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Implicit and Explicit Stigma Surrounding Bulimia and Depression in a College Population

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Implicit and Explicit Stigma Surrounding Bulimia and Depression in a College Population

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Abstract

Research suggests that stigma lies on both a conscious, explicit level and an automatic, implicit level. This research investigated the explicit and implicit stigma surrounding two mental illnesses: depression and bulimia. 62 participants included college students in introductory Psychology courses, male (n=16) and female (n = 45). Participants took two Implicit Association Tests (IATs), one investigating general mental illness stigma versus physical illness (on the dimension of blameworthiness) and the other directly investigating bulimia stigma versus depression stigma (also on the dimension of blameworthiness). Then, participants were given either a vignette about a female with bulimia or depression and asked to fill out explicit measures about their attitudes towards the character. Analyses revealed stronger implicit stigma than explicit stigma. Stronger implicit associations between blameworthy and bulimia (vs. depression) were also associated with higher explicit scores of anger, social distancing, and personal stigma. Other analyses revealed some gender and condition differences in the explicit measures with men in the depression condition attributing more general stigma and personal responsibility to the character in the vignette. Further analyses showed weak correlations between implicit stigma on the second IAT and explicit stigma by condition (bulimia or depression). Further research could test whether the order of measures (i.e. doing the IATs first and then the explicit measures or vice versa) affects how participants report stigma. Implications for stigma reduction are discussed.

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Introduction

According to the National Alliance on Mental Illness (NAMI), one in four people in the United States will experience a mental health disorder in a given year (NAMI, 2009). For many of the people who experience mental health dysfunction, the earliest symptoms will be noticed during late adolescence or early adulthood. This indicates a significant concern for mental health in the college population. In fact, college is where many mental health problems can arise, with 75% of cases of mental and substance use disorders having their first onset before the age of 24 (Reavley, McCann, & Jorm, 2012). While some students may feel alone in their struggles, research has shown that a high percentage of college students are struggling with mental health issues. A 2008 survey by the American College Health Association indicated that nearly one third of college students had been so depressed at least once in the past 12 months that it was difficult to function and 46% said they felt "things were hopeless" in the past 12 months (American College Health Association, 2008). These studies indicate the percentage of students facing mental health issues in college is not small and that mental health is in fact a concern that needs to be addressed in college populations by students, faculty, and staff. Students' mental health issues may be due to the high stress levels caused by being away from family and friends, financial problems including high tuition costs and student loans, high volume of school-work, employment issues, adjusting to a new environment, and new relationships, among other stressful experiences. These stressful experiences can be especially harmful for those who have a genetic predisposition for a mental illness, making it more likely that they will experience a mental health issue in college.

Mental health problems are a growing concern in colleges. In the 2012 National Survey of College Counseling, 88% of counseling center directors indicated a greater number of students

with severe psychological problems on their campuses within the last year (Gallagher, 2012). In the same study, 92% of the counselors noted an increasing rate of students seeking help at their counseling center in recent years. For example, the number of students diagnosed with moderate to severe depression rose from 34% in 1998 to 41% in 2009 at one mid-sized private university (Guthman, Locin, & Konstas, 2010). There are several possible explanations for this increase. Now, more than ever, there is better education surrounding mental health, which may encourage students to seek out help. There are even specific groups that educate students on college mental health, including Active Minds and NAMI on college campuses. Lastly, as more young adults with mental illnesses are getting treatment, more are healthy enough to attend college. Dr. Katherine Nordal with the American Psychological Association weighed in on this topic, saying "These are youngsters many of whom in the past wouldn't have even finished high school... Special education services in high school mean that more students with emotional difficulties and special needs are going on to college" (Neighmond, 2011).

The issue of mental health on college campuses has also become a greater topic of discussion especially after many publicized suicides on college campuses such as New York University and events such as the Virginia Tech shooting. In a National Public Radio segment on mental health in college, the anchor noted “a frank discussion about mental health on college campuses is long overdue” (Brady, 2001), a statement that holds true today over 10 years later. Some work has been done in recent years to promote awareness about mental health on campus. In 2003, Active Minds, a student run group on campuses nationwide that raises awareness about mental health on campus, was founded as a national non-profit organization by Alison Malmon (http://www.activeminds.org/about/our-story). In 2004, the president of the American Psychiatric Association, Michelle Riba, assembled a Presidential Task Force on College Mental Health to

bring together psychiatrists working in colleges and promote awareness in the psychiatric field about college mental health. These efforts, among many others to raise awareness about mental health in college, are a good start in the attempt to educate the population about mental health.

In this thesis, I will examine the issue of mental illness stigma on college campuses – a crucial part of any discussion of college student mental health. I will begin the literature review by examining research on counseling center utilization and help-seeking. Counseling services can be a great resource on college campuses, but with the rise of presenting mental health issues in college students, college counseling centers are feeling the pressure. There are many barriers to help-seeking in college students, with stigma being one of the top barriers. I will then examine what is known about the issue of mental illness stigma. I will first define and describe facets of mental illness stigma, giving a broad scope of what stigma is and how it presents in college. Here I will describe personal stigma, self-stigma, public stigma and perceived stigma, along with implicit and explicit stigma. I will describe the labeling theory as it applies to mental illness and other factors that can influence stigma such as causal beliefs and familiarity with mental illness. Then, to prepare for the present study's focus on depression and bulimia, I will transition into discussing the research on depression in college students and the stigma surrounding it. I will do the same for bulimia in the next section. Then I will compare the stigma surrounding the two disorders. Finally, I will end the literature review with an outline of the present study on implicit and explicit stigma towards depression and bulimia in college students, discussing where it differs and how it builds on existing research.

Counseling Centers and Help-seeking

Given the rising numbers of students with mental health problems on college campuses, mental health services are an important resource for colleges to put money into. A NAMI study in 2012 (NAMI, 2012) surveyed college students who had dropped out of school and found that 64% reported that they were no longer attending school due to a mental health-related reason. Additionally, 45% of those students who had dropped out for mental health-related reason did not receive accommodations and 50% of them did not use mental health services and supports while at school. Lee, Olson, Locke, Michelson and Odes (2009) studied the relationship between the use of counseling services and academic performance and retention in college students. They selected college freshmen and transfer students who had received counseling services and examined the students' academic performance and retention. While they did not find that the use of counseling services was related to academic performance, they did find a significant relationship between the use of counseling services and student retention. Those students who utilized counseling services were three times more likely to register for another semester than those who did not receive any counseling (Lee, Olson, Locke, Michelson & Odes, 2009). This study shows that with the use of counseling services, those with mental health issues can remain and function in a college setting.

The students in the previous NAMI study (NAMI, 2012) who were no longer attending college for mental health reasons were asked to list ways that they could have been helped to stay in school. These included: receiving accommodations, using mental health services and support on campus, meeting with mental health providers earlier, joining peer-run support groups, assistance with medical bills and transportation, dealing with side effects of medications, and social support from family and friends. Many of these factors include some form of social

support, whether it is from professors and disability services giving accommodations, from mental health providers, family and friends, or other peers. Specifically, social support can be a huge factor for students with mental health issues. In research on mental health in college students and how social support affects mental health, low social support has been linked to poor mental health and a higher frequency of mental health issues (Blanco, Okuda, Wright et al., 2008; Hefner & Eisenberg, 2009). Therefore, putting more money into counseling centers, education about mental health on campus, and more peer-run support groups could increase the sense of community and social support on campus for those with mental illness. This, in turn, would allow students to feel more comfortable opening up about their mental health issues and seeking help for these issues at their college counseling center, which in turn could increase the retention rate.

College counseling centers are a very important mental health resource on campuses. They provide a supportive atmosphere for students to seek out help for their mental health issues. Research has shown positive outcomes for direct counseling with students facing problems that affect daily functioning (Vermeersch et al., 2004; Whipple et al., 2003). In a study of improvement during treatment in a college counseling center using feedback and clinical support tools, Whipple et al. (2003) found that in using these resources and early feedback in counseling, predicted “treatment failures” continued therapy and had better outcomes than those who did not receive early feedback and clinical resources (Whipple et al., 2003). Vermeersch et al. (2004) studied the outcome questionnaire for students receiving counseling at their counseling center and compared it to those not receiving counseling (comprised of students taking undergraduate psychology courses). They also examined whether this questionnaire was sensitive to change over the course of treatment. To do this, they administered the questionnaire over the course of

treatment for the treated group or over the course of 12 weeks for the untreated group. Researchers found that the questionnaire was change sensitive. They also found that the outcome questionnaire detected significantly more improvement in the treated group than the untreated group (Vermeersch et al., 2004). These studies show that counseling centers produce positive outcomes for those who utilize them.

While research has demonstrated the positive effects of college counseling, larger numbers of students seeking college counseling services and higher levels of severity have put pressure on these services. In the 2012 National Survey of College Counseling, 88% of the directors stated that this increase in demand for counseling services paired with the increase in severity of client's presenting problems has created staffing problems for them (Gallagher, 2012). Many college counseling centers must limit the number of sessions a student can have (NAMI, 2012), which can leave students feeling like there are limited resources and little help for their mental health issues. Also, many students are put on waiting lists to get a session at their college counseling center. In an NPR segment on college mental health, a study was mentioned that found that students on the waiting list are 14% more likely to drop out than those students who received more timely counseling (Franklin, 2009). These issues can prevent students with mental health issues who actually seek help from getting the full range of help they need.

Mental health issues can cause many problems for students, especially if they do not seek help. They can negatively affect students' work, relationships, friendships, and ability to effectively function in college. Not all students with mental health issues will seek help. In the American College Counseling Association's survey of 320 institutions in 2008, of the 133 reported student suicides, fewer than 20 of these cases had sought help on campus (American College Counseling Association, 2008). This, about 15%, is an alarmingly low number of

students with high levels of distress seeking help. Because suicide is higher among those with mental health issues, this statistic implies very low treatment seeking for students in college who are facing possibly severe mental issues. The ACHA-NCHA found that only 24% of college students diagnosed with depression were receiving treatment in 2008 (as cited in Hunt & Eisenberg, 2010, p. 6), while Blanco et al. (2008) found that fewer than 20% of college students with anxiety disorders were receiving treatment in 2008. These statistics show that the majority of those diagnosable with depression or anxiety are not seeking treatment. Kessler and colleagues, in a longitudinal study of mental disorders, found that untreated mild mental disorders have a high risk for future attempted suicides (Kessler et al., 2003). This study suggests possible severe future outcomes for not seeking help for a mental health issue. Along with the statistics previously given that suggest that few students seek out help, this finding implies that counseling center accessibility and factors to interfere with help-seeking need to be addressed in college settings.

