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The Stigma of Mental Illness, Ambivalent Attitudes, and Motivation to Learn

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Abstract

Prior research has demonstrated that much of the stigma of mental illness falls under the category of ambivalence. In other words, individuals hold both positive and negative impressions of mentally ill individuals and their attitudes tend to not be restricted to one side. On the positive end, they may feel sympathetic toward these individuals, as they understand they are not responsible for their illnesses. On the negative side, they may also believe these individuals are more unpredictable and dangerous than their mentally healthy counterparts. These ambivalent attitudes subsequently result in a feeling of uneasiness, as people feel more comfortable when their opinions and beliefs are set and unwavering. This discomfort may act as a motivating factor to reduce these conflicting attitudes. This study employed a questionnaire to examine mental illness stigma among three disorders (depression, bipolar disorder, and schizophrenia), the extent to which participants exhibited ambivalent attitudes, as well as how motivated participants were to learn more about these disorders. Participants, undergraduate students, first completed a 12-item ambivalence measure in which they indicated the extent to which they felt positively and negatively towards the mentally ill. Next, felt ambivalence was measured through participants reporting how conflicted and confused they felt after thinking about a particular mental illness. Finally, respondents completed a final measure indicating how motivated they were to research the illnesses further. Results revealed differences in stigma among the three disorders as well as the existence of ambivalent attitudes and conflicting emotions regarding these illnesses. Gender differences were also evident as well as differences in stigmatizing beliefs among those who do and do not have personal experience with psychological disorders. Results indicated the connection between ambivalent beliefs and subsequent discomfort; however, ambivalence and discomfort was not found to be a significant predictor of one's motivation to learn more about the illnesses.

Keywords: Mental Illness, Stigma, Ambivalent Attitudes, Motivation, Depression, Bipolar Disorder, Schizophrenia

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Introduction

Mental Illness Stigma

Attitudes are often thought of as being one-sided; people either feel positively or negatively about a particular topic. But this is typically not the case when looking at attitudes towards mental illness and the stigmatization of people with these disorders. Before exploring this topic further, it is important to first define these two terms. Stigma can be defined as "a mark or token of infamy, disgrace, or reproach" while mental illness is "any of various conditions characterized by impairment of an individual's normal cognitive, emotional, or behavioral functioning, and caused by social, psychological, biochemical, genetic, or other factors" (The Free Dictionary). Mentally ill individuals tend to simultaneously elicit sympathy and hostility from others. The present study looks to further explore this phenomenon through investigating stigma, ambivalence, as well as one's motivation to learn more about clinical disorders.

Stigma is a common concern among the mentally ill population. In one study by Dinos et al. (2004), 41 of the 46 mentally ill participants expressed feeling stigmatized against at some point in their lives; this included both subjective feelings of stigma and overt discrimination (p. 177). This stigmatization led individuals to experience feelings of "anger, depression, fear, anxiety, feelings of isolation, guilt, embarrassment and prevention from recovery or avoidance of health seeking" (p. 178). Many mentally ill individuals claim that the "unfavorable public attitudes" are equally as difficult as dealing with the actual illness itself (Wahl, 1995, p. xii). The high prevalence of stigma against

the mentally ill population paired with the subsequent negative emotions experienced by the targets demonstrates the importance of researching mental illness stigma on a deeper level. With this new knowledge, it may be possible to work toward diminishing mental illness stigma and discrimination.

Prior research on such stigma has revealed that those with mental illnesses tend to elicit two different emotions from either side of the spectrum: sympathy and hostility. On the one hand, people develop a sense of sympathy toward those with clinical diagnoses. They may realize that these individuals have not chosen to live with these disorders and subsequently cannot control the course of their illnesses.

People may also view those with mental illnesses as suffering in some way or another. This idea of suffering induces feelings of sympathy as well as respect because of the adversity these individuals face in their day-to-day lives (Katz, 1981, pp. 4,17). In one study, most of the respondents agreed that they felt sorry for mentally ill individuals and even pitied them (Maclean, 1969, p. 48). Moreover, the general population tends to understand the struggles faced by mentally ill individuals and wishes for additional government resources to be provided to them. In another study conducted by Brockington et al. (1993), almost all of the participants recognized the responsibility to help mentally ill individuals; 77% of respondents also agreed with the statement "More tax money should be spent on the care and treatment of the mentally ill" (p. 98). The authors of this study further reported "the overwhelming attitude of benevolence of the general public to the mentally ill" (p. 95). Luckily, these positive attitudes do not

go unnoticed by the mentally ill population. In Dinos et al.'s (2004) study on stigma, 39 of the 46 participants reported positive feelings associated with their mental illnesses; in other words, the general public had exhibited positive emotions towards them (pp. 179-180). It is important to note that those who seek out counseling elicit even more favorable attitudes, such as being higher in character and competence, than those who do not seek out such services (Dovidio et al., 1985, p. 1267).

Although those with mental illnesses gain sympathy, respect, and feelings of benevolence from outsiders, they tend to simultaneously elicit negative attitudes as well. One common expectation is that those suffering from a mental disorder are not as sociable and are harder to relate to than their mentally healthy peers (Dovidio et al., 1985, p. 1267; Wahl, 1995, p. 95). The general public seemingly assumes that mentally ill individuals have problems with communication, understanding, and social skills, even if they have never had contact with someone suffering from a mental illness. In a study done by Piner and Kahle (1984), it was found that "even in the absence of bizarre behavior, a mental patient is perceived as being unusual" (p. 810). This study demonstrates that just being labeled as having a clinical disorder affects the general public's perception of an individual. Even though a person may be acting "normal," his or her mental illness label marks that person as an outsider who exhibits uncommon behaviors and is not relatable to others.

Besides lacking in social skills and exhibiting strange behaviors, another common view of the mentally ill is that they are significantly more dangerous

than other members of society and are violent in their actions. For example, one-third of participants in one study agreed that the mentally ill pose a possible danger to the community (Maclean, 1969, p. 47). In addition, results of another study conducted by Socall and Holtgraves (1969) indicated that people are more likely to rate mentally ill individuals' behavior as less predictable and their outcomes as less hopeful than physically ill individuals (p. 440). This belief can also be seen with the recent suggestions to create a national registry of the mentally ill population. These suggestions have stemmed from tragedies such as the Newtown massacre; many individuals desire stricter mental health checks when people wish to obtain weapons, especially guns. When the mental health history of these mass murderers becomes available to the public, the belief that the mentally ill are more violent than the average individual is perpetuated.

Furthermore, some people even believe that individuals have complete control over their illnesses, are responsible for the onset of the illnesses, and these illnesses will not be responsive to treatment (Stier & Hinshaw, 2007; Penn & Corrigan, 1999, p. 765). All in all, those with mental illnesses are seen as being more dangerous, more childlike, less competent, and sometimes even responsible for their conditions (Corrigan et al., 2003, p. 142; Wahl, 1995, p. 2).

The fact that those with mental illnesses are perceived in such a negative light has great implications for how they are treated and the struggles they face in everyday life. Those who are labeled as mentally ill are less likely to be hired by employers as well as less likely to have an apartment leased to them (Overton & Medina, 2008; Corrigan et al., 2002; Wahl, 1995). A study by Olshansky et al.

found that a large portion of interviewed employers explicitly stated that they would not employ ex-mental patients and if they were to hire them, they would only hire them for certain jobs (Farina & Felner, 1973, p. 272). Moreover, mentally ill individuals in Dinos et al.'s (2004) study indicated that they had previously been discriminated against due to their illnesses through not being selected by colleges or employers (p. 178). According to Green et al. (2003), these acts of discrimination may occur because employers assume that those with mental illnesses will be absent, dangerous, and/or unpredictable. Unfortunately, this discrimination does not end in the workplace; research has shown that the mentally ill population is less likely to be rented an apartment than their mentally healthy counterparts. In a study by Page (1977), an individual who admitted to being mentally ill was more than three times as likely to be refused accommodation (p. 88).

Work by Angermeyer and Matschinger (2003) hints at some gender differences in regards to mental illness stigma. In their study, females reacted more frequently with pity and fear, and less frequently with anger than did males (pp. 529-530). Similarly, Taylor and Dear (1981) found that females exhibited more sympathetic attitudes towards mentally ill individuals than did males (p. 233).

Origin of Mental Illness Stigma

There is undoubtedly a great deal of stigma in regards to mentally ill individuals; however, from where does this stigma originate? Some of this stigma may result from what Corrigan et al. (2003) describe as a "kernel of truth," in

which there may be "objective aspects to mental illness in general that serve as the origin of [stigma]" (p. 144). In other words, some individuals with these clinical diagnoses perpetuate the stigmas. For example, there is some evidence that suggests that mentally ill individuals are more likely to exhibit violence than their mentally healthy counterparts. Monahan (1992) states that the prevalence of violence is over five times greater among those with Axis I diagnoses than those without a diagnosis (p. 516). Further, the rates of violence among those with schizophrenia, major depression, or mania or bipolar disorder are similar to one another. Among all of these factors, however, alcohol and drug use stands as the greatest indicator of violence; those with an alcoholism diagnosis are 12 times more likely and those diagnosed as abusing drugs are 16 times more likely to commit violent acts (p. 516). Therefore, although it may appear as though mentally ill individuals are more dangerous than the average person, it may be the existence of a comorbid substance abuse disorder that increases that individual's likelihood of exhibiting violence. But, the substance abuse aspect is often overlooked, leading to an assumed direct causal relationship between mental illness and violence.

Another origin of these stigmatizing beliefs may lie in the media and its portrayal of mental illness. As Wahl (1995) describes, the public's perceived knowledge of mental illness comes from mass media sources (p. 3). In fact, mental illness is the most commonly presented disability in movies; one author discovered that, up until the year 1995, there were well over four hundred films that were advertised as involving mental illness (p. 4). Even more disturbing,

negative attributions to mental illness can be seen in children's movies, such as those made by Disney. In *Beauty and the Beast*, for example, Maurice is called "crazy" and is threatened with being sent to an asylum; in *Aladdin*, Aladdin saves Jasmine from the palace guards by telling them that she is "crazy" and believes his monkey is the Sultan (Wahl, 1995, p. 10). It is dangerous to expose children to these stereotypes as their minds are very pliable in nature and what they learn early on will most likely influence how they behave and what they believe in the future.

Apart from the movie screen, negative attributions towards the mentally ill population are also prevalent in various television shows and news reports that reach the public eye. Characters with mental illnesses on television shows are seen as violent and portrayed as being "unpredictable, failures, asocial, incompetent, untrustworthy, and often as being social outcasts" (Overton & Medina, 2008, p. 147). Wahl (1995) adds that mentally ill individuals typically take on the role of the criminal "mad murderer" in television and movie scripts (p. 56). In one study, individuals suffering from schizophrenia reported the media as a great source of discomfort due to the negative attributions given to schizophrenic individuals (Dinos et al., 2004, p. 178). Furthermore, news reports are often "sensationalized, including dramatic descriptions of violent attacks and murders committed intentionally by persons with mental disorders" (Klin & Lemish, 2008, p. 438). Almost all news stories pertaining to mental illness are associated with violent actions; very few focus on any sympathy or positive attributes on this topic (Wahl, 1995, p. 67). In the end, the media brings about

much of the stigma toward mental illness. It portrays these individuals as being homicidal, childlike, and rebellious (Corrigan & Penn, 1999, p. 766).

Another means by which the media perpetuates mental illness stigma is through incorrectly labeling many psychological disorders. In the image below, schizophrenia is incorrectly portrayed as a disease that involves one having multiple personalities, which is instead a separate disorder known as dissociative identity disorder (Wahl, 1995, p. 17) (see Figure 1). Individuals with clinical disorders are also perceived as looking different from "normal" individuals. In another comic inserted below, the individual with a mental illness appears much different from the rest (Wahl, 1995, p. 40) (see Figure 2).

Figure 1: *Comic Illustrating Misconception of Schizophrenia* (Wahl, 1995).

Figure 2: *Comic Illustrating Stigma of the Mentally Ill* (Wahl, 1995).

