hour session, in which you will receive 1 hour of experimental credit for your participation. You should be aware that there are alternative ways (described in your class syllabus) to earn extra credit that do not require research participation.

The results of this study will be treated with strict confidence. Reports of the research findings will not cite specific responses or findings that might lead to the identification of any individual participants.

After completion of this experiment, you will be completely debriefed as to the purpose and procedures involved in this study. Do you have any questions?

Thank you for your time. If you have any questions about the purpose or procedures involved in this study, please contact the principal investigator, Matthew S. Kendra, by e-mail: kendrams@muohio.edu, or the faculty advisor, Timothy G. Dowd, by e-mail: dowdtg@muohio.edu, by phone: (513) 529-6126, or by regular mail: 222 Psychology Building, Department of Psychology, Miami University, Oxford, OH 45056. If you have questions or concerns regarding your rights as a study participant, you may contact the Office for the Advancement of Research and Scholarship at (513) 529-3734 or HumanSubjects@MUOhio.edu.

Your signature below indicates your voluntary agreement to participate in this study.

__________________________________________
Participant’s Name

__________________________________________   ___________________
Participant’s Signature    Date

__________________________________________   ___________________
Experimenter’s Signature    Date
Appendix B: Demographics Questionnaire

Sub# __________

Participant Demographic Information

1. What is your gender? (circle one)  MALE  FEMALE

2. What is your age? _______

3. What is your racial/ethnic background (circle one)?
      d. Asian/Asian-American  e. Other/more than one (please specify)__________

4. What year are you at Miami? (circle one)
   a. Freshman  b. Sophomore  c. Junior
      d. Senior  e. 5th year or beyond
Appendix C: Schizophrenia and Depression Vignettes

DIRECTIONS: Please take your time and read through the following scenario.

Vignette: Schizophrenia

Jim, a 19 year-old single man, graduated high school last year. While in high school, he earned good grades and participated in some extracurricular activities. Following graduation, Jim entered college and was looking forward to his next four years of college life.

In his first year of college, however, Jim began having some problems and distanced himself from his friends and family. If someone managed to involve him in a conversation, he would address only one single topic: the question as to whether some people had the natural gift of reading other people’s thoughts. This question became his sole concern. In contrast with his previous habits, he stopped taking care of his appearance and looked increasingly untidy. At college, he seemed absent-minded and frequently made mistakes.

Jim stayed away from school for an entire week without an excuse. When he returned, he said that he is now absolutely certain that people can not only read other people’s thoughts, but that they also can directly influence other people’s thoughts. He was unsure, however, who was steering his thoughts. Whenever he tried to think about things, he was continually interrupted by voices. Frequently, he would hear people talk to him who weren’t there, and they would give him instructions. Sometimes they would also talk to each other and make fun of whatever he was doing at the time.
**DIRECTIONS:** Please take your time and read through the following scenario.

**Vignette: Depression**

Jim, a 19 year-old single man, graduated high school last year. While in high school, he earned good grades and participated in some extracurricular activities. Following graduation, Jim entered college and was looking forward to his next four years of college life.

In his first year of college, however, Jim began having some problems and distanced himself from his friends and family. Unlike his previous behavior, he was feeling down and sad without being able to make out a concrete reason for his feeling low. He appeared serious and worried, and it seemed like nothing could be done to make Jim laugh. He hardly ever talked, and if he said something, he spoke in a low tone of voice about the worries he had regarding his future.

Jim felt useless and felt like he was doing everything wrong. All attempts to cheer him up failed. He lost all interest in things and was not motivated to do anything. He complained of waking up in the middle of the night and not being able to get back to sleep. Early in the morning, he often felt exhausted and without energy. In addition, Jim said that he had difficulty concentrating on his school work and could hardly manage his workload.
Appendix D: Biological and Psychosocial Perspective Vignettes

Biological Perspective
Jim had to take a break from college and was soon diagnosed with schizophrenia/depression. Before the onset of schizophrenia/depression, Jim had some biological factors that contributed to the development of the disorder. Specifically, he was born with a genetic predisposition for schizophrenia/depression, and he had some abnormalities in the structure of his brain. Jim also had irregular neurotransmitter levels in his brain. He will have to postpone his college plans and undergo treatment for schizophrenia/depression.