There are many barriers that students face that prevent them from seeking help for a mental health issue. In a study of 46 medical students with depression, Givens and Tjia (2002) found that some barriers to help-seeking included: lack of time (48%), concern for lack of confidentiality (37%), stigma associated with using mental health services (30%), cost (28%), fear of documentation on academic record (24%), and fear of unwanted intervention (26%). Some of these concerns would not apply to most college students, including cost because most college counseling centers do not charge fees, but it is possible that not all students understand this. Other studies have focused on college participants and found additional barriers to help-seeking that are more relevant to college students, concluding lack of emotional openness (Komiya & Good, 2000), being unaware of counseling services or insurance coverage,

skepticism about effectiveness of treatment, and lack of perceived need for help (Eisenberg, Golberstein, & Gollust, 2007). With some overlap, NAMI's 2012 survey of 765 college students on mental health treatment-seeking revealed several barriers, including: stigma (36%), busy schedule (34%), hours of service (25%), lack of information (24%), long wait (16%), and other (15% – including reasons such as fear of being seen by peers because counseling services is in a high traffic area, excessive documentation, a limit to numbers of sessions, peers who are employed at counseling services seeing them, they don't know how to access services, and inexperienced providers i.e. graduate students). The Healthy Minds Study, which focused on college students' mental health, listed barriers to help-seeking by college students, which included (in order): I prefer to deal with issues on my own, stress is normal in college, I question how serious my needs are, I don't have time, financial reasons, I worry what others will think, I question how helpful treatment will be, and the problem will get better by itself (Eisenberg, 2009). Kessler et al.'s (2001) study of untreated mental illness found that young adults do not seek help for lack of perceived need for help and the desire to solve the problem on their own. These studies document numerous barriers that college students face when considering help-seeking for a mental health issue. These barriers impede help-seeking for students who may really need treatment.

There is also a gender gap in help-seeking. This is an issue that spans across a broad spectrum of help-seeking. Studies in the past three decades have found that men seek professional help less often than women for medical, substance abuse, and psychological issues (Addis & Mahalik, 2003). For men, there is a greater stigma attached to help-seeking in any form, possibly because seeking help may be thought to be attached to a weakness in character for men. This issue can be extended to college males as well. A 2006 study conducted by mtvU on

college mental health found that while 28% of college females said they would seek help for emotional issues, only 15% of males indicated they would seek counseling for an emotional issue (mtvU, 2006). While the help-seeking numbers are low in general, it is concerning that the number of men seeking help is even lower. Mental health issues can arise in both men and in women in college, and with these statistics on help-seeking differences, it is clear that it is especially important to reach out to men and educate them about mental health issues.

Many times the greatest of these barriers to help-seeking for mental health problems in college populations is stigma; Stigma was the number one barrier in both the NAMI and mtvU studies (NAMI, 2012; mtvU, 2006). Some of the other top barriers in the previous studies could be linked to stigma, such as "lack of emotional openness" if this was due to someone's fear of how others would respond (Komiya & Good, 2000) and the "desire to deal with issues on their own" if this was related to shame or fear of being perceived as weak (Eisenberg, 2009; Kessler et al., 2001). Similarly, students may "prefer not to open up to others" due to the harmful effects of stigma. They may feel they will be judged or ridiculed by others or the person that they are opening up to. The inability to feel comfortable opening up can just be another element of stigma. Another top listed barrier, lack of time (Givens and Tjia, 2002), is a reason frequently given by students for not seeking help. While many students face stressful and busy schedules, lack of time can sometimes be looked at as an excuse to push aside their mental health issues for other underlying reasons, such as stigma.

Only 23% of college students in mtvU's 2006 study said they "would be comfortable with friends or peers knowing that they were seeking help for emotional issues" (mtvU, 2006). This study clearly shows that stigma is a concern in college populations – it is affecting about 77% of students just in this study alone. Another study found that one in four people who

acknowledged a need for help did not seek out services due to concerns of stigma and what others might think (Kessler, Berglund, Bruce, Koch, Laska, Leaf et al., 2001). Mojtabai, Olfson, & Mechanic's (2002) study of perceived need and help-seeking found that lower help-seeking was found in those who associated embarrassment with mental health treatment. These three studies all link stigma reduced help-seeking for mental health issues. These studies indicate a problem within our society where fewer people will receive treatment for mental health issues that can really benefit them because they are worried of what others may think. Patrick Corrigan, a leading researcher on stigma, wrote in his 2004 article, *How Stigma Interferes with Mental Health Care*, "Stigma yields 2 kinds of harm that may impede treatment participation: It diminishes self-esteem and robs people of social opportunities" (p. 614). The stigma attached to mental illness may keep people from seeking social support, thus "robbing" people of social opportunities. Because of these kinds of harm that stigma brings, people may avoid seeking treatment. In the past decade, mental illness stigma has become a growing concern because of its impact on help-seeking. In 1999, the U.S. Surgeon General said, "For our nation to reduce the burden of mental illness, to improve access to care… stigma must no longer be tolerated" (As cited by Golberstein, Eisenberg & Gollust, 2008). While mental illness stigma still exists, it will remain as a barrier to help-seeking.

Mental Illness Stigma

The fear of stigma is a reason many people cite for not seeking help or for failing to continue treatment (Corrigan, 2004), but what is stigma? In 1963, Erving Goffman's book *Stigma: Notes on the Management of Spoiled Identity* inspired a wave of research on stigma (Link & Phelan, 2001). Goffman defined stigma as an '"attribute that is deeply discrediting" and that reduces the bearer "from a whole and usual person to a tainted, discounted one"' (Goffman,

1963, p. 3, as cited by Link & Phelan, 2001). In 1984, Jones et al. defined stigma as "an attribute that identifies an individual as possessing undesirable characteristics." Major and O'Brien in 2005 defined stigma as "an attribute that marks [people] as different and leads them to be devalued in the eyes of others… Stigmatizing marks may be visible or invisible, controllable or uncontrollable, and linked to appearance." These 3 definitions all share that stigma is related to some attribute in a person that makes others view this person negatively. In the context of this thesis, that attribute would be mental illness or mental health issues.

How does stigma occur? Link and Phelan identified four core components of the stigma process in their paper *Conceptualizing Stigma* (Link & Phelan, 2001). The first component is when people distinguish and label another person due to differences. This can be age, race, gender, or in this case mental illness. The in-group and out-group are created and labels are assigned. The second component is when negative attributes are assigned to these human differences. This happens when a stereotype is attached to a label – for example, dangerousness with mentally ill – and the stereotype becomes permanently connected. These stereotypes then become automatic associations – whenever we know someone has a mental illness, we automatically think they are dangerous. The third component of the stigma process is separating "us" from "them." The "them" group is stigmatized; "they" are not like "us," in fact they are very different. The last component is the status loss and discrimination suffered by those who are labeled as members of this discredited group (Link & Phelan, 2001). These four components are experienced by those who face the stigma of mental illness. They are labeled and defined by the mental illness, they face the stereotypes attached to their mental illness, they are separated from "us", and they are discriminated against.

Stigma is multifaceted and can take on many different forms. Three forms that are often studied in research are: public stigma, self-stigma, and personal stigma. Public stigma is defined by Corrigan et al. (2012) as "the common stereotypes held by the general population." These are the beliefs held by our society towards those with a mental illness. For example, a common stereotype many people in the population hold is that those who have a mental illness are dangerous. In a study of the consequences of stigma in a work atmosphere, Corrigan, Powell, and Rusch (2012) found that many of those who endorsed public stigma also endorsed dangerousness related to those with a mental illness. Perceptions of dangerousness results in fear which, in turn, leads to social avoidance and a desire to segregate those with a mental illness in order to avoid this supposed danger (Corrigan, Powell & Rusch, 2012). These findings are consistent with other studies of public stigma. In a nationwide survey of attitudes, beliefs and behaviors of Americans concerning critical social issues like mental illness, Pescosolido, Monahan, Link, Stueve, and Kikuzawa (1999) studied how Americans feel about the competence, dangerousness, and need for legal coercion (when those with a mental illness are forced to be put in a hospital or treatment) of those with a mental illness. Participants reported lower competence levels and a higher expectation of dangerousness for characters in a vignette labeled with a mental illness. Their responses to the need for legal coercion were different across different diagnoses – for example, respondents were more likely to endorse legal coercion for those labeled with schizophrenia as opposed to those labeled with depression. (Pescosolido et al., 1999). These findings suggest that the public may view those with mental illness as more dangerous and incompetent than another person, which indicates that public education about mental illness should be increased.

People with a mental illness face discrimination in many facets of their lives that holds them back from living a full life. Researchers describe this discrimination, saying:

> [People with a mental illness] encounter landlords who refuse to rent them apartments, employers who fail to hire them, mental health professionals who inappropriately hospitalize them, primary care providers who withhold needed services,… in many cases not because of the way people with mental illness act but rather because of prejudicial beliefs about them (Corrigan, Watson, & Ottati, 2003, p. 142).

Research on public stigma supports these claims. Farina and Felner (1973) found that employers were less likely to offer an applicant a job if he was believed to have a mental illness. To study this, they used a college-aged male who acted as an applicant and went to job interviews. In half of the interviews, he claimed to have been travelling for 9 months prior and in the other half he indicated he had been in a mental hospital for the prior 9 months. Giving a mental illness history led to fewer job offers, less friendly behavior from the interviewer, and a lowered estimated probability of finding a job (Farina & Felner, 1973). Similarly, studies of whether those with a mental illness have more trouble receiving independent living accommodations have found that landlords are less likely to rent apartments to those with mental illness (Alisky & Iczkowski, 1990; Page, 1977). These studies indicate public stigma exists towards those with a mental illness. This public stigma can hold people back from getting a job or living independently, which in turn could lead to a lower quality of life.