It is important to understand how the media portrays mental illness because it may influence an individual's perception of these disorders and mental health in general. Often, ambivalence originates from a conflict between the attitudes an individual acquires through his or her unique experiences and the attitudes he or she has been expected to acquire based off of the surrounding culture (Katz, 1981, p. 7). Even if an individual knows someone suffering from a mental disorder and can see that he or she is not dangerous, childlike, or incompetent, society's expectations, as seen through the media, may change this perception or make the individual feel more ambivalent about the subject as a whole.

Stigma Among Different Disorders

When looking at the topic of mental illness stigma, it is important to not group all illnesses together, but to instead realize that individuals are suffering

from different disorders that are dissimilar from one another. Research has indicated that with the different disorders come different types of stigma. The two disorders that are commonly compared are depression and schizophrenia. While schizophrenia is often associated with violence and the inability to take care of oneself, depression invokes thoughts of laziness and even substance abuse (Overton & Medina, 2008, p. 143). Prior studies have shown that the public as a whole is more likely to label the symptoms of schizophrenia as indicative of a mental disorder when compared to other illnesses such as depression (Angermeyer & Matschinger, 2003). Moreover, in comparison to individuals suffering from depression, those with schizophrenia are viewed as being more dangerous as well as more dependent on others (Angermeyer & Matschinger, 2003). Dinos et al. (2004) found that individuals with non-psychotic disorders reported less severe forms of discrimination and were instead more likely to report instances of patronization (p. 178).

In a study performed by Angermeyer and Matschinger (2003), depressive symptoms tended to be viewed as an "expression of a life crisis or personality problems" (p. 528). Also, those with schizophrenia were seen as being more dangerous than those with depression, while those with depression elicited more pro-social reactions, such as desire to help and sympathy (pp. 528-529). In terms of causes of the disorder, biological factors were seen to be of causal relevance for schizophrenia while psychosocial factors appeared to be more associated with the origin of depression (p. 528). The prognosis for both depression and schizophrenia was not favorable; however, individuals were more confident that

"both natural course and treatment prognosis were expected to be slightly more favorable in the case of schizophrenia" (p. 528).

In another study conducted by Norman et al. (2012), participants preferred greater social distance from an individual suffering from schizophrenia and saw this individual as being more dangerous, socially inappropriate, and all around different from others in society (p. 71). Participants further described the individual suffering from depression as being more responsible for his disorder and as being weaker in character than the person with schizophrenia (p. 71). Norman et al. (2012) suggest that preferred social distance was mediated by the following factors: perceived responsibility for illness, prognosis, social appropriateness, belief in biological causes, and perceived continuity with normal experience (p. 74).

In Pescosolido et al.'s (1999) study, about two-thirds of respondents claimed those with major depression were capable of managing treatment decisions, while only 25.7% of respondents stated that this was true for those with schizophrenia (p. 1341). Similarly, 70.2% of respondents indicated that those with depression were competent to handle finances, while this number was only 29.8% for schizophrenia (p. 1341). Further, 33.3% stated that those with depression were "very or somewhat likely to do something violent toward others," compared to 60% for schizophrenia (p. 1341). It is interesting to note that the number for depression rose to 74.9% and schizophrenia rose to 86.5% when dangerousness to oneself was added to the equation (p. 1341). While stigma exists among both depression and schizophrenia, it appears as though levels of

perceived dangerousness, competence, social skills, and responsibility vary in degree between the disorders.

Ambivalence

Research has demonstrated that there is a lot underlying mental illness stigma; it is not so black and white. According to Katz et al. (1988), "the sentiments of many people about persons who are disabled tend to be ambivalent rather than unambiguously hostile or friendly" (p. 56). Oftentimes, individuals will hold both positive and negative feelings about the topic simultaneously-termed *attitudinal ambivalence*. According to Jonas and Ziegler (1987), attitudinal ambivalence is "the simultaneous existence of positive and negative beliefs or emotions with regard to the same object in an individual's attitude base" (p. 31). An equation has been devised by Griffin to calculate ambivalence based on people's independent reports of their favorable (positive) and unfavorable (negative) feelings about an attitude object: Ambivalence = $(P+N)/2 - |P-N|$, where P is positive feelings and N is negative feelings. Ambivalence scores will increase as the positive and negative ends become more polarized as both increase in value (Conner & Sparks, 2002, p. 45; Conner & Armitage, 2008, p. 264).

There are both direct and indirect means of uncovering ambivalence. Indirect measures, otherwise known as formula-based measures (such as the Griffin measure just described), involve separate measures of positive and negative thoughts that an object produces (Conner & Sparks, 2002, p. 42-43). Direct measures instead require individuals to directly report how much they are

experiencing mixed, or ambivalent, thoughts. This study will include both direct and indirect measures of ambivalence.

The difference between direct and indirect measures can also be described as the difference between felt ambivalence and potential ambivalence. Felt ambivalence measures consist of having respondents make meta-judgments about their level of ambivalence (Conner & Armitage, 2008, p. 263). On the other hand, measures of potential ambivalence use two separate measures of positive and negative thoughts, feelings, and beliefs that some attitude object generates (p. 263).

In addition, some have also suggested that there are three separate types of attitudinal ambivalence. The first is cognitive ambivalence, or mixed beliefs, in which an individual has beliefs about an object that are related to inconsistent evaluations (Jonas et al., 2000, p. 41). An example of this type may involve an individual feeling ambivalent about purchasing a certain car; it may be fuel-efficient (positive), but also expensive (negative) (Jonas & Ziegler, 2007, p. 31). There is also affective ambivalence, or torn feelings, which occurs when "positive and negative emotions are harbored at the same time" (Jones et al., 2000, p. 42). One example of this occurs when an individual simultaneously feels love and hate toward an object or person (Jonas & Ziegler, 2007, p. 31). The final type of ambivalence, affective-cognitive ambivalence, involves positive affect with negative cognitions or negative affect with positive cogitations (Jones et al., 2000, p. 42). One example of this is an individual who enjoys smoking (positive affect), but knows that it is harmful to his health (negative cognition) (Jonas & Ziegler,

2007, p. 32). In this study, the focus will primarily be on affective and cognitive ambivalence.

It is important to recognize the difference between ambivalence and cognitive dissonance, as the two are oftentimes confused with one another. Dissonance is a psychological state that takes place when one's behavior is not consistent, or does not line up, with one's belief or self-concept (Jonas et al., 2000, p. 50). On the other hand, ambivalence occurs when one's attitudes and beliefs are not consistent with one another; behavior is not a factor in the ambivalence equation. All in all ambivalence, just like cognitive dissonance, is an unpleasant state because it goes against consistency, which is preferable for most people (Van Harreveld et al., 2009).

Because ambivalence is a psychologically uncomfortable state, it may act as a motivating factor to change one's behavior (Conner & Armitage, 2008, p. 278). Feeling ambivalent can be quite unpleasant, as it is human nature to want to be set in one's ways. Ambivalence may make an individual uneasy because one is experiencing two opposing feelings at the same time. This discomfort may act as a motivating factor to reduce the ambivalence (Bell & Esses, 2002). Nordgren et al. (2006) further explain that the experience of ambivalence is "aversive" and people tend to generate more one-sided thoughts, typically corresponding with their initial attitude, in order to reduce the ambivalence (p. 255). In other words, when faced with ambivalence, people will take their initial attitude and will force themselves to think more about that stance on the issue. Furthermore, attitudinal ambivalence may motivate an individual to search for more information on the

topic that can help in "resolving conflict between the incompatible evaluations" (Jonas & Ziegler, 2007, p. 35). Ambivalence, therefore, may motivate individuals to learn more about a specific topic in order to reduce the feelings of discomfort associated with inconsistent attitudes.

The Present Research Study

The present study looks to examine ambivalent attitudes as they are related to mental illness stigma. First, connections will be made between participants' demographic information and their attitudes toward those with mental illnesses. Participants' gender, age, ethnicity, and experience with either having a mental disorder or having a close family member or friend with a disorder will be correlated with their feelings of sympathy, hostility, and ambivalence toward mentally ill individuals. The study also examines the differences in attitudes and beliefs between various clinical disorders. Research tends to look at mental illness stigma as a whole, without analyzing differences among disorders. The research that has looked into the differences has mainly focused on comparing depression and schizophrenia. This study also looks at the relationships between depression and schizophrenia in regards to stigma, but it also compares these disorders with bipolar disorder. Bipolar disorder can be defined as, "a brain disorder that causes unusual shifts in mood, energy, activity levels, and the ability to carry out day-to-day tasks" (National Institute of Mental Health). It was decided to include bipolar disorder in the current study because it falls between depression and schizophrenia in regards to severity of psychosis. In order to measure ambivalent attitudes, participants' responses on both positive

(sympathy-related) questions as well as negative (hostility-related) questions pertaining to a specific disorder will be entered into the Griffin equation.

Research on the topic has indicated that ambivalence oftentimes brings about a sense of discomfort, as it can be uncomfortable to experience both positive and negative emotions. The second part of this study will look closer at the discomfort of experiencing these conflicting attitudes simultaneously.

The final portion of the study will focus on ambivalence leading to a motivation to learn more about mental illnesses. In other words, will individuals with more ambivalent attitudes toward mental illness be more likely to research the subject further in an attempt to make their attitudes more univalent? I hypothesize that the more beliefs toward mental illness reflect ambivalent attitudes, individuals will experience discomfort and that will lead to a greater interest in researching the topic in order to solidify one's stance on the issue.

Method

Sample

The sample for the present study consisted of undergraduate students at Syracuse University. These students were recruited for the study through their introductory psychology course; students signed up for the study through the Psychology Department's SONA system. Individuals received one half-credit hour towards their course for participating in this study.

Out of the 144 individuals who showed up to participate, a total of 144 (100%) completed the questionnaire in full. Respondents were randomly assigned to complete a questionnaire pertaining to depression (N= 49), bipolar disorder (N= 47), or schizophrenia (N= 48). They were also randomly assigned to one of two conditions regarding the order of the ambivalence scale: Sympathy questions first (N= 83) or Hostility questions first (N= 61).

There were 29 males and 115 females with a mean age of 19.14 years (SD= 3.55; range: 18-49 years). The sample consisted of predominantly Caucasian/White individuals (N= 77), followed by Asian or Pacific Islander (N= 26), Latino or Hispanic (N= 22), Black/African American (N= 11), Other (N= 6), and American Indian/Alaskan Native (N=2). As for year in school, 88 individuals indicated Freshman year status, followed by 39 Sophomores, 12 Juniors, and 5 Seniors. In addition, 6.3% (N= 9) participants disclosed that they had a mental disorder while 93.8% (N= 135) participants did not. A total of 35.4% (N= 51) of respondents indicated that a close family member or friend of theirs had been

diagnosed with a mental disorder while 64.6% (N= 93) did not indicate such information.

Design and Procedure

Upon entering the study, participants filled out a consent form and short demographics sheet. After being randomly assigned to the separate conditions, they then completed a 12-item ambivalence scale regarding their positive and negative attitudes toward individuals with one of three mental illnesses: depression, bipolar disorder, or schizophrenia. Following the completion of the ambivalence scale, the participants recorded how they felt after completing the measure and thinking about the particular mental illness. The final aspect of this study involved participants answering three final questions examining their motivation to learn more about the disorder.

Measures

The 12-item ambivalence scale consisted of 6 questions focusing on positive, or sympathetic, attitudes towards a particular mental illness (depression, bipolar disorder, schizophrenia) and 6 questions focusing on negative, or hostile, attitudes towards this illness. Participants were asked to use a 7-item Likert scale (1=Strongly Agree; 7=Strongly Disagree) in order to record the extent to which they agreed or disagreed with each statement (see Appendix p. 70). This scale is a revised version of a measure originally developed by Newman et al. (2005).

Sympathy items:

1. People with _____ are not responsible for their condition.
2. People with _____ have no control over their condition.

3. It is unfair to take into account a person's history of _____ when he or she is applying for a job.
4. It is unfair to take into account a person's history of _____ when he or she tries to rent an apartment.
5. People with _____ deserve more compassion from others than they currently receive.
6. Providing help to people with _____ should be one of society's highest priorities.

Hostility items:

1. People with _____ can be dangerous.
2. One should hesitate to trust people with _____ with important tasks because they are often incompetent.
3. People with _____ are unable to care for themselves.
4. People with _____ are more childlike than other people their age.
5. People with _____ tend to be less intelligent than those without _____.
6. It is hard to develop relationships with people with _____.