Psychosocial Perspective
Jim had to take a break from college and was soon diagnosed with schizophrenia/depression. Before the onset of the disorder, Jim had some psychological/social factors that contributed to the development of schizophrenia/depression. Specifically, as a kid his home life was unstable, and he had a less than satisfactory relationship with his parents. Jim was also going through a very stressful time in his life. He will have to postpone his college plans and undergo treatment for schizophrenia/depression.
Appendix E: Packet of Questionnaires

DIRECTIONS: Please read all of the following questions/statements carefully. Take your time and circle your answers to all of the following questions/statements to the extent that it most accurately reflects your perceptions of Jim.

1. I would share a car pool with Jim. (1 = not likely; 7 = very likely)
   
   1  2  3  4  5  6  7
   
   not likely  very likely

2. How controllable is the cause of Jim’s disorder? (1 = not at all; 7 = very much)
   
   1  2  3  4  5  6  7
   
   not at all  very much

3. I can identify with Jim. (1 = not at all; 7 = very much)
   
   1  2  3  4  5  6  7
   
   not at all  very much

4. I would feel pity for Jim. (1 = not at all; 7 = very much)
   
   1  2  3  4  5  6  7
   
   not at all  very much

5. How angry would you feel at Jim? (1 = not at all; 7 = very much)
   
   1  2  3  4  5  6  7
   
   not at all  very much
6. How much is Jim to blame for acquiring this disorder? (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all very much

7. How scared of Jim would you feel? (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all very much

8. How dangerous would you feel Jim is? (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all very much

9. How certain are you that you would help Jim? (1 = not at all certain; 7 = absolutely certain)

1 2 3 4 5 6 7

not at all absolutely

10. How much sympathy would you feel for Jim? (1 = none at all; 7 = very much)

1 2 3 4 5 6 7

none at all very much
11. How responsible is Jim for acquiring this disorder? (1 = not at all; 7 = very much)

1  2  3  4  5  6  7

not at all    very much

12. I think that it is Jim’s own fault he acquired this disorder. (1 = not at all; 7 = very much)

1  2  3  4  5  6  7

not at all    very much

13. I could see myself being in the same social group as Jim. (1 = not at all; 7 = very much)

1  2  3  4  5  6  7

not at all    very much

14. How irritated would you feel by Jim? (1 = not at all; 7 = very much)

1  2  3  4  5  6  7

not at all    very much

15. If I were a landlord, I would probably rent Jim an apartment. (1 = not likely; 7 = very likely)

1  2  3  4  5  6  7

not likely    very likely
16. If I were an employer, I would interview Jim for a job. (1 = not likely; 7 = very likely)

1 2 3 4 5 6 7
not likely very likely

17. I have a number of qualities Jim would likely have. (1 = not at all; 7 = very much)

1 2 3 4 5 6 7
not at all very much

18. I would feel aggravated by Jim. (1 = not at all; 7 = very much)

1 2 3 4 5 6 7
not at all very much

19. How frightened of Jim would you feel? (1 = not at all; 7 = very much)

1 2 3 4 5 6 7
not at all very much

20. How much concern would you feel for Jim? (1 = none at all; 7 = very much)

1 2 3 4 5 6 7
none at all very much
21. I think that Jim is similar to me. (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all  very much

22. I would feel threatened by Jim. (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all  very much
DIRECTIONS: For questions 23 and 24, please rate Jim on the two dimensions below by placing an “X” in one of the spaces.

23. SAFE   I ___ I ___ I ___ I ___ I ___ I ___ I ___ I     DANGEROUS

24. UNPREDICTABLE   I ___ I ___ I ___ I ___ I ___ I ___ I ___ I     PREDICTABLE
DIRECTIONS: Please evaluate the following statements about Jim using this scale: 
1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Disagree, 4 = Neutral, 5 = Agree, 6 = Strongly Agree, 7 = Very Strongly Agree.

25. Jim would be friendly.

1 2 3 4 5 6 7

26. Jim would be likeable.

1 2 3 4 5 6 7

27. Jim would be approachable.

1 2 3 4 5 6 7

28. I would ask Jim for advice.

1 2 3 4 5 6 7

29. I would like Jim as a roommate.

1 2 3 4 5 6 7
DIRECTIONS: On a scale from: 1 = definitely unwilling to 7 = definitely willing, how likely would you be to...