Related to public stigma, perceived public stigma is defined as "the extent to which an individual perceives the public to stereotype and discriminate against a stigmatized group" (Golberstein, Eisenberg & Gollust, 2008, p. 392). Perceived public stigma can lead those with a mental illness to believe that others will discriminate against them. Perceived public stigma may

also serve to validate people's stereotypes; That is, if they believe those with a mental illness are dangerous and they also believe others think that way, they will not change their attitudes. Multiple studies have shown that people will report higher levels of perceived stigma than they will report levels of their own stigma (Griffiths et al., 2004; Calear, Griffiths, & Christensen, 2011). This indicates that many people believe that others stigmatize mental illness more than they do themselves. In their study of perceived stigma and mental health care seeking among college students, Golberstein, Eisenberg and Gollust (2008) found that perceived public stigma was higher among males, older students, Asian and Pacific Islanders, international students, students with lower socioeconomic status backgrounds, students with current mental health problems, those without any family members or friends who had used mental health services and among those who believed that therapy or medication is not very helpful. They also found a lower probability of perceiving a need for help associated with perceived public stigma, but only among the younger students in their study (college students aged 18-22). They did not find, however, that perceived public stigma was associated with less utilization of mental health care overall (Golberstein, Eisenberg & Gollust, 2008). This last finding suggests that it is not perceived public stigma that keeps people from help-seeking. It may be another form of stigma, possibly self-stigma which prevents help seeking. Overall, these findings indicate that college students think that the population stigmatizes mental health care issues greatly, with some subgroups holding this belief more strongly, and this can lead to a lack of perceived need for help.

Public stigma and perceived public stigma can have personal consequences for those with a mental illness, in that they can lead to self-stigma. The process of self-stigma is when people with a mental illness internalize stigma and in turn, they face a loss of self-esteem and self-

efficacy (Watson, Corrigan, Larson & Sells, 2007). Those with self-stigma have diminished feelings of person worth (self-esteem) and feel they cannot successfully perform a behavior in a specific situation (self-efficacy) (Corrigan, 2004). Not everyone with a mental illness faces this process. In fact, some become energized and empowered by the stigma they face, but many face the personal problem of self-stigma (Watson, et al., 2007). Corrigan, Watson and Barr (2006) proposed a three level model to explain the process of self-stigma. The first level is stereotype agreement. This is believing the same stereotypes about individuals with mental illness that are perceived to be common within the public. For example, this could be saying: "I agree that people with a mental illness have a person weakness." The second level is self-concurrence, or when the person internalizes this belief to be true about themselves. "I have a personal weakness because I have a mental illness." This causes the last level, which is self-esteem decrement or the diminishment of self esteem due to these negative beliefs about the self (Corrigan et al., 2006). Therefore, self-stigma can cause someone to feel negatively towards themselves, leading to a lower quality of life.

Self-stigma can have negative consequences beyond diminished self-esteem and self-efficacy. In a study of community members and psychiatric clinic outpatients, Link (1982) found that people with low self-efficacy as a result of self-stigma were less likely to try to attain employment and live independently. Those who faced self-stigma had internalized the stereotypes that they could not live alone or successfully work at a job, and therefore did not even pursue these opportunities. This would probably lead to a lower quality of life for these people facing self-stigma. In 2008, Fung, Tsang and Corrigan conducted a study of treatment adherence for patients diagnosed with schizophrenia. They found that higher levels of self-stigma were a significant predictor of poor psychosocial treatment adherence (Fung, Tsang &

Corrigan, 2008). This indicates that self-stigma is another barrier to help-seeking for those labeled as mentally ill. This is another factor that could lead to a lower quality of life. Overall, self-stigma is a consequence of public stigma and perceived public stigma that can produce negative feelings and effects, including a lower quality of life and lower help-seeking levels.

A fourth type of stigma that is commonly researched is personal stigma. Personal stigma is defined as "each individual's stereotypes and prejudices" expressed toward others (Eisenberg et al., 2009, 253). As opposed to self-stigma where a person internalizes stigma and directs it towards themselves, personal stigma is the stigma that a person has about others. Personal stigma can be formed from public stigma and perceived public stigma. Multiple studies have found that personal stigma is negatively associated with help-seeking (Eisenberg et al., 2009; Barney et al., 2006). In a study of stigma and help-seeking for mental health issues among college students, Eisenberg et al. (2009) found some characteristics that led to higher personal stigma included: being male, younger, Asian, international, more religious, or from a poor family (Eisenberg et al., 2009). Similarly, researchers studied Australian university students about mental health and found that personal stigma was higher among males, younger participants, those with a lower level of education, those born outside Australia and those who had a lack of recognition of depression (Reavley, McCann, & Jorm, 2012). Some of these factors are very similar to the factors found by Golberstein, Eisenberg and Gollust (2008) previously discussed that led to higher perceived public stigma including males, international students, and low socioeconomic status. This indicates that specific groups may be more personally stigmatizing of mental illness, which suggests educators may need to direct more or different stigma-reduction techniques to these at-risk groups.

Stigma can lie both on an explicit level (i.e. on a conscious and controllable level) or on an implicit level (i.e. on an automatic level) (Stier & Hinshaw, 2007). Explicit stigma is measured through self-report measures. Previous research suggests that with explicit measures, there can be a social desirability bias, and thus direct self-reports can correlate poorly with behavioral or implicit measures (Dovidio et al., 1997; Greenwald & Banaji, 1995). Social desirability bias occurs when people do not want to admit, to themselves or others, that they hold attitudes that might be socially undesirable (Eisenberg et al., 2009). Research has shown that mental illness questionnaires can be especially prone to social desirability bias. In a study of social distancing experienced by individuals who have been psychiatrically hospitalized in the past, Link and Cullen (1983) found that participants responded with more socially desirable answers to explicit measures of mental illness than to measures of "deeper attitudes" (Link & Cullen, 1983). These studies suggest that attitudes are not only held on a conscious, shallow level and participants are not always willing to unveil the attitudes they hold on the conscious level. To gain a fuller understanding of stigma towards mental illness, research suggests that future investigations not only use explicit measures, but also measures that test the automatic attitudes that people hold.

As previously said, stigma can lie on an automatic, or implicit level. Implicit stigma is defined as "[attitudes] that exist without the conscious knowledge of the respondent" (Stier & Hinshaw, 2007). Implicit measures can assess the underlying attitudes that one holds because the respondent has much less control over them than they do over their responses to explicit measures. Implicit measures can reveal those attitudes that are missed in explicit measures: the socially undesirable attitudes. The most common implicit measure is the Implicit Association Test (IAT). "On the IAT, respondents pair concepts with stimulus groups of interest; the

outcome measure is reaction time, with shorter latencies believed to be an indication of stronger automatic association of the concept with the stimulus group (Stier & Hinshaw, 2007, p. 111). In studies using both explicit and implicit measures of bias, implicit attitudes are often stronger than explicit attitudes, showing that implicit measures may be better able to capture the full scope of stigma than explicit measures, probably due to their resistance to social desirability bias. Teachman, Wilson and Komarovskaya (2006) researched implicit and explicit stigma in those diagnosed with a mental illness and those not diagnosed with a mental illness. Researchers found no significant difference in stigma in those diagnosed with a mental illness and those not. They found that there was a great deal of implicit stigma towards mental illness in both those diagnosed with a mental illness and those without. In contrast, they found that explicit stigma was not as high, suggesting that both groups were affected by social desirability bias on these explicit measures (Teachman et al., 2006). This indicates that researchers who are studying stigma on mental illness should include both implicit and explicit measures to fully understand the extent of stigma.

Factors that Influence Mental Illness Stigma

Familiarity. Research has indicated that there are some factors that can affect the amount of stigma one holds towards someone with a mental illness. One of these factors is familiarity with mental illness. Research has indicated that someone who has familiarity with mental illness or is close to someone with a mental illness has lower amounts of mental illness stigma. One study of depression stigma surveyed community members about their attitudes towards depression. Researchers found that those who indicated they had a friend or family member with depression reported lower personal stigma and lower social distancing towards individuals with depression (Griffiths, Christensen, & Jorm, 2008). This indicates that personal contact with

someone with a mental illness may contribute to lower experiencing of personal stigma. A related finding in study of factors that influence social distancing from individuals with mental illness is that contact with someone with a mental illness led to lower social distancing (Lauber et al., 2004). This also indicates lower stigma reports when someone has familiarity with mental illness. Read and Law's study of attitudes towards the 'mentally ill' suggested that "the strongest influence on an individual's attitudes… is the number of people personally known by the respondent who have received psychiatric treatment" (Read & Law, 1999, p. 227). Thus, numerous studies have indicated that familiarity with mental illness leads to lower mental illness stigma.

Causal Attributions. Another factor that can determine the amount of stigma an individual holds towards individuals with mental illness is causal attributions, or how one accredits the cause of a mental illness. In 1995, Weiner proposed a model of how causal attributions can affect stigma with respect to personal responsibility. He proposed that those who believe the person with a mental illness caused the mental illness (i.e. his crazy behavior is his fault) would have subsequent feelings of anger towards this person, which would lead to diminished helping behavior. Those who blamed the behaviors on the mental illness and not on the person (i.e. he can't help it, he has a mental illness) would have subsequent feelings of pity towards the person, which would lead to increased desire to help (Weiner, 1995 as cited by Corrigan et al., 2002). Although the latter response may seem more positive in some ways, these are both forms of stigma because they involve treating the person with a mental illness differently and with either pity or blame, instead of treating them like any other person.

Some mental health groups such as NAMI have promoted a biological explanation for mental illnesses, using the slogan "Mental illness is a brain disease" (Corrigan & Watson, 2004).

This approach has been shown in research to reduce blame for mental illness. In a study of mental illness stigmas of personal responsibility and dangerousness, Corrigan et al. surveyed community college students about their beliefs towards those with a mental illness. The group that received education about the biological explanation of mental illness was less likely to endorse blame, anger, and social avoidance toward people with mental illness (Corrigan et al., 2002). However, framing mental illness as a brain disease may have negative effects on stigma as well. A biological explanation may encourage people to believe that people with a mental illness cannot recover, which in turn leads to benevolence stigma, a belief that those with a mental illness are like helpless children who need to be controlled by a parental figure (Corrigan & Watson, 2004). This type of stigma holds those with a mental illness back and makes them believe they cannot function by themselves in the world. Biological explanations can also exacerbate the belief that those with a mental illness are dangerous (Corrigan & Watson, 2004). This may be due to biological explanations causing people to believe those with a mental illness cannot control their behavior or may be unpredictable, further pushing the belief of dangerousness. This belief can have negative consequences for those with a mental illness.