Participants who indicated greater agreement with both the positive and negative items were considered to be more ambivalent. In other words, as opposed to taking a particular stance, ambivalent individuals exhibited both sympathetic and hostile attitudes when asked to record their feelings on depression, bipolar disorder, or schizophrenia. This level of ambivalence was calculated with the Griffin equation for ambivalence (described above):

Ambivalence = (P+N)/2 - |P-N|

The second part of this study involved participants filling out a measure designed to examine their total felt ambivalence. This measure was based on the Bivariate Evaluations and Ambivalence Measures (BEAMs) created by Cacioppo et al. (1997). Participants indicated the extent to which each attitude reflected their feelings about the specific mental illness (depression, bipolar disorder, schizophrenia); this scale ranged from 1= Very Slightly or Not at All to 5= Extremely. The six items that reflected ambivalence were as follows: Muddled, Divided, Tense, Contradictory, Jumbled, and Conflicted. The three items that reflected univalence were: Consistent, Uniform, and Harmonious. The purpose of this scale was to get at the individual's total *felt* ambivalence, as opposed to just their total *potential* ambivalence score based on the prior 12 questions. Upon completing this measure, participants were also given the chance to record their feelings in a more open-ended way by responding to the following prompt:

> In your own words, describe your mood in the current moment after answering the questions about _____. (see Appendix p. 71)

The third and final part of the questionnaire consisted of three more items to be answered using the same 7-point Likert scale that was used earlier for the 12-item ambivalence scale. These questions asked participants to record how knowledgeable they believed they were on the certain mental illness and the extent to which they planed on researching the disorder in order to learn more (see Appendix p. 72).

1. I believe I am knowledgeable about _____.

2. I want to learn more about _____.
3. I plan on researching information on individuals with _____ after completing this study.

Results

Stigma

Research on the topic of ambivalence towards mental illness has paid careful attention to the relationship between sympathetic (positive) and hostile (negative) scores. Armitage and Conner (2000) suggest that positive and negative attitudes are not polar opposites of one another; in fact, they are not perfectly negatively correlated with one another (p. 1421). Conner et al. (2002) further explain that this correlation is typically a low to moderate negative one (p. 707). In order to look at this relationship in the present study, the correlation between the sympathetic and hostile scores was obtained. Just as the research suggests, this correlation was low and negative in nature, not reaching significance (r= -0.126, p= 0.13).

Independent samples t-tests were conducted to examine significant mean differences between beliefs of sympathy/hostility toward mental illness and an individual's gender, whether the individual disclosed having a mental illness, as well as whether the individual indicated knowing someone with a mental illness. One sample ANOVA's were then conducted to examine significant mean differences between beliefs of sympathy/hostility toward people with different kinds of mental illness and the differences associated with the individual's ethnicity and year in school.

Gender differences were considered first in the analysis. Females tended to have higher sympathy scores (M= 4.68, SD= 0.87) than did males (M= 4.13,

SD= 0.82). Conversely, males tended to have higher hostility scores (M= 3.51, SD= 0.82) than did females (M= 3.30, SD= 0.94) (see Table 1).

Table 1
Gender Differences Among Sympathy and Hostility Scores

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Total Sympathy Score	Male	29	4.13	0.82	0.15
	Female	115	4.68	0.87	0.08
Total Hostility Score	Male	*29*	3.51	0.82	0.15
	Female	115	3.30	0.94	0.09

The results of an independent samples *t*-test indicated that the difference between males and females in regards to their sympathy scores was statistically significant (t= -3.09, p< 0.01); however, the difference between their hostility scores was not statistically significant at this level (t=1.10, p= 0.27) (see Table 2). Therefore, females hold significantly more sympathetic and positive feelings toward those with mental illness than do males. Although males tend to hold more hostile and negative feelings toward those with mental illness than do females, this difference did not reach statistical significance.

Table 2
Independent Samples t-Test for Significant Gender Differences Among Sympathy and Hostility Scores

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Total sympathy score	-3.09	142	0.00*	-0.55	0.18	-0.90	-0.20
Total hostility score	1.10	142	0.27	0.21	0.19	-0.17	0.59

Note: * denotes significance at α<0.05

After gender differences were examined, disclosure of mental illness was the next variable to be investigated. Those who disclosed that they had/have suffered from a mental illness tended to be more sympathetic towards others with mental illness (M= 5.13, SD= 0.79) than individuals who did not disclose such information (M= 4.53, SD= 0.88). Individuals with a mental illness diagnosis also had lower hostility scores (M= 3.19, SD= 0.95) than individuals without a diagnosis (M= 3.35, SD= 0.92) (see Table 3).

Table 3
Differences in Sympathy and Hostility Scores Between Those With/Without a Mental Illness

	Self Ill	N	Mean	Std. Deviation	Std. Error Mean
Total sympathy score	No	135	4.53	0.88	0.08
	Yes	9	5.13	0.79	0.26
Total hostility score	No	135	3.35	0.92	0.08
	Yes	9	3.19	0.95	0.32

The results of an independent samples *t*-test indicated that the difference between those with and without a mental illness in regards to their sympathy scores was statistically significant (t= -2.01, p< 0.05); however, the difference between their hostility scores was not statistically significant at the α= 0.05 level (t= 0.53, p= 0.60) (see Table 4). Individuals who disclosed that they were suffering from a mental illness held significantly more sympathetic and positive feelings toward those with mental illness than do individuals not suffering from an illness themselves. Even though those without a mental disorder tend to hold more hostile and negative feelings toward those with mental illness than do those with a disorder, this difference did not reach statistical significance.

Table 4

Independent Samples t-Test for Significant Differences in Sympathy and Hostility Scores Among Those With/Without a Mental Illness

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Total sympathy score	-2.01	142	0.05*	-0.60	0.30	-1.20	-0.01
Total hostility score	0.53	142	0.60	0.17	0.32	-0.46	0.80

Note: * denotes significance at $\alpha<0.05$

The relationship between sympathy/hostility scores and whether one knows someone with a mental illness was then examined. Participants who have a close friend or family member with a clinical diagnosis tended to have higher sympathy scores (M= 4.76, SD= 0.93) than individuals who denied knowing anyone with a mental illness (M= 4.46, SD= 0.84). Those close to people with a mental illness also had lower hostility scores (M= 3.28, SD= 1.02) than individuals who indicated that they were not close to anyone with a clinical diagnosis (M= 3.38, SD= 0.86) (see Table 5).

Table 5

Differences in Sympathy and Hostility Scores Between Those Who Do and Do Not Have a Close Family Member or Friend with a Mental Illness

	Family member/Friend with MI	N	Mean	Std. Deviation	Std. Error Mean
Total sympathy score	No	93	4.46	0.84	0.09
	Yes	51	4.76	0.93	0.13
Total hostility score	No	93	3.38	0.86	0.09
	Yes	51	3.28	1.02	0.14

The results of an independent samples *t*-test indicated that the mean difference between individuals who do and do not know an individual with a

mental illness was statistically significant for sympathy scores (t= -2.00, p< 0.05), but not for hostility scores (see Table 6). These results, paired with the results from the last t-test, imply that any connection with mental illness (whether an individual is diagnosed with a disorder him or herself or knows an individual with a clinical diagnosis) seems to be associated with greater feelings of sympathy and lessened feelings of hostility; however, only the difference in sympathy scores is significant.

Table 6
Independent Samples t-Test for Significant Differences In Sympathy and Hostility Scores Among Those Who Do and Do Not Have a Close Family Member or Friend with a Mental Illness

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Total sympathy score	-2.00	142	0.05*	-0.30	0.15	-0.60	-0.00
Total hostility score	0.64	142	0.526	0.10	0.16	-0.22	0.42

Note: * denotes significance at α<0.05

After conducting the independent samples t-tests, the differences between the three questionnaire conditions in regards to sympathetic and hostile attitudes were investigated. People reported feeling the most sympathy towards individuals with schizophrenia (M= 4.78, SD= 0.78), then towards those with depression (M= 4.64, SD= 0.97), and finally towards those with bipolar disorder (M= 4.27, SD= 082) (see Table 7 and Figure 3). As for hostility, participants reported feeling most hostile towards individuals suffering from schizophrenia (M= 3.74, SD= 0.95), then towards people with bipolar disorder (M= 3.23, SD=

0.95), and finally towards individuals with depression (M= 3.06, SD= 0.72) (see Table 7 and Figure 4).

Table 7

Differences in Sympathy and Hostility Scores Among the Three Conditions

CONDITION		Total sympathy score	Total hostility score
Depression	Mean	4.64	3.06
	N	49	49
	Std. Deviation	0.97	0.72
Bipolar	Mean	4.27	3.23
	N	47	47
	Std. Deviation	0.82	0.95
Schiz	Mean	4.78	3.74
	N	48	48
	Std. Deviation	0.78	0.95

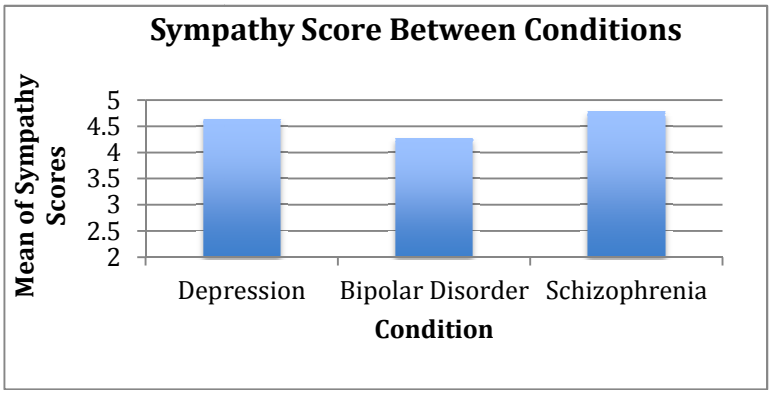

Figure 3: *Differences in Mean Sympathy Scores Between Conditions*

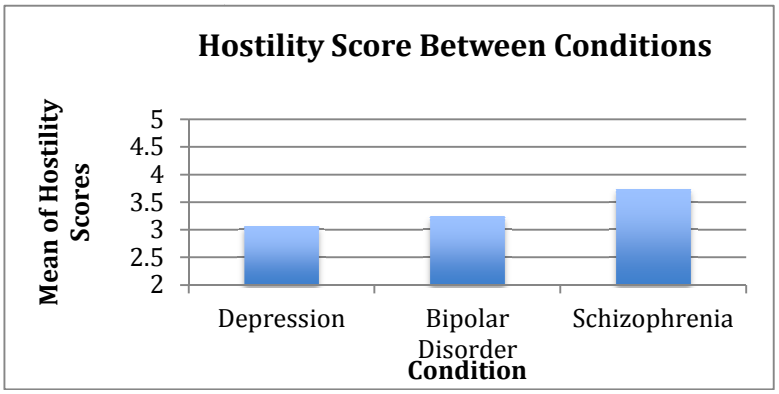

Figure 4: *Differences in Mean Hostility Scores Between Conditions*

According the results of a one-way ANOVA, the differences were statistically significant. There were significant differences between the sympathy scores for depression, bipolar disorder, and schizophrenia (F= 4.45, p= 0.01) as well as between the hostility scores for each condition (F= 7.77, p< 0.01) (see Table 8). Therefore, there were significant differences between people's attitudes of depression, bipolar disorder, and schizophrenia on both the positive and negative ends.

Table 8
ANOVA Test for the Significant Differences in Sympathy and Hostility Scores Between Conditions

		Sum of Squares	df	Mean Square	F	Sig.
Total sympathy score	Between Groups	6.60	2	3.30	4.45	0.01*
	Within Groups	104.47	141	0.74		
	Total	111.06	143			
Total hostility score	Between Groups	12.00	2	6.00	7.77	0.00*
	Within Groups	108.90	141	0.77		
	Total	120.90	143			

Note: * denotes significance at α<0.05

However, the results of this ANOVA alone did not tell us specifically which conditions differed from one another at a statistically significant level. Post hoc tests were subsequently run to further understand these differences. The results of a least significant differences (LSD) test indicated that there were significant differences between depression and bipolar disorder (p= 0.04) as well as between bipolar disorder and schizophrenia (p< 0.01) in regards to total sympathy score; there was not a significant difference between depression and schizophrenia (p= 0.41). As for total hostility score, there were significant differences between depression and schizophrenia (p< 0.01) as well as bipolar disorder and schizophrenia (p< 0.01); however, the difference between depression

and bipolar disorder was not significant (p= 0.34) (see Table 9). Therefore, participants reported feeling significantly more sympathetic towards those with schizophrenia as well as significantly more hostile towards those with schizophrenia.