30. Move next door to Jim?

   1  2  3  4  5  6  7
   definitely unwilling  definitely willing

31. Spend an evening socializing with Jim?

   1  2  3  4  5  6  7
   definitely unwilling  definitely willing

32. Make friends with Jim?

   1  2  3  4  5  6  7
   definitely unwilling  definitely willing

33. Start working closely with Jim?

   1  2  3  4  5  6  7
   definitely unwilling  definitely willing

34. Have Jim marry into your family?

   1  2  3  4  5  6  7
   definitely unwilling  definitely willing
DIRECTIONS: Read each prompt and answer the following questions accurately and honestly. Your responses will remain completely anonymous.

35. Imagine you work for the government, and it is your job to set aside a certain amount of money to provide funding for treatment. You have $1000 to divide up between mental healthcare for a person with schizophrenia AND medical healthcare for a person with cancer. How would you divide this money?

$$$ for Cancer treatment?

$____________________

$$$ for Schizophrenia treatment?

$____________________

36. It is now your job to set aside a certain amount of money to provide funding for research. You have $1000 to divide up between mental health research grant money for schizophrenia AND medical health research grant money for cancer. How would you divide this money?

$$$ for Cancer research?

$____________________

$$$ for Schizophrenia research?

$____________________
DIRECTIONS: Read each prompt and answer the following questions accurately and honestly. Your responses will remain completely anonymous.

35. Imagine you work for the government, and it is your job to set aside a certain amount of money to provide funding for *treatment*. You have $1000 to divide up between mental healthcare for a person with depression AND medical healthcare for a person with cancer. How would you divide this money?

$$ for Cancer treatment?

$$ for Depression treatment?

36. It is now your job to set aside a certain amount of money to provide funding for *research*. You have $1000 to divide up between mental health research grant money for depression AND medical health research grant money for cancer. How would you divide this money?

$$ for Cancer research?

$$ for Depression research?
DIRECTIONS: Please take your time and carefully answer all of the following questions/statements as accurately as possible.

37. What disorder is Jim diagnosed with?

38. From your reading of the previous scenario about Jim, what factor contributed to the development of Jim’s disorder?

39. How severe do you consider Jim’s disorder? (1 = not at all; 7 = very much)

1 2 3 4 5 6 7

not at all very much
Participant Debriefing Sheet

You have just participated in a study designed to understand how individuals perceive those with a mental illness. The conditions that you were exposed to in this experiment were designed to indicate people’s attitudes towards mental illness.

Specifically, we are looking at methods that people could use to view those with a mental illness. The understanding of such methods is fundamentally important for application to many real world problems. For example, an understanding of these factors may help mental health professionals and anti-stigma campaigns reduce the stigma, or negative emotions, towards people with a mental illness. These issues are better understood as a result of studies such as this.

The information gained from this study will help us learn about why some people, but not others, think negatively of a person with a mental illness. Because it is important for participants in our study to believe the information presented to them, we ask for your cooperation in not divulging to others who might participate in this experiment (e.g., roommates, classmates) that this study was about specific attitudes towards mental illness, not just attitudes towards other people. If they do ask about the experiment, you can just mention that we were interested in examining people’s attitudes. Again, we appreciate your cooperation in helping to make our research possible.

Only the investigators directly involved in this research project will examine your responses. Additionally, reports of the research findings from this study will not cite specific responses that could lead to the identification of your individual participation.

Thank you for your time and participation. If you have any questions about the purpose or procedures involved in this study, please contact the principal investigator, Matthew S. Kendra, by e-mail: kendrams@muohio.edu, or the faculty advisor, Timothy G. Dowd, by e-mail: dowdtg@muohio.edu, by phone: (513) 529-6126, or by regular mail: 222 Psychology Building, Department of Psychology, Miami University, Oxford, OH 45056. If you have questions or concerns regarding your rights as a study participant, you may contact the Office for the Advancement of Research and Scholarship, (513) 529-3734, HumanSubjects@MUOhio.edu.

Furthermore, if you suspect that you are in need of counseling or other emotional support services, Miami University offers a free Student Counseling Service (free up to 5 sessions per year). For more information, please contact the Student Counseling Service at 529-4634 or visit the website: www.units.muohio.edu/saf/scs/counselingservices.htm. You can also visit the Psychology Clinic in Psychology Building Room 39, (513) 529-2423, where you can receive psychological and emotional support services.

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