Another causal attribution model of mental illness is the psychosocial model, which emphasizes environmental stressors and trauma as causal factors of mental illness (Corrigan & Watson, 2004). In a sample of college students, researchers gave a survey about attitudes towards mental illness before and after four lectures about mental illness using a psychosocial model. They found that after the four psychosocial model lectures, students' attitudes towards those with a mental illness changed, especially on the items of dangerousness and unpredictability. After the four lectures, students were more likely to rate the 'mentally ill' as safer and more predictable (Read & Law, 1999). For the best model, researchers suggest a more

multi-factorial model of causal attribution, such as the diathesis-stress model (or the combination of biological, psychological, and social factors) (Bennet et al., 2008; Corrigan & Watson, 2004). The diathesis-stress model proposes that mental illness is caused by a biological predisposition combined with environmental factors (Straub, 2002). This model would be ideal because it combines the aforementioned models to propose not just one cause of a mental illness, but a combination of causal factors that is more accurate. This model, because of a combination of factors, could possibly reduce stigma surrounding mental illness. The model could help educate people that the cause of mental illness it not just one factor but a combination of factors, which could help people understand mental illness better and therefore reduce stigma.

Labeling. Stigma greatly affects those labeled with a mental illness, more so than those labeled with a physical illness. While both of these labels can carry stigma attached to them, research shows that the label "mental illness" is more stigmatized than "physical illness." In a study comparing attitudes towards mental health disabilities and physical health disabilities, Corrigan et al. (2000) found that mental health disabilities were rated more negatively on controllability and stability measures. This indicates that people view mental illness more negatively than physical illness, which leads to higher stigma and greater discrimination towards mental illness. Even the wording of mental illness is more stigmatizing than physical illness. For example, many people would say "She is Bipolar." This wording suggests that bipolar defines the person and is the foremost quality of the person. Nobody would ever say "She is Cancer" or "She is Diabetes," but instead say "She has Cancer/Diabetes," which suggests that these are illnesses that are affecting her, not defining her. This implies that mental illness stigma is deeply engrained in our society, even in our way of talking about mental illness. Some organizations have created slogans addressing this topic in order to reduce stigma surrounding mental illness.

From 2006 to 2010, the Depression is Real Coalition campaigned to reduce mental illness stigma by comparing mental illness to physical illness with PSA slogans such as "You'd never say 'it's just cancer, get over it.' So why do some say that about depression?" The goal of these educational slogans was to get people to think about mental illnesses just like physical illnesses and therefore treat them the same. This would decrease the stigma surrounding mental illness and possibly encourage people to learn more about mental illnesses.

As previously noted, the label "mental illness" itself can be stigmatizing. Thomas Scheff first proposed The Label Theory in 1966. He originally proposed that mental illness arises due to societal reaction, i.e. stigma (Scheff, 1966). While this view is now seen as radical and is often criticized (Link, Cullen, Struening,. Shrout & Dohrenwend, 1989), Scheff began an important line of inquiry into the effects of labeling. In their modified labeling theory developed to explain the effects of labeling on individuals with mental illness, Link et al. (1989) proposed that while labels may not actually produce mental illness, they do produce negative outcomes for those who are labeled. Some of these negative outcomes included secrecy and withdrawal from people. In 2007, Phelan and Basow conducted a study where they hypothesized that the label "mental illness" would elicit greater stigma (in respect to one facet of stigma – dangerousness). They gave three scenarios to undergraduate students about young people with symptoms of depression, alcohol abuse, or common stress and were asked about their attitudes towards the character and how likely it was that this character was experiencing a mental illness. They found that when the participants labeled the character as 'mentally ill,' participants were more likely to perceive the character as dangerous. The characters in the depression vignette were most likely to be labeled as "mentally ill," followed by the alcohol abuse vignette characters. The

researcher's hypothesis was supported, showing that stigma can be triggered by the label "mentally ill" (Phelan & Basow, 2007).

Disorder Type. Research has established that there are general stigmatizing effects of being mentally ill or being labeled with a mental illness. More recently, research has examined whether stigma differs for different disorders. Research varies on the answer to this question. Some research indicates mental illness are generally stigmatized, and more so than physical illnesses, but there are no differences between mental illnesses (Link et al, 1989; Corrigan et al., 2000; Weiner, Magnusson, & Perry, 1988). Other research indicates that there is a change in stigma for specific labels of mental illness. Pescosolido, Monahan, Link, Stueve, and Kikuzawa (1999) found that people with psychotic disorders were thought to be less competent and more dangerous than those with depression or anxiety disorders. Additionally, Roehrig and McClean (2010) found that eating disorders were more stigmatized than depression using vignettes, and also that those who held stigmatizing beliefs towards eating disorders had different facets of stigma, such as envy (Roehrig & McClean, 2010). Possible differences in stigma towards individuals with bulimia versus depression will be explored in greater depth in subsequent sections.

Stigma can appear in many different forms. It can be shown through envy, pity, anger, or personal responsibility beliefs. It can also appear in social distancing, where people will socially distance themselves from those with a mental illness. Stigma can make people believe that those with a mental illness are unpredictable, dangerous, or have a personal weakness. Stigma can take form in fear as well. In a study of college students with a mental illness, Salzer (2012) found that "approximately 27% of respondents reported that others treated them differently "most of the time" when they found out they had a mental illness, and almost half reported that this occurred

"sometimes" (47%)."This indicates that most people with a mental illness feel they are discriminated against in some form. It indicates that stigma is a problem in college campuses as well.

Stigma can be a huge barrier to seeking help. It holds those with a mental illness back from living a full life without feeling discriminated against. Some people with mental illness have even reported that the stigma attached to mental illness can be more harmful and harder to overcome than mental illness itself (Corrigan, 1998). This indicates that stigma is a problem within our society that needs to be addressed.

Depression in College Students

As previously mentioned, college can be a time where mental health issues can arise for the first time. One of these issues is depression. One study that surveyed 1,622 college students at college campuses including the University of Wisconsin, the University of Washington and the University of British Columbia found that "one out of every four or five students who visits a university health center for a routine cold or sore throat turns out to be depressed, but most centers miss the opportunity to identify these students because they don't screen for depression" (Paul, 2011). Students in college face many stressors that can trigger depression including: being away from home, relationship issues, problems with schoolwork, problems making friends, among many other stressors. One study surveying 962 students from three universities found that more than 80% of participants responded that they have experienced depression since coming to college and 42% of these participants felt that depression was a major problem on their college campus (Westefeld & Furr, 1987). These findings indicate that the majority of students are experiencing some level of depression at some point in their college career. This number is very high though, and the researchers indicated that it may be so high because the term 'depressed'

was never operationally defined within the study and therefore was open to interpretation (Westefeld & Furr, 1987). When asked about strategies to more effectively deal with depression, the same students responded with the top response being "make more people aware of the problem" (Westefeld & Furr, 1987).

Westefeld and Furr teamed up with 2 more researchers over a decade later in 2001 to conduct the same study to research modern day depression on college campuses. They surveyed 1,455 students from 4 different colleges about depression. This time, 53% of students responded that they had experienced depression since being at college (Westefeld, Furr, McConnell & Jenkins, 2001). This number decreased from 80% in 1987 to 53% in 2001. This decrease could be due to more education about depression in our society, therefore leading to more people knowing exactly what depression is and leaving the term "depression" not as open to interpretation. It could also be due to people interpreting the term depression more as a more severe condition in 2001 due to this increase in education about mental illnesses. Nonetheless, Westefeld and Furr's finding that 53% of students have experienced depression still suggests that the majority of students in college experience depression at some point. Students in the 2001 survey said the best strategy for effectively dealing with depression was to make students more aware of the services available to them (Westefeld et al., 2001). While services are available, many students may not be aware of them, and those who are aware may face the stigma associated with having depression that keeps them from seeking the services.

The stigma of depression in college may keep students from accessing counseling services and effectively functioning in the college setting. In 2008, the ACHA-NCHA found that only 24% of college students diagnosed with depression were receiving treatment (Hunt & Eisenberg, 2010). Many of the students who were not being treated probably faced perceived

public stigma surrounding depression, which prevented them from seeking treatment. In a study of college students' perceived stigma and barriers to help-seeking, researchers found that perceived stigma was a greater barrier to seeking help than other barriers such as not knowing where to get help or cost (Britt et al., 2008). This indicates how great a barrier stigma can be to help-seeking for depression in college students. A different study looked at mental health literacy in college students in Australia (Reavley, McCann & Jorm, 2012). Researchers conducted phone interviews with university students, reading to them a vignette of a character with symptoms of depression (no diagnosis given). The participants were then asked about whether they recognized the disorder in the vignette, what they would do to seek help if they had the same problem, their beliefs and intentions about first aid, and their beliefs about interventions. Seventy-four percent of the students correctly identified that the person in the vignette was suffering from depression (Reavley, McCann & Jorm, 2012), which demonstrates some knowledge of the disorder. Ninety-five percent of the student participants agreed that counseling is a helpful intervention, indicating the knowledge of specific intervention techniques. But given this percentage of participants who agreed counseling was effective, the rates of specific help-seeking intentions were relatively low. Only 26% of students said they would seek help from a general practitioner, 10% from a counselor, and 8% from a psychologist (Reavley, McCann & Jorm, 2012). These results show possible stigmatizing attitudes that students hold towards depression and help-seeking for themselves. Although they recognize depression, and would possibly recommend treatment for depression to someone else, they would not seek the intervention themselves.

The stigma of depression in college can start with the mental health clinic/health services. In many cases, mental health services are located on campus in an area where other students can possibly see a student walking in. The stigma of just walking into the mental health services'

building can prevent students with depression from seeking help. In a PBS interview, a Yale professor of Psychology, Dr. Susan Nolen-Hoeksema said that when she refers students to clinicians at the college, many students will reply, "I want somebody off-campus. I don't want to be seen on-campus going into the mental health clinic" (Pauley, 2008). The stigma surrounding depression on campus also makes students with depressive symptoms afraid that others will find out. On this, an article from the Depression on College Campuses Conference states that "[students] may fear that their professors will believe them incapable, or feel that they are not deserving of accommodations. They may also have fears that they will lose relationships with friends or family members… One particularly devastating consequence of stigma is that students will delay treatment in order to avoid obtaining the label 'mentally ill'" (http://www.depressioncenter.org/docc/information.asp). Stigma is very harmful to those experiencing depression in college, as it can prevent help-seeking and exacerbate the symptoms of loneliness and hopelessness that the student already feels. Stigma is prevalent around depression in college students and therefore is a concern that must be addressed.