Table 9
Least Significant Differences Post Hoc Test For Significant Differences in Sympathy and Hostility Scores Among Conditions

Dependent Variable	(I) CONDITION	(J) CONDITION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Total Sympathy Score	Depression	Bipolar	0.37	0.18	0.04*	0.02	0.71
		Schiz	-0.15	0.17	0.41	-0.49	0.20
	Bipolar	Depression	-.0.37	0.18	0.04*	-0.71	-0.02
		Schiz	-0.51	0.18	0.00*	-0.86	-0.16
	Schiz	Depression	0.15	0.17	0.41	-0.20	0.49
		Bipolar	0.51	0.18	0.00*	0.16	0.86
Total Hostility Score	Depression	Bipolar	-0.17	0.18	0.34	-0.53	0.18
		Schiz	-0.68	0.18	0.00*	-1.03	-0.33
	Bipolar	Depression	0.17	0.18	0.34	-0.18	0.53
		Schiz	-.051	0.18	0.01*	-0.86	-0.15
	Schiz	Depression	0.68	0.18	0.00*	0.33	1.03
		Bipolar	0.51	0.18	0.01*	0.15	0.86

Note: * denotes significance at $\alpha<0.05$

Results of separate ANOVA tests determined that there was no statistically significant relationship between sympathetic or hostile attitudes towards mental illness and one's ethnicity or year in school.

In looking more specifically at participants' responses to individual questions, some patterns arose. Respondents tended to agree most with the following:

1. It is unfair to take into account a person's history of _____ when he or she tries to rent an apartment. (M= 5.03)

2. People with _____ are not responsible for their condition. (M= 4.99)
3. People with _____ can be dangerous. (M= 4.77)
4. People with _____ deserve more compassion from others than they currently receive. (M= 4.70)

On the other hand, respondents tended to disagree most with the following:

1. People with _____ tend to be less intelligent than those without _____. (M= 1.99).
2. People with _____are more childlike than other people their age. (M= 3.10)
3. People with _____ are unable to care for themselves. (M= 3.10)

(see Table 10)

Table 10
Mean Responses For Each Question on the 12-Item Ambivalence Scale

	Mean	Std. Deviation
Responsible	4.99	1.59
Control	4.49	1.53
Job	4.17	1.62
Apartment	5.03	1.69
Compassion	4.70	1.32
Society	4.01	1.63
Dangerous	4.77	1.55
Incompetent	3.26	1.43
Care	3.10	1.45
Childlike	3.10	1.54
Intelligent	1.99	1.19
Relationships	3.85	1.64

Patterns on specific questions were also examined as they pertained to the three separate disorders involved in the study. An ANOVA test determined which questions' mean differences were significantly different from one another. Significant differences were found on the questions regarding an individual being

responsible for his or her disorder (F= 4.03, p= 0.02), an individual being able to control his or her disorder (F= 7.86, p< 0.01), the unfairness of taking mental illness into account when renting an apartment (F= 3.73, p= 0.03), the compassion the mentally ill deserve (F= 3.24, p= 0.04), the individual being incompetent (F= 9.49, p< 0.01), the individual not being able to care for him or herself (F= 9.62, p< 0.01), the individual being childlike (F=12.92, p< 0.01), as well as the individual being unintelligent (F= 12.18, p< 0.01) (see Table 11).

Table 11

ANOVA Test for the Significant Differences Between Conditions on Each Question of the 12-Item Ambivalence Scale

		Sum of Squares	df	Mean Square	F	Sig.
Responsible	Between Groups	19.65	2	9.82	4.03	0.02*
	Within Groups	343.35	141	2.44		
	Total	362.99	143			
Control	Between Groups	33.49	2	16.75	7.86	0.00*
	Within Groups	300.48	141	2.13		
	Total	333.97	143			
Job	Between Groups	13.04	2	6.52	2.54	0.08
	Within Groups	361.62	141	2.57		
	Total	374.66	143			
Apartment	Between Groups	20.57	2	10.29	3.73	0.03*
	Within Groups	389.32	141	2.76		
	Total	409.89	143			
Compassion	Between Groups	10.98	2	5.49	3.24	0.04*
	Within Groups	239.18	141	1.70		
	Total	250.16	143			
Society	Between Groups	14.77	2	7.38	2.86	0.06
	Within Groups	364.23	141	2.58		
	Total	378.99	143			
Dangerous	Between Groups	0.72	2	0.36	0.15	0.86
	Within Groups	344.72	141	2.45		
	Total	345.44	143			
Incompetent	Between Groups	34.81	2	17.40	9.49	0.00*
	Within Groups	258.69	141	1.84		
	Total	293.49	143			
Care	Between Groups	35.87	2	17.94	9.62	0.00*
	Within Groups	262.77	141	1.86		
	Total	298.64	143			
Childlike	Between Groups	52.27	2	26.14	12.92	0.00*

	Within Groups	285.16	141	2.02		
	Total	337.44	143			
Intelligent	Between Groups	30.06	2	15.03	12.18	0.00*
	Within Groups	173.92	141	1.23		
	Total	203.97	143			
Relationships	Between Groups	10.65	2	5.32	2.01	0.14
	Within Groups	373.99	141	2.65		
	Total	384.64	143			

Note: * denotes significance at $\alpha<0.05$

A LSD post hoc test was then conducted in order to determine which conditions were significantly different from one another on each of these questions. To start, those with schizophrenia were seen as being significantly less responsible for their disorder than those with depression ($p< 0.01$) and bipolar disorder ($p< 0.05$). Similarly, those with schizophrenia were seen as having significantly less control over their disorder than those with depression ($p< 0.01$) and bipolar disorder ($p< 0.01$). It was also found that it is more unfair to take an individual's experience with depression into account, as opposed to bipolar disorder ($p= 0.03$) and schizophrenia ($p= 0.01$), when one looks to rent an apartment. Furthermore, respondents indicated that those with schizophrenia deserve significantly more compassion than those with bipolar disorder ($p= 0.01$). This study also found that those with schizophrenia are significantly more incompetent than those with depression ($p< 0.01$) and bipolar disorder ($p< 0.01$). In addition, those with schizophrenia are seen as being less able to care for themselves than those with depression ($p< 0.01$) and bipolar disorder ($p< 0.01$). Respondents also indicated that individuals with depression are significantly less childlike than those with bipolar disorder ($p< 0.01$) and schizophrenia ($p< 0.01$). Finally, it was found that individuals view those with schizophrenia as being the

most unintelligent, followed by bipolar disorder, and then depression; all differences were statistically significant (p= 0.01, p= 0.02) (see Table 12).

Table 12

Least Significant Differences Post Hoc Test For Significant Differences in Questions on the 12-Item Ambivalence Scale Among Conditions

Dependent Variable	(I) CONDITION	(J) CONDITION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Responsible	Depression	Bipolar	-0.22	0.32	0.49	-0.85	0.41
		Schiz	-.087	0.32	0.01	-1.49	-0.24
	Bipolar	Depression	0.22	0.32	0.49	-0.41	0.85
		Schiz	-0.65	0.32	0.05*	-1.28	-0.02
	Schiz	Depression	0.87	0.32	0.01*	0.24	1.49
		Bipolar	.065	0.32	0.05*	0.02	1.28
Control	Depression	Bipolar	0.08	0.30	0.80	-0.51	0.67
		Schiz	-0.98	0.30	0.00*	-1.57	-0.40
	Bipolar	Depression	-0.08	0.30	0.80	-0.67	0.51
		Schiz	-1.06	0.30	0.00*	-1.65	-0.47
	Schiz	Depression	0.98	0.30	0.00*	0.40	1.57
		Bipolar	1.06	0.30	0.00*	0.47	1.65
Apartment	Depression	Bipolar	0.74	0.34	0.03*	0.07	1.41
		Schiz	0.84	0.34	0.01*	0.18	1.51
	Bipolar	Depression	-0.74	0.34	0.03*	-1.41	-0.07
		Schiz	0.10	0.34	0.77	-0.57	0.77
	Schiz	Depression	-0.84	0.34	0.01*	-1.51	-0.18
		Bipolar	-0.10	0.34	0.77	-0.77	0.57
Compassion	Depression	Bipolar	0.33	0.27	0.21	-0.19	0.86
		Schiz	-0.35	0.26	0.19	-0.87	0.18
	Bipolar	Depression	-0.33	0.27	0.21	-0.86	0.19
		Schiz	-0.68	0.27	0.01*	-1.21	-0.15
	Schiz	Depression	0.35	0.26	0.19	-0.18	0.87
		Bipolar	0.68	0.27	0.01*	0.15	1.20
Incompetent	Depression	Bipolar	-0.25	0.28	0.37	-0.79	0.30
		Schiz	-1.14	0.28	0.00*	-1.69	-0.60
	Bipolar	Depression	0.25	0.28	0.37	-0.30	0.79
		Schiz	-0.89	0.28	0.00*	-1.44	-0.35
	Schiz	Depression	1.14	0.28	0.00*	0.60	1.69
		Bipolar	0.89	0.28	0.00*	0.35	1.44
Care	Depression	Bipolar	0.22	0.28	0.43	-0.33	0.77
		Schiz	-0.93	0.28	0.00*	-1.48	-0.39
	Bipolar	Depression	-0.22	0.28	0.43	-0.77	0.33
		Schiz	-1.15	0.28	0.00*	-1.71	-0.60
	Schiz	Depression	0.93	0.28	0.00*	0.39	1.48
		Bipolar	1.15	0.28	0.00*	0.60	1.71

Childlike	Depression	Bipolar	-1.08	0.29	0.00*	-1.65	-0.50
		Schiz	-1.40	0.29	0.00*	-1.97	-0.83
	Bipolar	Depression	1.08	0.29	0.00*	0.50	1.65
		Schiz	-0.33	0.29	0.27	-0.90	0.25
	Schiz	Depression	1.40	0.29	0.00*	0.83	1.97
		Bipolar	0.33	0.29	0.27	-0.25	0.90
Intelligent	Depression	Bipolar	-0.57	0.23	0.01*	-1.02	-0.12
		Schiz	-1.11	0.23	0.00*	-1.56	-0.67
	Bipolar	Depression	0.57	0.23	0.01*	0.12	1.02
		Schiz	-0.54	0.23	0.02*	-0.99	-0.09
	Schiz	Depression	1.11	0.23	0.00*	0.67	1.56
		Bipolar	0.54	0.23	0.02*	0.09	0.99

Note: * denotes significance at $\alpha<0.05$

Tests of Ambivalence

Total potential ambivalence was calculated using the responses to the 12-item ambivalent scale by using a formula developed by Griffin:

Ambivalence= (Positive – Negative)/2 - |Positive – Negative|.

In order to calculate total felt ambivalence, an individual's scores for their reports of being Muddled, Divided, Tense, Contradictory, Jumbled, and Conflicted were added together along with the reverse of their scores for being Consistent, Uniform, and Harmonious (the BEAMs).

Using regression, total ambivalence score appeared to be a statistically significant predictor of total felt ambivalence ($F= 13.93$, $p< 0.01$) (see Table 13). The correlation between the two variables was found to be $r= 0.31$, which is also statistically significant ($p< 0.01$) (see Table 14). Therefore, those who had more ambivalent scores also reported feeling more uncomfortable and uneasy when asked to think about the mental illness. This provides evidence that the ambivalence scale employed in this study truly did get at ambivalent attitudes.

Table 13
Linear Regression Model: Predicting Total Felt Ambivalence from Total Ambivalence Score

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	528.50	1	528.50	13.93	0.00*
	Residual	5044.84	133	37.93		
	Total	5573.33	134			

Note: * denotes significance at $\alpha<0.05$

Table 14
Bivariate Correlation between Total Ambivalence Score and Total Felt Ambivalence

		Total felt ambivalence
Ambivalence	Pearson Correlation	.31
	Sig. (2-tailed)	0.00*
	N	135

Note: * denotes significance at $\alpha<0.05$

In looking at gender, males, overall, had slightly higher scores for total ambivalence (M= 2.88, SD= 0.94) than did females (M= 2.39, SD= 1.33) (see Table 15). On the other hand, females had slightly higher scores for total felt ambivalence (M= 29.35, SD= 6.22) than did males (M= 28.15, SD= 7.35) (see Table 15). Upon conducting an independent samples *t*-test, however, it was found that neither of these differences was statistically significant.