Bulimia in College Students

Another growing mental health issue for college students is bulimia. With the persistent pressure to look "good" and the desire to have control over something in their lives, many students, especially females, develop eating disorders such as bulimia. Specifically for bulimia, NAMI indicates that 2-3% of young women develop bulimia (NAMI, 2003). This number may appear low. This may be due to low reporting of bulimia or its symptoms, because of the stigma attached to bulimia. In phone interviews with university students from 2005 to 2007, researchers found that 13.5% of females and 3.6% of males positively screened for eating disorder symptoms (Eisenberg et al., 2007), which included bulimia symptoms. According to the National Institute

of Mental Health, an estimated 25% of college students suffer from anorexia, bulimia, compulsive overeating or related behaviors, as compared to the 5% of the general public who suffer from these disorders (NAMI, as cited by Lemphers, 2012). This indicates a possible increase in eating disorders in college students in the past few years.

There is a great deal of stigma surrounding eating disorders including bulimia. Many people view those with eating disorders as blameworthy; they see the eating disorder as the choice and fault of the person and not a fault of any other factors like biological factors. One study of the stigmatization and discrimination of eating disorders demonstrated the negative attitudes the public has towards those with an eating disorder. Crisp (2005) used nationwide surveys of public opinions in 1998 and 2003 which confirmed the stigma associated with eating disorders. In these surveys, participants were asked their opinions about seven mental illnesses: severe depression, panic/phobic disorders, schizophrenia, dementia, eating disorders, alcohol addiction, and drug addiction. Among the public opinions about eating disorders, “hard to talk to” and “feel different from us” were the highest ranking opinions (Crisp, 2005). These opinions demonstrate an in-group versus out-group feeling, where those with an eating disorder are the out-group; Individuals with eating disorders are seen as different and separate from the rest of the public. These items also demonstrate the social distancing that may occur towards those with an eating disorder. Another facet of stigma was demonstrated through this study as well: personal responsibility beliefs. Among the seven disorders, eating disorders ranked highly on the items “they are to blame” and “could pull themselves together,” only behind alcohol addiction and drug addiction (Crisp, 2005). This indicates that the public views those with eating disorders, including bulimia, as at fault for their disorder. These stigmatizing attitudes towards eating

disorders are based in misconceptions about the disorders and can be harmful to those who suffer from eating disorders.

The negative attitudes that the public holds towards those with eating disorders can hinder the life of a person with an eating disorder. Stigma can lead them to feel unworthy, untreatable and blameworthy for their disorder. Therefore, stigma can be a barrier for women with bulimia for seeking help. In one study of treatment seeking for eating disorders, researchers interviewed Mexican-American and European-American women with eating disorders. They found that although 69% of the participants said they would like to get help for their eating disorder, only 17% had actually received treatment (Cachelin & Striegel-Moore, 2006). Some of the top barriers the participants listed included shame and the belief that they should help themselves (Cachelin & Striegel-Moore, 2006). These barriers indicate the impact that stigma has on women with eating disorders. Since the public explicitly says that women with eating disorders are to blame for their disorder (as indicated in Crisp, 2005), women with eating disorders may not even feel worthy of treatment and believe they should help themselves since the disorder is believed to be their fault. A different study looking at barriers to help-seeking for those with an eating disorder studied college students. Researchers found that the largest barriers in this sample were self-stigma and anticipated outcomes of treatment (Hackler, Vogel & Wade, 2010). This also indicates the impact that stigma has on those with an eating disorder – in this study, it was a barrier to seeking help. Participants in this study also worried about anticipated outcomes of treatment, indicating that they felt they could not be helped or did not desire to be helped. Another study of eating disorders in college students indicated low treatment seeking (Becker et al., 2004). Becker et al., (2005) studied the effect of education, screening and referrals on eating disorders in college students. Before the education and referral phase, researchers

found that although there was a high number of participants who screened positively for disordered eating symptoms that warranted clinical evaluation, only 17% of these participants had accessed treatment before (Becker et al., 2005). After the screening and education phase, 188 participants were referred for further clinical evaluation. Of these participants, 47.7% of them sought treatment by making the first appointment (Becker et al., 2005). This is a much higher number than the previous 17%. This could be due to the educational phase. In this phase, students learned about the medical seriousness of the disorder and the available treatment (Becker et al., 2005). These factors may have encouraged those with eating disorder symptoms to take it seriously and get the available help.

Many studies combine anorexia, bulimia and other eating related disorders in the term "eating disorders" for research. However, there is some research that indicates that the stigma surrounding the two disorders anorexia and bulimia is different. In one study, Wingfield et al. (2011) examined college students' perceptions of those with anorexia and bulimia. Researchers used vignettes describing characters with either anorexia or bulimia (diagnosis given). After reading the vignettes, participants filled out an attribute rating scale rating these items: likeability, responsibility for his/her ED, similarity to participant, sexual orientation, ease of recovery, self-control, and self-destructiveness. On the whole, the ratings implied that participants stigmatized those with bulimia more so than those with anorexia. Participants found those with bulimia to be less likeable, more responsible for their disorder, to have less of a chance of recovery, to have less self control and to be more destructive (Wingfield et al., 2011). These findings indicate that eating disorder subtype can influence stigma and that bulimia is more stigmatized than anorexia in college students.

Depression and Bulimia Stigma

Depression and bulimia are both disorders that are prevalent amongst college students. As previously mentioned, college can be a very stressful time where a student is first separated from their parents, academics are more challenging, relationships change and new ones form, and students can feel overwhelmed by these stressors. College can be a peak time for disorders such as depression and bulimia to develop. The stigma surrounding these disorders can be a huge barrier to seeking the treatment needed to function in college though. Some research indicates that the stigma surrounding depression is different from the stigma surrounding bulimia. A study by Roehrig and McClean (2010) compared the stigma of depression versus the stigma of eating disorders. Their participants, comprised of college students, read a vignette of a female target with clear symptoms of depression, anorexia or bulimia that fit the DSM-IV criteria (with no diagnosis given). Then the participants filled out a self-report stigma questionnaire assessing their attitudes towards the character. The results from this study suggest that eating disorders, including bulimia, are more stigmatized than depression. Participants in the bulimia condition found the character to be more responsible for her disorder than the character in the depression condition (Roehrig & McClean, 2010). This indicates perceived blameworthiness for those with bulimia. These results may be due to more education about depression or a greater belief that biological factors contribute to depression (as seen in studies such as Goldstein & Rosselli, 2003). Participants also found those with bulimia to be more "fragile" than those with depression. This suggests that people find those with bulimia to be weak, a factor that may lead to benevolence stigma, or the belief that those with a mental illness are like helpless children who need to be controlled by a parental figure (Corrigan & Watson, 2004). Participants also reported that the bulimia target was "using her disorder to get attention" more so than the

depression target, where no participants endorsed this item (Roehrig & McClean, 2010). This is another indicator of the public viewing those with bulimia as blameworthy and using their condition for perceived benefits. The fact that no participants endorsed this item for depression may again indicate the public's idea that depression is more biologically based than bulimia. These results demonstrate the different types of stigma towards those with depression and those with bulimia. While there is still a great deal of stigma surrounding both disorders, bulimia was more stigmatized, which may explain why treatment seeking for bulimia is so low.

The Present Study

Although mental health problems are prevalent on college campuses, help-seeking amongst students is relatively low, with one study finding that fewer than half of students with a mental health problem seeking help (Zivin et al., 2009). This low rate of help-seeking has been linked, in part, to stigma surrounding mental illness, which is a significant and growing concern in college populations. Eisenberg, Downs, Golberstein and Zivin (2009) found that stigma was significantly associated with lower help-seeking. Many other researchers have attempted to understand how mental illness stigma operates in the college population. Some studies have investigated the effect of labels on student perceptions of mental illness (Phelan & Basow, 2007), others have examined the role of causal beliefs on different aspects of stigma (Jorm and Griffiths, 2008), others have examined the stigma surrounding specific types of disorders (Roehrig & McLean, 2010), and some of the newest research examines not only explicit stigma (measured in self-reports of social distancing, anger, pity, blame, and other facets of mental illness stigma) but also implicit stigma (Teachman, Wilson, & Komarovskaya, 2006).

The present study builds on this previous research to extend the examination of implicit and explicit stigma to two mental health disorders that are common in college settings:

depression and bulimia. Due to people's desire to appear socially accepting, explicit measures of stigma are not always accurate assessments of people's true beliefs nor good indicators of how people might actually behave. Implicit stigma scores are often found to be higher than explicit stigma scores, as in Teachman et al.'s 2006 study of implicit and explicit stigma of mental illness. Consistent with these findings, it was hypothesized in the present study (1) that implicit stigma would be higher than explicit stigma for both depression and bulimia. Many studies find that perceived stigma is higher than explicit (personal) stigma (Griffiths et al., 2004; Calear, Griffiths, & Christensen, 2011), which is consistent with the present hypothesis (2) that perceived stigma will be higher than explicit stigma for both disorders. It was also hypothesized (3) that explicit stigmatizing beliefs would be related to causal beliefs. The relationship between causal attribution beliefs and how people stigmatize those with mental illnesses is supported by many studies some of which include: Corrigan & Watson, 2004; Corrigan, 2000; Corrigan et al., 2002; Read & Law, 1999. Depression and bulimia are two disorders that are very relevant to college populations, making potential stigma towards individuals experiencing these disorders (either explicit or implicit) especially harmful. Roehrig and McLean (2010), using explicit measures, found that eating disorders (including bulimia) are more stigmatized than depression, which supports the current hypothesis (4) bulimia would be more stigmatized than depression. The present study strives to clarify whether this is true at the explicit and implicit levels. Along with this, it was also hypothesized (5) that females would have more stigmatizing attitudes towards bulimia than men, consistent with Wingfield et al.'s 2011 study of stigmatization of eating disorders which found that the eating disorders, in general, were more stigmatized by women. The present study expands on this research, using implicit measures as well as explicit measures to assess stigma towards depression and bulimia and to understand some of its sources.