Table 15
Mean Differences of Ambivalence Measures Between Genders

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Total felt ambivalence	Male	27	28.15	7.35	1.41
	Female	108	29.35	6.22	0.60
Ambivalence	Male	29	2.88	0.94	0.17
	Female	115	2.39	1.33	0.12

Differences among conditions were also discovered in regards to ambivalent attitudes. Those in the depression condition tended to have the lowest

ambivalence scores (M= 2.13, SD= 1.10), followed by bipolar disorder (M= 2.47, SD= 1.33), and then schizophrenia with the highest ambivalence score (M= 2.88, SD= 1.28) (see Table 16 and Figure 5). As for total felt ambivalence, the lowest score was once again for those in the depression condition (M= 28.26, SD= 6.62), followed by schizophrenia (M= 29.14, SD= 6.40), and then bipolar disorder with the highest total felt ambivalence score (M= 30.00, SD= 6.34) (see Table 16 and Figure 6).

Table 16

Mean Differences of Ambivalence Measures Between Conditions

		Ambivalence	Total felt ambivalence
Depression	Mean	2.13	28.26
	N	49	47
	Std. Deviation	1.10	6.62
Bipolar	Mean	2.47	30
	N	47	44
	Std. Deviation	1.33	6.34
Schiz	Mean	2.88	29.14
	N	48	44
	Std. Deviation	1.28	6.40

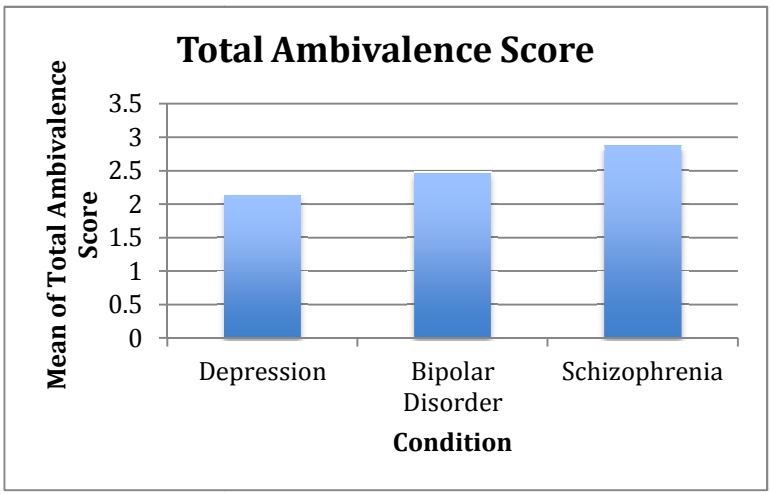

Figure 5: *Differences in Total Ambivalence Score Among Conditions*

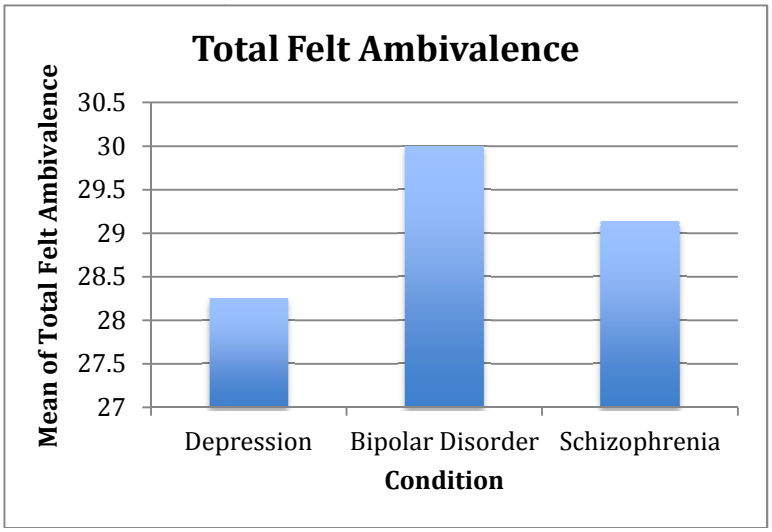

Figure 6: *Differences in Total Felt Ambivalence Among Conditions*

Results of a one-way ANOVA indicated that while the differences in total ambivalence scores were significantly different among conditions (F= 4.41, p= 0.01), the differences in total felt ambivalence scores were not significantly different (F= 0.83, p= 0.44) (see Table 17).

Table 17
ANOVA Test for Significant Differences in Ambivalence Scores Among Conditions

		Sum of Squares	df	Mean Square	F	Sig.
Total felt ambivalence	Between Groups	69.215	2	34.608	0.83	0.44
	Within Groups	5504.118	132	41.698		
	Total	5573.333	134			
Ambivalence	Between Groups	13.583	2	6.792	4.409	0.01*
	Within Groups	217.174	141	1.54		
	Total	230.757	143			

Note: * denotes significance at $\alpha<0.05$

In order to determine which conditions were significantly different from one another, post hoc tests were conducted. The results of an LSD post hoc test indicated that significant differences existed only between depression and schizophrenia for the total ambivalence scores ($p<$ 0.01) (see Table 18).

Table 18

Least Significant Differences Post Hoc Test For Significant Differences in Total Ambivalence Score Among Conditions

	(I) CONDITION	(J) CONDITION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Ambivalence	Depression	Bipolar	-0.34	0.25	0.19	-0.84	0.16
		Schiz	-0.75*	0.25	0.00*	-1.25	-0.25
	Bipolar	Depression	0.34	0.25	0.19	-0.16	0.84
		Schiz	-0.41	0.25	0.11	-0.91	0.09
	Schiz	Depression	0.75*	0.25	0.00*	0.25	1.25
		Bipolar	0.41	0.25	0.11	-0.09	0.91

Note: * denotes significance at $\alpha<0.05$

Results of separate independent samples *t*-tests and ANOVA tests determined that there was no statistically significant relationship between ambivalence and having a mental illness, knowing someone with a mental illness, one's ethnicity or one's year in school.

When participants were asked to respond to the open-ended ambivalence measure (asking how they felt in the moment upon thinking of those with the particular mental illness), a variety of responses were given. Although many individuals indicated both positive and negative sentiments on the prior ambivalence scale, most respondents only reported sympathetic beliefs (ex. It saddens me to think of people with schizophrenia because they cannot control their illness). The next most common response type was that of ambivalence (ex. I feel bad for those suffering from depression, but I think they can talk themselves out of their illness) (N=54). Only a handful of participants reported a hostile belief without any sympathetic attitudes (ex. Those with schizophrenia are less competent). This suggests that individuals are most comfortable admitting to only

their sympathetic beliefs even though they reported agreeing with both positive and negative statements. This open-ended section also revealed that individuals reported the greatest ambivalence and confusion for those suffering from bipolar disorder (N=19) and schizophrenia (N=19) as opposed to depression (N= 16). This mirrors the patterns of ambivalence found on the Griffin measure and the BEAMs measure.

Motivation to Learn

This last part of the present study focused on one's motivation to learn more about mental illnesses in order to lessen one's feelings of ambivalence. In regards to how knowledgeable one feels about mental illness, how much one wants to learn more, as well as the extent to which one plans on researching the topic further, gender differences were evident. No significant differences were found between genders in regards to feeling knowledgeable about mental illness. But men had less of a desire to learn about mental illnesses (M= 4.55, SD= 1.64) than did women (M= 5.42, SD= 1.22). Men also indicated that they were less likely to research mental illnesses (M= 3.31, SD= 1.90) than were women (M= 4.08, SD= 1.58) (see Table 19).

Table 19
Gender Differences on the Motivation to Learn Measure

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Am knowledgeable	Male	29	3.62	1.61	0.30
	Female	115	3.87	1.54	0.14
Want to learn	Male	29	4.55	1.64	0.30
	Female	115	5.42	1.22	0.11
Plan on research	Male	29	3.31	1.90	0.35
	Female	115	4.08	1.58	0.15

After conducting an independent samples *t*-test, it was found that the only significant gender differences occurred between the means for wanting to learn more and planning on researching mental illness further. Females were significantly more likely to indicate that they wanted to learn more about mental illness (t= -3.17, p< 0.01) as well as significantly more likely to report planning on researching the topic further (t= -2.25, p= 0.03) (see Table 20).

Table 20
Independent Samples t-Test for Significant Differences on the Motivation to Learn Measure Between Genders

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Am knowledgeable	-0.77	142	0.44	-0.25	0.32	-0.89	0.39
Want to learn	-3.17	142	0.00*	-0.87	0.27	-1.41	-0.33
Plan on research	-2.25	142	0.03*	-0.77	0.34	-1.44	-0.09

Note: * denotes significance at α<0.05

After examining the gender differences, one's disclosure of having a mental illness was then compared to one's motivation to learn more about the topic. However, the results of an independent samples *t*-test indicated that none of these differences were statistically significant.

Motivation to learn was also investigated in relation to whether an individual has a close family member or friend suffering from a mental illness. When asked how knowledgeable they felt about mental illness, those who were close with a mentally ill individual believed they were more knowledgeable (M= 4.47, SD= 1.41) than those who did not know someone (M= 3.46, SD= 1.52) (see Table 21). When asked how much they wanted to learn more about mental illness

as well as whether they planned on researching the topic further, no significant differences were evident.

Table 21
Differences on Motivation to Learn Measure Between Those Who Do and Do Not Know a Family Member or Friend with a Mental Illness

	Family member/Friend with MI	N	Mean	Std. Deviation	Std. Error Mean
Am knowledgeable	No	93	3.46	1.52	0.16
	Yes	51	4.47	1.41	0.20
Want to learn	No	93	5.23	1.31	0.14
	Yes	51	5.27	1.44	0.20
Plan on research	No	93	3.89	1.68	0.17
	Yes	51	3.98	1.67	0.23

Results of an independent samples *t*-test revealed that those who reported being close with a mentally ill individual felt significantly more knowledgeable than those who did not (t= -3.91, p< 0.01). The differences in wanting to learn and planning on researching were not significantly different (t= -0.21, p= 0.84 and t= -0.30, p= 0.76 respectively) (see Table 22).

Table 22
Independent Samples t-Test for Significant Differences on the Motivation to Learn Measure Between Those Who Do and Do Not Know a Family Member or Friend with a Mental Illness

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Am knowledgeable	-3.91	142	0.00*	-1.01	0.26	-1.5	-0.50
Want to learn	-0.21	142	0.84	-0.05	0.24	-0.52	0.42
Plan on research	-0.30	142	0.76	-0.09	0.29	-0.67	0.49

Note: * denotes significance at α<0.05

There were also differences in scores on this scale in regards to which condition the participant was placed in. Individuals tended to feel the most knowledgeable about depression (M= 4.41, SD= 1.44), then bipolar disorder (M= 3.66, SD= 1.61), and finally schizophrenia (M= 3.38, SD= 1.45) (see Table 23). No significant differences among conditions were found for respondents wanting to learn more about the illness and planning on researching the illness further.

Table 23
Differences on Motivation to Learn Measure Between Conditions

		N	Mean	Std. Deviation	Std. Error
Am knowledgeable	Depression	49	4.41	1.44	0.21
	Bipolar	47	3.66	1.61	0.23
	Schiz	48	3.38	1.45	0.21
	Total	144	3.82	1.55	0.13
Want to learn	Depression	49	5.29	1.44	0.21
	Bipolar	47	5.04	1.20	0.18
	Schiz	48	5.4	1.41	0.20
	Total	144	5.24	1.36	0.11
Plan on research	Depression	49	3.96	1.67	0.24
	Bipolar	47	3.72	1.73	0.25
	Schiz	48	4.08	1.62	0.23
	Total	144	3.92	1.67	0.14

The results of a one-way ANOVA indicated that significant differences exist only between the mean values for whether individuals feel knowledgeable about the particular mental illness ($F= 6.14$, $p< 0.01$) (see Table 24).

Table 24
ANOVA Test for Significant Differences on the Motivation to Learn Measure Between Conditions

		Sum of Squares	df	Mean Square	F	Sig.
Am knowledgeable	Between Groups	27.67	2	13.83	6.14	0.00*
	Within Groups	317.64	141	2.25		
	Total	345.31	143			
Want to learn	Between Groups	3.10	2	1.55	0.84	0.43
	Within Groups	259.39	141	1.84		
	Total	262.49	143			
Plan on research	Between Groups	3.17	2	1.59	0.57	0.57
	Within Groups	394.99	141	2.80		
	Total	398.16	143			

Note: * denotes significance at $\alpha<0.05$

In order to determine which means were significantly different from one another, an LSD post hoc test was run. The results of this test determined that significant differences exist between the means of depression and bipolar disorder ($p= 0.02$) as well as between the means of depression and schizophrenia ($p< 0.01$) in regards to whether the individual feels knowledgeable about the illness (see Table 25). Individuals reported feeling the least knowledgeable about schizophrenia.

Table 25
Least Significant Differences Post Hoc Test For Significant Differences in Perceived Knowledge Among Conditions

	(I) CONDITION	(J) CONDITION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Am knowledgeable	Depression	Bipolar	0.75	0.31	0.02*	0.14	1.35
		Schiz	1.03	0.31	0.00*	0.43	1.64
	Bipolar	Depression	-0.75	0.31	0.02*	-1.35	-0.14
		Schiz	0.28	0.31	0.36	-0.32	0.89
	Schiz	Depression	-1.03	0.31	0.00*	-1.64	-0.43
		Bipolar	-0.29	0.31	0.36	-0.89	0.32

Note: * denotes significance at $\alpha<0.05$

Results of separate ANOVA tests determined that there was no statistically significant relationship between ambivalence and one's ethnicity or year in school.

In looking at the correlations between the three variables tied to "motivation to learn," there appears to only be a significant association between wanting to learn more about the particular mental illness and planning on researching that illness further. The correlation between these two variables is r=0.63, which is statistically significant (p< 0.01) (see Table 26).

The only significant correlation between ambivalence scores and the "motivation to learn" items was between total ambivalence score and perceived knowledge (r=-0.22, p= 0.01) (see Table 26). This significant and negative correlation demonstrates that those who admit being less knowledgeable about a mental illness subsequently tend to have greater ambivalence scores towards that mental illness. Although no other "motivation to learn" variables were significantly correlated with total ambivalence score or total felt ambivalence, significant associations were found in regards to total sympathy score. Those who are more sympathetic tend to feel more knowledgeable (r= 0.25, p< 0.01), want to learn more (r=0.33, p< 0.01), and plan to research the illness further (r=0.24, p< 0.01) (see Table 26).

Table 26

Bivariate Correlations Between Ambivalence Scores and Motivation to Learn Measures

	Total Ambivalence Score	Felt Ambivalence	Am Knowledgeable	Want to Learn	Plan on Researching	Sympathy Score
Total Ambivalence Score	r= 1	---	---	---	---	---
Felt Ambivalence	r= 0.31, p< 0.00*	r= 1	---	---	---	---
Am Knowledgeable	r= -0.22, p= 0.01*	r= -0.16, p= 0.07	r= 1	---	---	---
Want to Learn	r= -0.03, p= 0.76	r= 0.15, p= 0.09	r= 0.07, p= 0.38	r= 1	---	---
Plan on Researching	r= 0.13, p= 0.13	r= 0.15, p= 0.09	r= 0.07, p= 0.40	r= 0.63, p= 0.00*	r= 1	---
Sympathy Score	r= -0.24, p= 0.00*	r= -0.09, p= 0.28	r= 0.25, p= 0.00*	r= 0.333, p= 0.00*	r= 0.24, p= 0.00*	r= 1

Note: * denotes significance at α<0.05

In order to further explore the associations between ambivalence, sympathy/hostility scores, and motivation to learn, linear regressions were conducted. First, the regression looked at whether the ambivalence scores, sympathy scores, and/or hostility scores were significant predictors of an individual claiming to be knowledgeable about a particular mental illness. It was found that, of all of the above mentioned variables, total ambivalence score was the only significant predictor of whether an individual felt knowledgeable about mental illness (t= -2.44, p= 0.02) (see Table 27).

Table 27
Linear Regression Model: Predicting Perceived Knowledge from Sympathy/Hostility Scores and Ambivalence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.42	1.07		2.27	0.03*
	Total felt ambivalence	-0.02	0.02	-0.08	-0.87	0.39
	Ambivalence	-0.69	0.29	-0.56	-2.44	0.02*
	Total sympathy score	0.27	0.15	0.16	1.79	0.08
	Total hostility score	0.71	0.39	0.40	1.81	0.07

Note: * denotes significance at $\alpha<0.05$

Next, associations between ambivalence, sympathy/hostility scores, and wanting to learn more about the mental illness were examined. The results of a linear regression test determined that total felt ambivalence ($t= 2.10$, $p= 0.04$), total sympathy score ($t= 4.61$, $p< 0.01$), and total hostility score ($t= -2.06$, $p= 0.04$) were all significant predictors of an individual wanting to learn more about mental illness (see Table 28). In other words, the more feelings of ambivalence one experiences, as well as the more sympathetic and hostile their feelings are on the topic of mental illness, the more that individual can be predicted to want to learn more about these illnesses.

Table 28
Linear Regression Model: Predicting Desire to Learn from Sympathy/Hostility Scores and Ambivalence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.57	0.92		2.81	0.01*
	Total felt ambivalence	0.04	0.02	0.18	2.10	0.04*
	Ambivalence	0.44	0.25	0.41	1.81	0.07
	Total sympathy score	0.60	0.13	0.40	4.61	0.00*
	Total hostility score	-0.70	0.34	-0.45	-2.06	0.04*

Note: * denotes significance at $\alpha<0.05$

Finally, associations were examined between ambivalence, sympathy/hostility scores, and one's plan to research mental illness further. The results of a linear regression test indicated that only total sympathy score was a significant predictor of one being more likely to further research mental illness (t= 3.41, p< 0.01) (see Table 29).

Table 29
Linear Regression Model: Predicting Research Plans from Sympathy/Hostility Scores and Ambivalence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.31	1.15		0.26	0.79
	Total felt ambivalence	0.04	0.02	0.13	1.53	0.13
	Ambivalence	0.32	0.31	0.24	1.03	0.30
	Total sympathy score	0.56	0.17	0.31	3.41	0.00*
	Total hostility score	-0.25	0.43	-0.13	-0.58	0.56

Note: * denotes significance at α<0.05

Discussion

General Discussion

The present study examined mental illness stigma as it is related to ambivalent attitudes and subsequent motivation to learn. Stigma was compared between different demographic groups as well as among three separate clinical diagnoses: depression, bipolar disorder, and schizophrenia. Results indicated that mental illness stigma does involve ambivalent attitudes and ensuing discomfort; however, the discomfort associated with these ambivalent attitudes does not necessarily lead to one's desire to research the mental illness further.

Sympathetic and hostile beliefs toward the mentally ill were first studied in relation to numerous demographic factors. Females reported significantly more positive attitudes towards mentally ill individuals. While males tended to report greater hostile beliefs, the difference between the genders on this measure did not reach statistical significance. These gender differences have been seen in prior research studies as well. In studies by Angermeyer and Matschinger (2003) as well as Taylor and Dear (1981), females revealed more sympathetic attitudes towards individuals with mental disorders than did their male counterparts.

Further, participants who disclosed having a mental illness themselves claimed significantly more sympathetic beliefs than individuals who did not disclose such information. Those with a mental illness also tended to report less hostile beliefs; however, the difference between the groups did not reach statistical significance. Similarly, those who indicated that a close friend or family member had a clinical diagnosis held significantly higher levels of sympathy than those who were not close with a mentally ill individual. Although

those with a mentally ill friend or family member also tended to indicate less hostile attitudes, the difference between the groups did not reach statistical significance on this measure. These results mimic those found in prior research studies. Those who know someone with a mental illness tend to feel more positively toward mentally ill individuals (Brockington et al., 1993, p. 97). Taylor and Dear (1981) also report that individuals who either have a mental disorder themselves or who know someone with a mental illness exhibit greater sympathetic attitudes towards the mentally ill population (p. 234). No significant differences in beliefs were found to be associated with one's ethnicity or year in school.

Results of the present study also indicated significant differences among positive and negative attitudes in regards to the condition in which the participant was placed. As for sympathetic attitudes, individuals felt most sympathetic towards those with schizophrenia, then those with depression, and finally those suffering from bipolar disorder. The differences between scores for depression and bipolar disorder as well as bipolar disorder and schizophrenia were the only ones that reached statistical significance. As for hostile attitudes, respondents felt most hostile towards those with schizophrenia, followed by those with bipolar disorder, and then towards those with depression. Only the differences between depression and schizophrenia as well as bipolar disorder and schizophrenia were statistically significant. These results mirror what has been found in previous research; schizophrenia often evokes images of violence and other negative attributes (Overton & Medina, 2008; Angermeyer & Matschinger, 2003).

However, the present research, unlike prior research, demonstrates that those with depression do not elicit more sympathetic attitudes than other disorders. According to Angermeyer and Matschinger (2003), depression tends to be associated with more pro-social reactions, which includes sympathy (p. 529). The present results indicate that schizophrenia is instead associated with more positive attitudes. Bipolar disorder, on the other hand, elicited the lowest sympathy score. It is important to note that individuals felt the most positively and the most negatively towards individuals with schizophrenia, hinting at the existence of ambivalent attitudes.

Total ambivalence score, as calculated from the 12-item ambivalence scale and the Griffin equation, was significantly correlated with the participants' total felt ambivalence scores as calculated by the BEAMs measure. This significant correlation indicates that the 12-item measure was successful at exposing ambivalent beliefs. Participants who reported greater ambivalent attitudes subsequently tended to report feeling more uncomfortable and uneasy than those with more univalent attitudes. Measures of ambivalence tended to differ among participants based on numerous factors.

The condition one was placed in was associated with differing ambivalence scores. In looking at total ambivalence score, calculated from the Griffin equation, individuals indicated the greatest ambivalence towards schizophrenia, followed by bipolar disorder, and then depression. However, only the difference between schizophrenia and depression reached statistical significance. It makes sense that schizophrenia resulted in the greatest total

ambivalence score due to the fact that this illness also elicited the greatest amount of sympathetic as well as hostile beliefs. As for total felt ambivalence, individuals tended to feel the most ambivalent upon answering questions related to bipolar disorder, schizophrenia, and then depression. But, none of these differences were statistically significant. On the open-ended measure, 55 out of 144 respondents reported experiencing conflicting beliefs about the mental disorders. These ambivalent emotions were reported the most for schizophrenia and bipolar disorder- a pattern similar to what was previously found. It is also interesting to note that although participants tended to agree with both positive and negative beliefs, most individuals only reported their sympathetic beliefs on this open-ended measure and barely any participants stated only a hostile sentiment.

The final portion of the present study examined participants' indication of being knowledgeable about the mental illness, their desire to learn more about the mental illness, as well as their plans to actively research the subject further. Females were more likely to indicate higher scores on all three of these items; however, only their scores on wanting to learn more and planning to research mental illness further were significantly different from their male counterparts.

In addition, individuals who reported having a close friend or family member with a mental illness also indicated higher scores on each of the three items than those who did not know someone with a mental illness. Only the mean difference for feeling more knowledgeable was found to be statistically significant. These results are consistent with prior findings; personal experience

with mental illness is related to greater knowledge of mental illnesses as a whole (Maclean, 1969, p. 50). Moreover, as Tormala and Rucker (2007) indicate, direct experience can lead to increased perceived knowledge about an object (p. 471). Factors related to one's ethnicity and year in school were once again found to be unrelated to these measures.

Next, the differences among the three conditions were investigated. On the topic of feeling more knowledgeable, people felt the most knowledgeable about depression, then bipolar disorder, followed by schizophrenia. Subsequent tests determined that only the differences between depression and bipolar disorder as well as depression and schizophrenia were statistically significant. It is important to note that schizophrenia was tied to both higher ambivalence scores and lower scores of being knowledgeable. A significant and negative correlation was discovered between total ambivalence score and perceived knowledge. Not understanding a particular mental illness may therefore be tied to ambivalence.