Method

Participants

A total of 62 participants participated in this study. The sample included 16 males (25.8%), 45 females (72.6%), and 1 other (1.6%). Analyses focused on males and females because there was insufficient number of people who identified as "other" to include this group. 46 (74.2%) participants identified as Non-Hispanic White, 8 (12.9%) identified as Hispanic or Latino, 2 (3.2%) identified as Black or African American, 4 (6.5%) identified as Asian or Asian American and 2 (3.2%) identified as other. All participants were enrolled as undergraduates at Connecticut College in an introductory Psychology course (Psych 101, Psych 102 or Psych 100). 25 freshmen (40.3%), 22 sophomores (35.5%), 12 juniors (19.4%), and 3 seniors (4.8%) participated in this study. 25 participants (40.3%) reported they were psychology or neuroscience majors, 23 participants (37.1%) reported they had a major but it was not psychology or neuroscience, and 14 participants (22.6%) were undeclared or undecided.

Of all the participants (N=62), 25 (40.3%) reported they have struggled with depression either currently or in the past. 5 (8.1%) reported they have struggled with bulimia either currently or in the past. 48 (77.4%) reported that they have received help for mental or emotional difficulties. 17 (27.4%) reported that they have been given a diagnosis by a mental health professional. When asked the same questions about someone close to them, 48 (77.4%) reported they had someone close to them who has struggled with depression either currently or in the past. 21 (33.9%) reported they had someone close to them who has struggled with bulimia either currently or in the past. 53 (85.5%) reported they had someone close to them who has received help for mental or emotional difficulties, and 47 (75.8%) reported they had someone close to them who has been given a diagnosis by a mental health professional.

Measures

Measures included two mental illness IATs (see Appendix B), two versions of a vignette (see Appendix C), the Personal Responsibility Beliefs, Pity, and Anger Questionnaire (see Appendix D), the Stigma towards Depressed Students Measure (See Appendix E), the Social Distancing Scale (See Appendix F), the Causal Attributions Scale (see Appendix G), the Familiarity with Mental Illness Scale (see Appendix H), and a demographics questionnaire (see Appendix I).

Implicit Associations Test (IAT). Participants took two IATs to measure blameworthiness which is a facet of mental illness stigma. One IAT examined mental illness versus physical illness. There were four dimensions in this IAT with five words within each. The dimensions were mental illness (bulimia, bipolar disorder, depression, alcoholism, and anxiety), physical illness (Diabetes, Cancer, Multiple Sclerosis, Cerebral Palsy, and Crohn's disease), blameworthy (guilty, preventable, responsible, at fault, and culpable), and blameless (innocent, unpreventable, guiltless, not responsible, and not at fault). The second IAT tested depression versus bulimia. The four dimensions were depression (sad, gloomy, hopeless, miserable, tearful), bulimia (binging, purging, weight conscious, compensatory, impulsive), blameworthy (guilty, preventable, responsible, at fault, and culpable), and blameless (innocent, unpreventable, guiltless, not responsible, and not at fault).

The IAT measures for automatic associations. These associations are often not measurable on explicit stigma questionnaires, either because of an unwillingness to admit the stigma or the implicit quality of the stigma. "On the IAT, respondents pair concepts with stimulus groups of interest; the outcome measure is reaction time, with shorter latencies believed to be an indication of stronger automatic association of the concept with the stimulus group"

(Stier & Hinshaw, 2007, p. 111). Therefore, in the first IAT in the present study, shorter latencies between the mental illness adjectives and the blameworthy adjectives would indicate a stronger automatic association between the two groups, indicating mental illness stigma. In the second IAT, shorter latencies between either depression or bulimia and blameworthy will indicate how stigma may be different across different diagnoses.

Depression and Bulimia Vignettes. After taking the IATs, participants received either a depression vignette or a bulimia vignette to read and respond to. The depression vignette was adapted from Jorm, Kitchener, Sawyer, Scales & Cvetkovski's (2010) study of mental health first aid training for high school teachers. Whereas this study had teachers evaluate a high school target, the present study adapted the vignette to be about a college student. Also, one sentence from the original study was omitted in the present study (doesn't feel like eating and has lost weight), so as not to include possible eating disorder symptoms in the vignette. The sentence "*Lily's family and friends have suggested she go see someone for depression"* was added to suggest a label of depression since the IAT that participants took first included the label depression. The bulimia vignette is adapted from Mond, Hay, Rodgers, Owen & Beumont's (2003) study about women's beliefs about the severity and prevalence of bulimia nervosa. The vignette was also condensed to be more similar to the length and tone of the depression vignette. The sentence "*Lily's family and friends have suggested she go see someone for bulimia"* was added to suggest the label of bulimia. The full text of the vignettes can be seen in Appendix C. There were two conditions in this between-subjects study, which corresponded with the two vignettes. 30 participants (48.4%) were given the depression vignette, with 7 (23.3%) males, 22 (73.3%) females, and 1 (.03%) other in the condition. 32 participants (51.6%) were given the

bulimia vignette, with 9 (28.1%) males and 23 (71.9%) females in the condition. Participants were randomly assigned to condition.

Personal Responsibility Beliefs, Pity, and Anger Questionnaire. Several facets of explicit stigma were measured using a scale originally used in the Corrigan, Markowitz, Watson, Rowan and Kubiak's (2003) study about various feelings towards mental illness. The adapted version used in the present study is from Briana Borenstein's (2011) honors thesis which examined how stigma changed with a different causal explanation for anorexia and depression. This measure assessed participant's views of the vignette character, and measured several specific facets of stigma, including personal responsibility of the character (three total items), pity for the character (three total items) and anger towards the character (three total items). This measure includes nine total questions which are answered on a Likert scale of 1 to 9. In Corrigan et al.'s (2003) study, the personal responsibility subscale (three items) had a Cronbach's alpha of .70, the pity subscale (three items) had a Cronbach's alpha of .75, and the anger subscale (three items) had a Cronbach's alpha of .89. In the present study, the personal responsibility subscale (three items) had a Cronbach's alpha of .915, the pity subscale (three items) had a Cronbach's alpha of .754, and the anger subscale (three items) had a Cronbach's alpha of .877.

Measure of Stigma Towards Depressed Students. Several other facets of stigma were measured using a questionnaire from Jorm, Kitchener, Sawyer, Scales & Cvetkovski's (2010) study. This scale measures personal stigma towards the vignette character and perceived stigma. Some items include "People with a problem like Lily's could snap out of it if they wanted," "Lily's problem is not a real medical illness," and "People with a problem like 'Lily's' are unpredictable." The perceived section of this study was adapted to "most other college students" instead of "most other people." Each section has seven questions (fourteen total) answered on a

Likert scale of 1 (strongly agree) to 5 (strongly disagree). The Cronbach's alpha was .679 for personal stigma and .710 for perceived stigma on this scale. These subscales were reverse scored for consistency with other scale.

Social Distancing Scale. To measure the extent to which participants might socialize with another person with a mental illness, the present study adapted a social distancing scale used in Jorm and Griffiths' (2008) study about biomedical conceptualizations of mental illness. The adapted version was created by Borenstein (2011). For example, instead of examining the participant's willingness to work closely on a job with the character, the present scale examined the participant's willingness to work closely on a group project with the character. This scale measures a participant's willingness to be close to the person in the vignette through several college-relevant activities. For all items see Appendix F. The measure includes six questions and is answered on a scale of 0 (definitely willing) to 3 (definitely unwilling). A mean score is calculated to measure total social distancing tendencies. In Borenstein's (2011) study, the revised scale had a Cronbach's alpha of .85. This scale had a Cronbach's alpha of .817 in the present study. This scale was reverse scored for consistency with other scales.

Causal Attributions Scale. To measure participants' causal attributions for depression or bulimia, the present study adapted Jorm and Griffiths' (2008) causal attributions scale. It measures how participants conceptualize the reasons behind the presenting problem in the vignette. This measure was used to assess whether lower explicit and/or implicit stigma is related to biological causal beliefs of bulimia and depression. The adapted version made the measure more relevant to a college population and to current explanations of mental illness, and was developed by Borenstein (2011). The revision included 3 new items: stressful life experiences, a chemical imbalance in the brain and relational difficulties. The measure includes twelve

questions and is answered on a scale of 0 (very unlikely) to 4 (very likely). The Cronbach's alpha in the Borenstein study was .621 for the biological subscale, .778 for the virus/allergy subscale, .752 for the genetic/chemical subscale, and .764 for the environmental/personal subscale. The present study divided the scale into a biological subscale and an environmental/personal subscale. The Cronbach's alpha for the present study was .740 for the biological subscale and .784 for the environmental/personal subscale.

Familiarity with Mental Illness Scale. This measure was adapted from the questions asked in the Mental Illness IAT on the Mental Health Project Implicit Website (https://implicit.harvard.edu/implicit/user/pimh/selectastudy.html). The present study also includes a question about whether the participant has ever experienced difficulties with depression and another question asking about experiencing difficulties with bulimia. This section includes seven questions which are all answered differently, some being yes/no, past/current, a selection of options and a scale of 1 (not at all helpful) to 7 (extremely helpful) on one question. See Appendix H for the full measure. These ten questions were then asked a second time about "a person close to you," so this measure includes twenty questions in total. These questions were used to examine whether familiarity with mental illness is related to lower levels of explicit and/or implicit stigma.

Demographics. The present study included a demographics questionnaire that asked participants to answer questions about sex, age, race, class year, and major (see Appendix I). Questions about experience with counseling or psychological problems were not asked here because they are covered in the familiarity with mental illness scale.

Procedure

Students enrolled in Psychology 101 and 102 at Connecticut College in the fall semester

of 2012 or students enrolled in Psychology 100 in the spring semester of 2013 signed up to participate in a study titled “Perceptions of Mental Illness and Physical Illness” and received extra credit as compensation for their participation.