There were no significant correlations found between ambivalence scores and motivation to learn. However, sympathy score was significantly correlated with all three motivation to learn items; those who feel more positively about the mentally ill tend to feel more knowledgeable, have a greater desire to learn about these disorders, as well as indicate a greater likelihood of further researching these disorders.

In the last portion of the results section, sympathetic attitudes, hostile attitudes, total ambivalence score, and total felt ambivalence were all entered into regression analyses to determine whether they were significant predictors for

motivation to learn. Regression analysis results indicated that only total ambivalence score was a significant predictor of knowledge. On the other hand, total felt ambivalence, sympathy score, and hostility score were all significant predictors of wanting to learn more about the illness. Finally, sympathy was found to be the sole significant predictor of planning on researching the subject further.

Limitations

Results of the present research hint at patterns among mental illness stigma, ambivalent attitudes, and motivation to learn. However, many of the mean differences did not reach statistical significance. This may be due, in part, to a relatively small sample size. With a larger sample, it is possible that many of these items would have reached statistical significance.

Another limitation to this study is the fact that a decent portion of the participants (N= 37; 25.7%) indicated that English was not their first language. Their responses were still included in the analyses, but it is important to note that without a strong hold of the English language, many of the study items would be difficult to understand. This language barrier may have affected the responses since about one-quarter of the participants indicated their first language as one other than English.

Another potential issue with the current sample is the fact that females largely outnumbered males. Many gender differences were found in the present study and with the large discrepancy between the number of male and female participants, these significant gender differences should be carefully examined

and potentially retested in future research. Similarly, only 9 participants disclosed having a mental illness; the significant results regarding personal experience with a mental illness should therefore be carefully considered as well.

A further issue may be participants' lack of understanding with regard to these illnesses, specifically bipolar disorder and schizophrenia, which are less commonly discussed than depression. A few participants did ask the researcher to describe the illness of schizophrenia prior to completing the questionnaire. The researcher, in each case, advised the respondent that it is a psychological illness involving one's departure from reality and those suffering from the disorder oftentimes hear or see things that are not actually there. These respondents' questionnaires were still included in the final results. Perhaps a short description of each disorder at the beginning of the materials would have affected the findings by ensuring that each participant understood the symptoms and characteristics of each disorder. However, with these descriptions, the study would not be getting at natural reactions and attitudes towards these illnesses.

Another limitation of the study involves the second part of the questionnaire pertaining to one's total felt ambivalence. This is the section of the study that elicited the greatest number of omitted responses, which points at the confusion some participants may have felt in filling out this portion of the questionnaire. Respondents may have been confused as to the meaning of words such as "muddled" and "jumbled." In future studies, it will be necessary for the researchers to choose more common words such as "confused" in order to

investigate the feeling of ambivalence. This may result in an updated version of Cacioppo et al.'s (1997) BEAMs measure of ambivalence.

One final limitation is that the last part of the questionnaire included three items that did not seem to be related to one another. The only significant correlation was between wanting to learn and planning on researching the specific illness further. Being knowledgeable was unrelated to both of these items and should perhaps be considered separately from want to learn and plans to research. With an improved measure of "motivation to learn," more significant results may have come about. In addition, there was no way of telling whether those who "planned on researching" the mental illness further actually acted on this plan. These are all limitations that should be taken into consideration for future studies on the topic of ambivalence and mental illness stigma.

Implications and Future Research

One important finding from the present study is that those who are either mentally ill themselves or are in close contact with a mentally ill individual have increased sympathetic attitudes towards this population as well as a greater perceived knowledge of these illnesses. This direct experience has been researched in prior studies. These studies have demonstrated that contact with individuals suffering from serious mental illnesses produces greater attitude change towards this population; it affects one's perception of these individuals in the areas of personal responsibility and dangerousness (Corrigan et al., 2002, p. 303; Corrigan et al., 2003, p. 151; Corrigan & O'Shaughnessy, 2007).

Research has also explored the three main means of reducing mental illness stigma: protest, education, and contact. According to Overton and Medina (2008), protest involves "an attempt…to suppress stigmatizing attitudes by directly instructing individuals not to think about or consider negative stereotypes" (p. 147). However it is yet to be seen whether these protested beliefs actually reduce stigma or if it just makes an individual think more about the negative beliefs. Another means to mitigate stigma involves education, which is simply the act of communicating factual knowledge of mentally ill individuals to the public (Overton & Medina, 2008, p. 148). The concept of education also needs to be further investigated; future studies could examine the stigmatized beliefs and attitudes expressed by individuals who have and have not received mental health education. This is also important due to the significant negative correlation observed in this study between perceived knowledge and total ambivalence score. With more knowledge, it may be possible to reduce ambivalent attitudes and direct attitudes towards the mentally ill in a more positive direction. The final means of reducing mental illness stigma is contact with ill individuals, which was investigated in the present study. As stated in an article by Overton and Medina (2008), "the more personal contact a person has with a stigmatized group, the fewer stigmatizing attitudes he or she will have" (p. 148). This was indicated to be the case in the present study; individuals who reported having close contact with a mentally ill individual exhibited increased sympathetic attitudes. Future studies could explore this topic more in depth as well as the effects of protest and education.

Contact not only tends to cause greater sympathetic attitudes, but it also tends to be related to an individual feeling more certain about their beliefs, leading to a decrease in ambivalence and an increase in more univalent attitudes (Tormala & Rucker, 2007, p. 470-471). In the present study, no significant differences were found in regards to decreased ambivalence resulting from increased contact; however, future studies could investigate this further. All in all, results from this study paired with prior research findings point at the importance of contact with the mentally ill population. If we are able to increase exposure to this population, it is possible that stigmatizing beliefs will subsequently decrease.

The present study further examined ambivalent attitudes as they pertain to mental illness stigma. The results demonstrated the existence of ambivalence towards the mentally ill and the need to research this topic further. But, why is ambivalence important? The results of prior research indicate that ambivalent attitudes are more susceptible to persuasive messages (Conner & Sparks, 2002, p. 61). If feelings towards mental illness tend to be both positive and negative, then it is important to spread the facts about the mentally ill population. Those who are ambivalent will likely be very influenced by such information, perhaps leading to decreased stigma. Along the same lines, high levels of ambivalence tend to be associated with decreased confidence (Jonas et al., 2000, p. 58). Once again, this is important to consider because those with decreased confidence may be more likely to be open to persuasive messages that will alter their stigmatizing beliefs. Moreover, prior research reveals that as individuals feel more ambivalent

about a group of people, their reactions towards these people tends to be extreme. This response amplification essentially occurs when more extreme behaviors originate with individuals who are actually unsure about a topic (Ottati et al., 2005, p. 113). Therefore, those with ambivalent attitudes towards mental illness may be the ones exhibiting the greatest amount of perceived prejudice and discrimination. Future studies should look at the behaviors of ambivalent individuals as they relate to mental illness. Are those who are on the fence about their beliefs more likely to be the ones exhibiting discrimination? Through reducing ambivalent attitudes towards mental illness it appears that it may be possible to decrease discrimination and increase sympathetic beliefs.

The present research indicates that there are differences in stigma among the three disorders studied: depression, bipolar disorder, and schizophrenia. These differences have not often been addressed in past research and future research should investigate why these differences occur. Schizophrenia elicited the greatest ambivalence scores; because schizophrenia is associated with psychotic features, it may be possible that it is this presence of psychosis that is bringing about the ambivalence. This would make sense due to the lower level of ambivalence towards those with depression. With this, it will also be important to look at disorders outside of these specified three. It may be interesting, for example, to look at depression as it compares to anxiety disorders such as obsessive-compulsive disorder.

As was mentioned in the limitations section, one potential problem with the current study is that the three items on the motivation to learn scale were not

strongly correlated with one another, leading one to question the validity of the measure. Future studies should look to develop a better measure for "motivation to learn" so that it can be better determined whether ambivalent individuals are motivated to research the topic further in order to lessen the discomfort associated with the bipolar attitudes. It is also important to recognize that participants self-reported their motivation to learn. Future studies examining the "motivation to learn" idea should follow-up with participants to see if they actually researched the illnesses upon completing the study. If motivation to learn is not related to ambivalent attitudes, then what do ambivalent individuals do in order to reduce the discomfort associated with these conflicting beliefs?

Conclusion

The present study looked to examine attitudes towards the mentally ill as well as the extent to which ambivalent attitudes exist with regard to mental illness stigma. It was found that females and those who are in close contact with a mentally ill individual are more likely to feel sympathetic towards the mentally ill population. Among depression, bipolar disorder, and schizophrenia, schizophrenia was found to elicit the greatest feelings of both sympathy and hostility. It was therefore not surprising that the greatest feelings of ambivalence were related to schizophrenia as well. It is also important to note that individuals felt the least knowledgeable about schizophrenia and a negative correlation existed between ambivalence score and perceived knowledge. Participants' total ambivalence score, as calculated from the Griffin equation, was significantly correlated with their total felt ambivalence score, leading to the conclusion that

the ambivalence scale did indeed get at ambivalent and conflicting attitudes. However, ambivalence was not significantly related to motivation to learn as it was defined in the present study. Although ambivalence was not significantly correlated with one's desire to learn more or plans to further research the topic, sympathy score was related to all three items on the motivation to learn scale. Future studies may want to further examine this relationship and/or restructure and retest the motivation to learn measure as it relates to ambivalence. The present study demonstrates the importance of considering mental illnesses not as a single entity, but instead as separate disorders. Moreover, increased contact between mentally healthy and mentally ill populations may lead to decreased hostile attitudes and greater perceived knowledge about these disorders. All in all, this study points at the existence of ambivalence with regard to mental illness stigma as well as the subsequent discomfort stemming from these conflicting beliefs. As more research is conducted on the topic of ambivalence, it will be possible to further examine how individuals act in order to reduce the distress associated with their bipolar beliefs.

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SYRACUSE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

You have been asked to participate in a study that is part of a research project entitled:

Knowledge of and Attitudes Toward Mental Illness

The purpose of this study is to examine people's knowledge of and feelings toward those with mental illness. You will be asked to read a few statements regarding individuals with a certain kind of mental illness. As you read these statements, you will be asked to record the extent to which you agree or disagree with each of the statements. Then you will be asked to answer a few further questions related to the topic. You have the right not to answer any of the questions in this study if you are uncomfortable doing so. The benefit of this research is that you might learn some useful and important facts about mentally ill individuals. In addition, by participating in this study you may make an important contribution to our understanding of psychological processes. The study will last no more than one half hour.The risks to you of participating in this study are minimal; you might become upset if you have a personal connection with mental illness. But this risk is similar to those you encounter in your everyday life.

If, however, you find any aspect of the research to be upsetting and would like help managing your feelings, we would be happy to help you schedule an appointment at the SU Counseling Center, 200 Walnut Place, 443-4715 (http://counselingcenter.syr.edu/).

Participation in this study is voluntary, and you may withdraw your consent to participate at any time without penalty. In exchange for your participation, you will receive a half hour of credit to be counted as part of your requirements for Introductory Psychology (PSY 205). If at some point during the course of the experiment you wish to withdraw, you will still be given a half-hour of credit.

You have the right to receive a copy of any consent form that you sign and of any written documentation that is used in obtaining your consent. Your responses are strongly confidential. Your name will not be linked to the responses that you provide in this study. Materials will be identified only by participant numbers, not by names. If our data are requested by other researchers, it will be shared with them without any names or other personally identifying information.

This study will take less than one half hour.

If you have questions, concerns, or complaints about this research, or want answers to any other pertinent questions about this research, please contact **Dr. Leonard Newman** at **(315) 443-4633.** For questions about your rights as a research participant, or if you have questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the **Institutional Review Board at (315) 443-3013**.

Syracuse University
IRB Approved

EXPIRES AUG 6-2013

430 Huntington Hall / Syracuse, NY 13244-2340
315-443-2354 / Fax: 315-443-4085 / http://psychweb.syr.edu

If you are at least 18 years of age, if all of your questions have been answered, and if you would like to participate in this study, please complete the following:

Signature of participant	Date
Printed name of participant	
Signature of researcher	Date
Printed name of researcher	

430 Huntington Hall
phone: (315) 443-4633
email: lsnewman@syr.edu

What is your age? _____

What is your gender? _____

What is your year in school?