Participants were asked to come to the computer lab in groups of 10-20 and filled out informed consent forms (see Appendix A). After everyone had arrived and filled out the informed consent form, the participants were asked to look at the board to see the IAT categories (See Appendix B). After giving the participants a few minutes to look at these, they were asked to follow the link and complete the first IAT online about mental illness and physical illness. After each participant finished, they were asked to raise their hand and they were given the demographics questionnaire (see Appendix I) to fill out while they waited for the other participants to finish the IAT. When every participant was finished, they were asked to follow a second link to complete the second IAT online about depression and bulimia. During this time, the researcher randomly assigned each participant to one of the two conditions: depression or bulimia. When each participant was finished with the second IAT, they were given their packet of surveys and the vignette that corresponded to their condition. The packet included either a depression or bulimia vignette depending on their condition. The participant read this vignette and was asked to fill out the three surveys about their impressions of the vignette character. These surveys included two explicit stigma scales and a perceived stigma scale which were to be filled out about the character in the vignette. The participant was then asked to fill out the Familiarity with Mental Illness scale and the Causal Attributions scale about mental illness in general. After filling out their packet, each participant was given a debriefing form which described the goals of the present study, gave further research articles about the topic and provided information about Counseling Services at Connecticut College (see Appendix J).

Results

Preliminary Descriptive Analyses of Study Variables

Table 1 shows the descriptive statistics for the dependent variables (responsibility, pity, anger, personal stigma, perceived stigma, social distancing, biological attribution, and environmental/personal attributions) in this study. For the responsibility subscale, participants responded with the full range of responses (1-9), but generally gave low responsibility ratings (M = 3.49). This indicates that participants generally viewed the target as not holding personal responsibility for her mental health issue (bulimia or depression). On the pity subscale, participants did not use the full range of responses, but indicated higher pity ratings (M = 7.26), showing that participants generally responded with pity toward the targets. Participants also did not use the full range on the anger subscale, instead reporting low anger ratings, indicating low anger toward the target (M = 3.14).

On the personal stigma scale, rated on a scale of 1-5, participants did not use the full scale and reported low ratings, indicating low personal stigma towards the target (M = 2.08). Participants did not use the full range of responses on the personal stigma scale, but, when assessed with paired-tests, did have higher scores on the perceived stigma scale (M = 3.01) than the personal stigma scale (M = 2.08). This indicates that typically, participants indicated that "most other college students" have more stigma than themselves. On the social distancing scale, participants used almost the full range of responses (0-3), but typically reported low scores (M = 1.16). This indicates that on average, participants reported willingness to engage with the target in social settings.

Participants reported a wide range of responses on the biological attributions scale (0-4), but on average reported low scores (1.83). This shows that participants typically endorsed low

beliefs that the disorder had biological causes. Conversely, participants reported higher scores on the environmental/personal attribution scale ($M = 3.02$).

Although the first Implicit Associations Test, testing mental illness versus physical illness on facets of blame (henceforth called general stigma IAT), generated a wide range of scores, on average the scores (when assessed with a one sample t-test) did not differ from 0 ($M = -.05$). This was also true for the second Implicit Associations Test ($M = .06$), which tested bulimia and depression on facets of blame (henceforth called specific stigma IAT). This indicates that on average, participants' implicit stigma scores were relatively neutral, but individually participants' implicit attitudes ranged. Note that negative scores on the general stigma IAT indicated a stronger association between mental illness and blameworthy than physical illness and blameworthy, thus revealing mental illness stigma and positive scores indicated the opposite. Positive scores on the specific stigma IAT indicated a stronger association between blameworthy and bulimia and low scores indicated a quicker association between blameworthy and depression.

Table 1.

Descriptive Statistics for the Dependent Variables

Dependent Variable	Minimum	Maximum	Mean	Standard Deviation
Responsibility Subscale	1	9	3.49	1.91
Pity Subscale	3.33	9	7.26	1.33
Anger Subscale	1	8	3.14	1.78
Personal Stigma	1.14	4	2.08	.61
Perceived Stigma	1.57	4.57	3.01	.623
Social Distancing	0	2.33	1.16	.62
Biological Attributions	.50	3.75	1.83	.74
Environmental/Personal Attributions	1.25	4	3.02	.58
Implicit Associations Test 1	-.97	.68	-.05	.39
Implicit Associations Test 2	-.84	.93	.06	.46

Note: n = 62.

The Influence of Disorder Type and Participant Gender on Explicit Stigma

Explicit Responsibility, Anger, Pity, Blame. To evaluate whether participants displayed more explicit stigma towards individuals with depression versus individuals with bulimia, and whether this varied by participant gender, a 2(condition: bulimia/depression) x 2 (gender of participant: male/female) MANOVA was conducted on the subscales of the Personal Responsibility Beliefs, Pity, and Anger measure. This analysis was run (along with further analyses) to test the hypothesis that explicit stigma would be higher than implicit stigma. There was no multivariate effect for Personal Responsibility Beliefs, Pity, and Anger for condition, Wilks' $\Lambda = .963$, $F (3, 55) = .710$, $p = .550$, partial $\eta^2 = .037$, for sex, Wilks' $\Lambda = .925$, $F (3, 55) = 1.488$, $p = .228$, partial $\eta^2 = .075$, or for condition and sex, Wilks' $\Lambda = .908$, $F (3, 55) = 1.864$, $p = .146$, partial $\eta^2 = .092$. Follow up univariate tests of between-subjects effects were conducted for exploratory purposes.

For Personal Responsibility, there was a trend for males ($M = 4.20$) to attribute greater personal responsibility to the individuals (both female) portrayed in the vignettes than females did ($M = 3.62$), $F (1, 57) = 3.048$, $p = .086$, partial $\eta^2 = .051$. There was also a significant univariate interaction for condition and gender, $F (1, 57) = 5.273$, $p = .025$, partial $\eta^2 = .085$. Simple effects tests revealed that males attributed more personal responsibility to the individual in the depression condition than to the individual in the bulimia condition, $F (1, 57) = 7.438$, $p = .008$, partial $\eta^2 = .115$. For females, there was a slight difference in the opposition direction (see Figure 1).

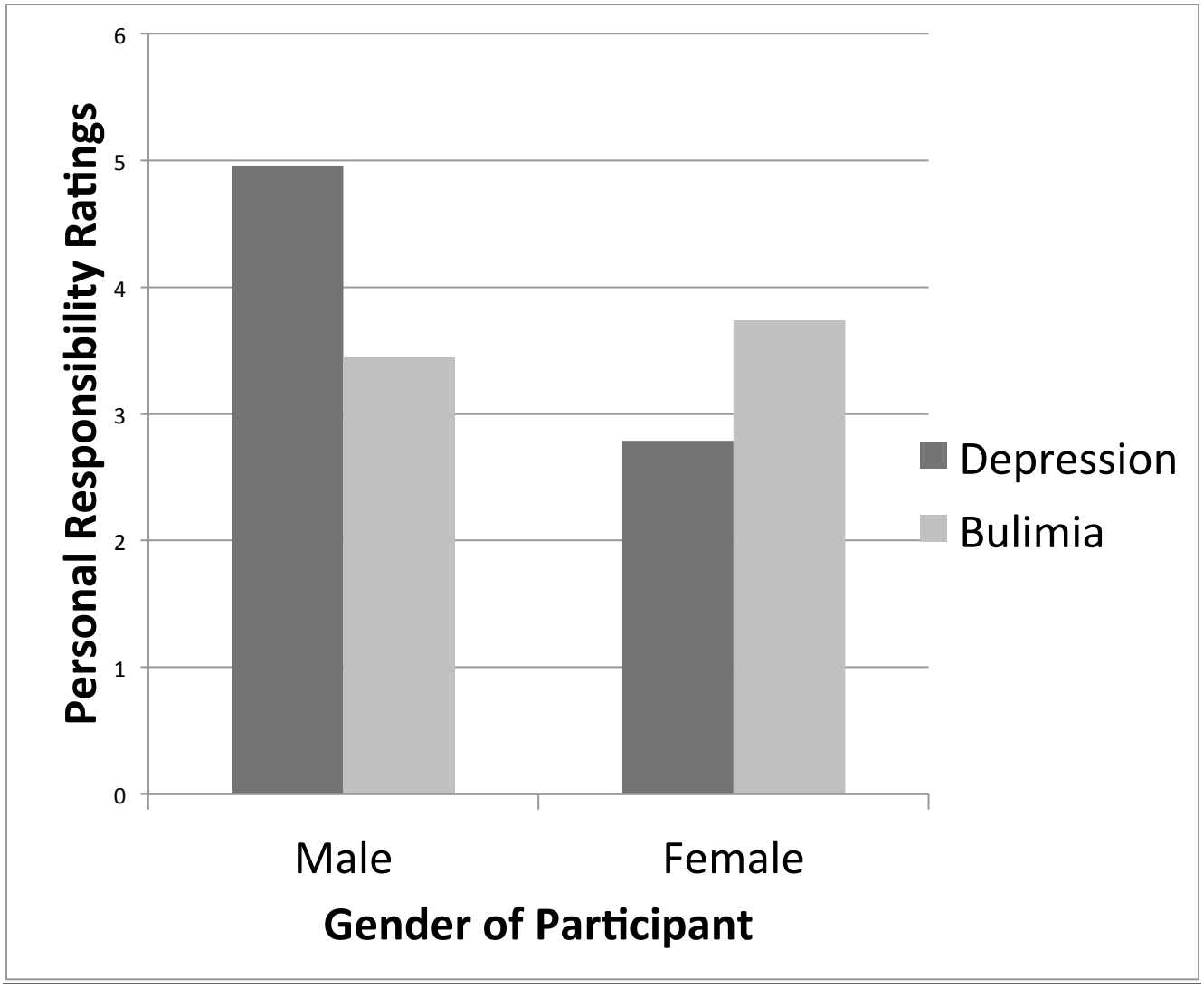

Figure 1. The effect of condition on personal responsibility ratings

Personal and Perceived Explicit Stigma. To further evaluate whether participants displayed more explicit stigma towards individuals with depression versus individuals with bulimia, and whether this varied by participant gender, a 2 (condition: bulimia/depression) x 2 (gender of participant: male/female) MANOVA was conducted on the subscales of the Stigma Towards Depressed Students measure, the personal stigma scale and the perceived stigma scale. There was no multivariate effect for condition, Wilks' $\Lambda = .946$, $F(2, 56) = .710$, $p = .209$, partial $\eta^2 = .054$, for sex, Wilks' $\Lambda = .969$, $F(2, 56) = .901$, $p = .412$, partial $\eta^2 = .031$, or for condition and sex, Wilks' $\Lambda = .949$, $F(2, 56) = 1.515$, $p = .229$, partial $\eta^2 = .051$. Follow up univariate tests of between-subjects effects were performed for exploratory purposes.