_____ Freshman _____ Junior

_____ Sophomore _____ Senior

What is your college major? _____

Were you born in the United States? _____

If not, then where were you born? _____

Is English your first language? _____

If not, then at what age did you start speaking English fluently? _____

Please indicate your ethnicity by placing a check next to the appropriate description:

_____ American Indian or Alaskan Native

_____ Asian or Pacific Islander

_____ Black/African American, not of Hispanic origin

_____ Latino/a or Hispanic

_____ Caucasian/White, not of Hispanic origin

_____ Other (please specify): _____

Do you suffer from a mental illness?

Yes_____ No_____

Have any of your close friends or family members been diagnosed with a mental illness?

Yes_____ No_____

If yes, which diagnosis? _____

Part I:

1. People with depression/bipolar disorder/schizophrenia are not responsible for their condition.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. People with depression/bipolar disorder/schizophrenia have no control over their condition.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. It is unfair to take into account a person's history of depression/bipolar disorder/schizophrenia when he or she is applying for a job.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

4. It is unfair to take into account a person's history of depression/bipolar disorder/schizophrenia when he or she tries to rent an apartment.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

5. People with depression/bipolar disorder/schizophrenia deserve more compassion from others than they currently receive.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

6. Providing more help to people with depression/bipolar disorder/schizophrenia should be one of society's highest priorities.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

7. People with depression/bipolar disorder/schizophrenia can be dangerous.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

8. One should hesitate to trust people with depression/bipolar disorder/schizophrenia with important tasks because they are often incompetent.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

9. People with depression/bipolar disorder/schizophrenia are unable to care for themselves.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

10. People with depression/bipolar disorder/schizophrenia are more childlike than other people their age.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

11. People with depression/bipolar disorder/schizophrenia tend to be less intelligent than those without depression.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

12. It is hard to develop relationships with people with depression/bipolar disorder/schizophrenia.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Part II:

Using the scale provided, please indicate how the following descriptions reflect your attitudes when you think about those suffering from depression/bipolar disorder/schizophrenia:

Very Slightly or Not at All 1 2 3 4 5 Extremely

1. Muddled _____
2. Divided _____
3. Consistent _____
4. Tense _____
5. Contradictory _____
6. Uniform _____
7. Jumbled _____
8. Conflicted _____
9. Harmonious _____

In your own words, describe your mood in the current moment after answering the questions about depression/bipolar disorder/schizophrenia:

_____
_____
_____
_____
_____
_____
_____
_____

Part III:

1. I believe I am knowledgeable about depression/bipolar disorder/schizophrenia.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. I want to learn more about depression/bipolar disorder/schizophrenia.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. I plan on researching information on individuals with depression/bipolar disorder/schizophrenia after completing this study.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

SYRACUSE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

Thank you for your participation in today's study. During this study, you were asked to indicate the extent to which you agreed or disagreed with statements regarding an individual with a certain mental illness—depression, bipolar disorder, or schizophrenia. Then, you were asked to indicate your feelings after completing the previous questionnaire as well as how knowledgeable you feel you are on the subject of mental illness. You were informed that the purpose of this study was to examine people's knowledge and feelings toward those with mental illness. The true purpose of this study was to examine mental illness stigma and ambivalent attitudes.

Research has indicated that attitudes toward mental illness are two-sided, or ambivalent; individuals simultaneously hold negative and positive opinions. For example, people may see the mentally ill as being dangerous but also feel bad for them because they are not to blame for their conditions. These feelings of ambivalence have been found to make an individual uncomfortable, as we typically desire to be set in our opinions, one way or another. This leads to the two hypotheses in this current study. First, we hypothesized that those who scored high in agreement on both the positive and negative ends would indicate that they felt more uncomfortable, or ambivalent, when told to think about the subject of mental illness. Second, we hypothesized that those who held more ambivalent attitudes would be more likely to indicate a desire or motivation to learn more about the topic. This is based off of the idea that through a deeper understanding of the topic, an individual will be more set in his or her opinions.

All the information we collected in this study will be kept confidential and there will be no way of linking your name to your responses. Your participation is greatly appreciated and will help psychologists understand more on the topic of mental illness stigma and ambivalent attitudes.

If you have any questions or concerns, you are welcome to talk with **Dr. Leonard Newman** of the Psychology Department at **(315) 443-4633.** For questions about your rights as a research participant, or if you have questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the **Institutional Review Board at (315) 443-3013**.

If you have experienced any kind of distress after completing this study, please contact the on-campus counseling center to assist you:

Syracuse University Counseling Center
200 Walnut Place
Syracuse, NY 13244-2480
315-443-4715

Thank you again for your participation in this study.

Summary of Capstone Project

This Capstone Project, "The Stigma of Mental Illness, Ambivalent Attitudes, and Motivation to Learn," explores the topic of mental illness stigma and the extent to which these attitudes are ambivalent, or two-sided. Research has demonstrated that upon thinking of individuals suffering from mental illnesses, people typically experience positive and negative attitudes simultaneously. In other words, they feel both sympathy and hostility towards these mentally ill individuals. For example, individuals often feel bad for those with mental disorders as they are not to blame for their condition and cannot control the condition's course. On the other hand, they may also believe these mentally ill individuals are more dangerous or incompetent than those without such illnesses. Experiencing these conflicting emotions and beliefs at the same time is termed attitudinal ambivalence.

This attitudinal ambivalence often results in feelings of discomfort. Research has identified that people feel more stable and at ease when their emotions about a certain issue are unwavering. The discomfort associated with ambivalence may act as a motivating factor to reduce the ambivalence.

The present study looked to further explore mental illness stigma, especially between various disorders, and the extent to which this stigma reflected ambivalent attitudes. Moreover, this study looked at the connection between attitudinal ambivalence and subsequent discomfort. Because this discomfort can act as a motivating factor to make one's attitudes more one-sided, this study also investigated the idea that greater ambivalence would lead to a greater likelihood

to research mental illness further in order to develop more of a concrete stance on the issue. All in all, the hypothesis was that participants would indicate both positive and negative, or ambivalent, attitudes towards the mentally ill and this ambivalence would cause a sense of discomfort leading to a greater motivation to learn more about the disorders.

Participants for this study were recruited through the Psychology Department's SONA system. Undergraduate students in the introductory psychology course were able to sign up for this study online and received one-half credit hour for their participation. The sample consisted of 144 undergraduates, 29 males and 115 females. Of these 144 participants, 9 of them disclosed having a mental illness and 51 of them indicated knowing a close friend or family member with a mental illness. Upon entering the lab, participants filled out a consent form, agreeing to participate in the present study as well as a short demographics sheet. This demographics sheet asked them to indicate their gender, age, year in school, ethnicity, whether English was their first language, as well as if they or a close friend or family member suffered from a mental disorder. They were then randomly assigned to one of three groups, indicating which questionnaire they would complete. The questionnaires were identical, except each of the three pertained to a different mental illness. Participants either filled out a questionnaire pertaining to depression, bipolar disorder, or schizophrenia.

The main questionnaire consisted of three separate measures. The first measure was the 12-item ambivalence scale and was a revised version of the scale created by my advisor, Dr. Leonard Newman, and his colleagues. This measure

consisted of 6 positive items and 6 negative items, getting at sympathetic and hostile beliefs. These items were statements about the particular mental illness and participants were asked to indicate the extent to which they agreed with the statements on a scale of 1 to 7 (1= Strongly Disagree, 7= Strongly Agree). An example of a positive or sympathetic statement is, "People with depression are not responsible for their condition." An example of a negative or hostile statement is, "People with schizophrenia are unable to care for themselves." In the analysis, these positive and negative scores were entered into a common ambivalence equation developed by Griffin:

Ambivalence= [(Positive + Negative) / 2] - |Positive - Negative|.

The idea is that as the positive and negative scores increase with one another, the ambivalence score becomes larger. If either the positive or negative scores outweigh the other, the ambivalence score will be a lower value. Through the use of this equation, each participant's "Total Ambivalence Score" was calculated.

The second measure of the questionnaire looked at *felt* ambivalence, or how conflicted the participant reported feeling. The first portion of this measure was the Bivariate Evaluations Ambivalence Measures (or BEAMs), an ambivalence measure created by Cacioppo et al. Here, participants were instructed to indicate the extent to which 9 particular attitudes were descriptive of their current state on a scale of 1 to 5 (1=Very Slightly or Not at All, 5= Extremely). A total of 6 attitudes reflected ambivalence (such as "Tense" or Jumbled") and 3 attitudes reflected a more univalent, or comfortable, state (such as "Harmonious"). After completing this measure, participants were given the

opportunity to express how they felt upon thinking about the particular mental illness, either depression, bipolar disorder, or schizophrenia.

The final measure of the study's questionnaire measured motivation to learn more about the illnesses. This measure consisted of 3 items; participants were once again asked to indicate the extent to which they agreed with each of the statements on a scale of 1 to 7 (1= Strongly Disagree, 7= Strongly Agree). These questions asked participants how knowledgeable they felt about the illness, how much they wanted to learn more about the illness, as well as how likely they were to research this illness in the near future.

The data from the questionnaires was entered into SPSS Statistical Software, and various data analyses were conducted (independent samples t-tests, ANOVA tests, regression analyses, and bivariate correlations). In order to determine which tests were significant, it was determined that the significance value (or *p*-value) would need to fall below $p = 0.05$. Results were divided into 3 separate sections- Stigma, Ambivalence, and Motivation to Learn.

Results on the Stigma measure indicated that participants typically expressed both positive, or sympathetic, and negative, or hostile, attitudes. Females were significantly more likely to report sympathetic beliefs than males. In addition, those suffering from a mental illness as well as those who indicated knowing someone with a mental illness reported significantly greater sympathy scores. Finally, it was found that there were significant differences in sympathy and hostility scores among conditions; schizophrenia elicited the most sympathetic and hostile beliefs.

The total ambivalence score was found to be a significant predictor of total felt ambivalence. In other words, the greater one's ambivalence score was as calculated from the first section, the more uncomfortable they indicated feeling in the second section. Therefore, simultaneously reporting both positive and negative beliefs results in greater discomfort, as was hypothesized. In looking at total ambivalence score, those answering questions about schizophrenia had the highest scores. This makes sense since schizophrenia elicited the greatest positive and negative responses. As for total felt ambivalence score, as was calculated from the BEAMs measure, bipolar disorder resulted in the greatest felt ambivalence. But, this was not found to be significant. In the open-ended section, 54 out of the 144 participants reported feeling ambivalent, or feeling confused and conflicted beliefs. It is interesting to note that the greatest number of participants only reported sympathetic feelings, even though they had, to some extent, agreed with the hostile statements as well. Also, only two participants indicated a negative, or hostile, belief without any sympathetic beliefs to go along with it.

The only correlation, or relationship, between ambivalence and motivation to learn existed between total ambivalence score and perceived knowledge. Those who indicated feeling less knowledgeable about the disorder subsequently reported more ambivalent beliefs. Moreover, it was found that females were more motivated to learn than males. Also, individuals who knew someone with a mental illness indicated greater perceived knowledge about the mental illness. It is also important to note that individuals felt the least knowledgeable about

schizophrenia; this makes sense due to the correlation between perceived knowledge and ambivalence score. Although there were no great correlations between ambivalence and motivation to learn, sympathy scores were found to be significantly correlated with all three motivation to learn items. In other words, the more sympathetic an individual was towards the mentally ill, the more knowledgeable they felt, the more desire they had to learn more, and the more plans they had to research the topic further.

Upon analyzing the results, it appears as though contact with a mentally ill individual has real benefits; those with personal experience with mental illness were more sympathetic towards this group and felt more knowledgeable. With more interactions between mentally ill and mentally healthy individuals, negative stigmas may decrease. The present study also suggests that differences in stigma exist among specific disorders. Future studies may want to look at other disorders besides the three employed in this study and uncover why schizophrenia elicits the greatest ambivalence. It may be possible that the psychotic features associated with this disorder are the cause of this ambivalence. This study reveals the existence of ambivalent attitudes towards the mentally ill as well as the discomfort associated with these conflicting beliefs. However, a significant correlation did not exist between ambivalence and motivation to learn as was hypothesized. Further research in the area may want to examine how individuals act in order to reduce the discomfort associated with ambivalent beliefs towards the mentally ill.