For perceived stigma, there was a trend for those in the depression condition ($M = 3.13$) to attribute greater perceived stigma to the individual portrayed in the vignette than those in the bulimia condition did ($M = 2.80$), $F(1, 57) = 3.257$, $p = .076$, partial $\eta^2 = .054$. There was also a univariate interaction trend for condition and gender for personal stigma, $F(1, 57) = 3.084$, $p = .084$, partial $\eta^2 = .051$. Simple effects tests revealed that males attributed more stigma to the individual in the depression condition than to the individual in the bulimia condition, $F(1, 57) = 2.121$, $p = .151$, partial $\eta^2 = .036$. Females slightly attributed more stigma to the individual in the bulimia condition than to the individual in the depression condition (see Figure 2).

To test the specific hypothesis that perceived stigma would be lower than personal stigma, paired-tests were conducted. Overall, participants reported more perceived stigma than personal stigma, $t(61) = -10.36$, $p < .05$. This pattern was revealed for both conditions: bulimia, $t(31) = -8.01$, $p < .05$, and depression, $t(29) = -7.29$, $p < .05$ (see Figure 3). This finding supported the hypothesis that perceived stigma would be higher than personal stigma.

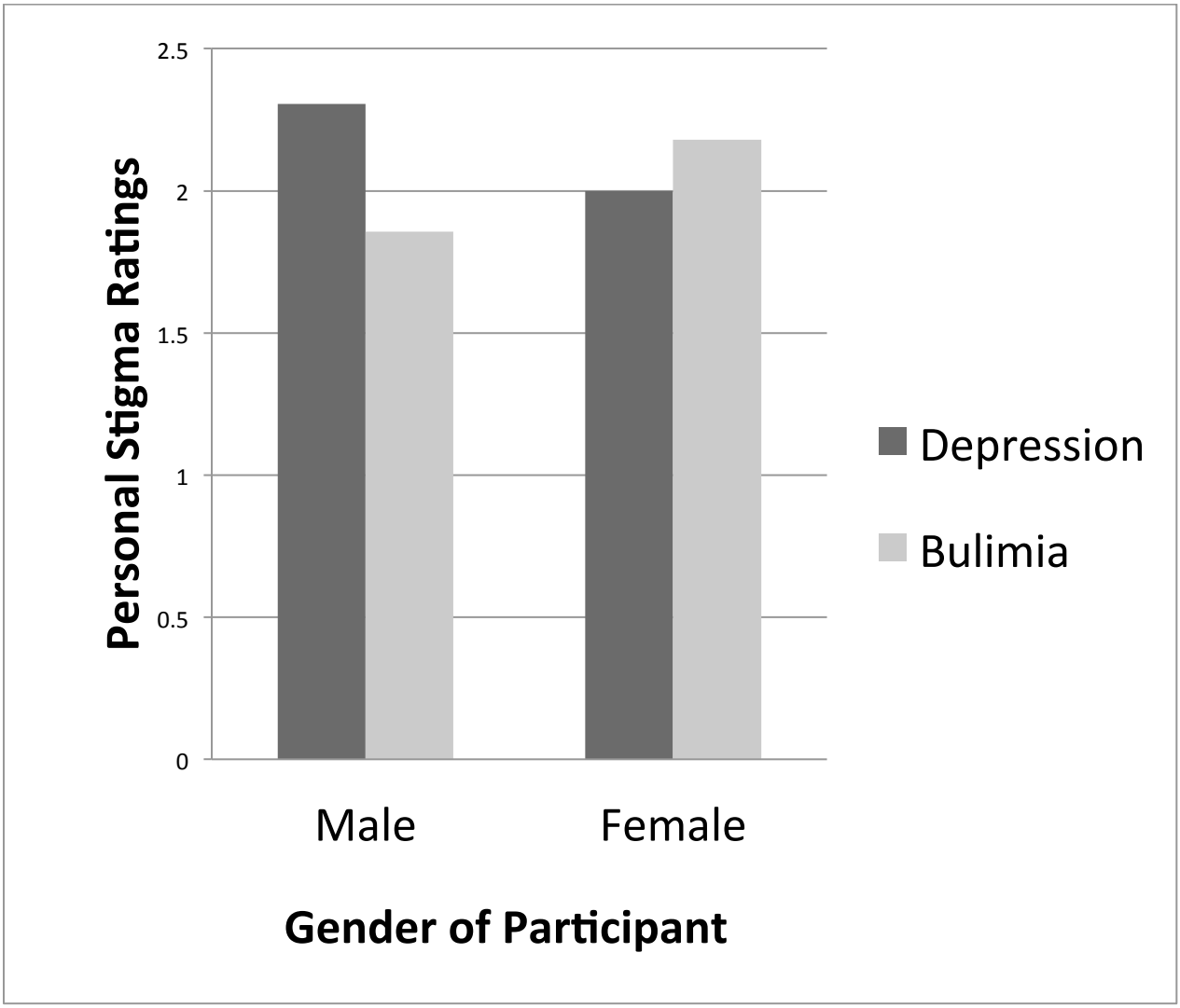

Figure 2. The effects of condition on personal stigma ratings

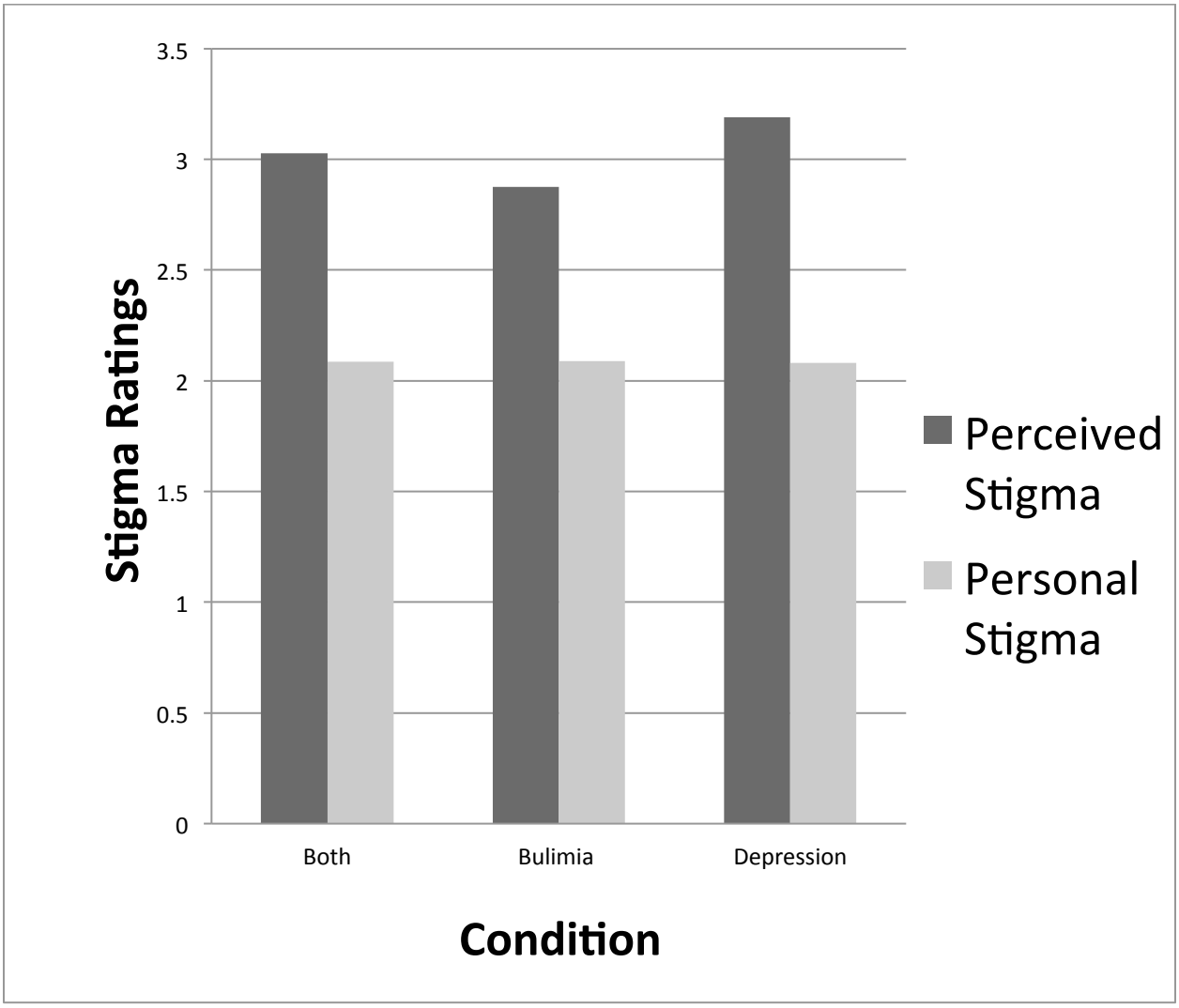

Figure 3. Perceived stigma ratings versus personal stigma ratings for condition

Social Distancing. Finally, to evaluate whether participants displayed explicit stigma towards individuals with depression versus individuals with bulimia, and whether this varied by participant gender, a 2 x 2 analysis of variance was conducted to examine the effects of gender and condition on social distancing. There was no main effect for condition, $F(1, 57) = .484$, $p = .490$, for sex, $F(1, 57) = .123$, $p = .727$, or for the interaction between condition and sex, $F(1, 57) = 1.960$, $p = .167$.

The Influence of Disorder Type and Participant Gender on Causal Attributions. A 2 (condition: bulimia/depression) x 2 (gender of participant: male/female) MANOVA was conducted on the subscales of the Causal Attributions measure. There was no multivariate effect for condition, Wilks' $\Lambda = .923$, $F(2, 56) = 2.321$, $p = .108$, partial $\eta^2 = .077$, for sex, Wilks' $\Lambda = .955$, $F(2, 56) = 1.322$, $p = .272$, partial $\eta^2 = .045$, or for the interaction between condition and sex, Wilks' $\Lambda = .975$, $F(2, 56) = .711$, $p = .496$, partial $\eta^2 = .025$. Follow up univariate tests of between-subjects effects were run for exploratory purposes.

For biological causal attributions there was a significant univariate interaction for those in the depression condition ($M = 2.02$) to attribute greater biological causes to the individual's issue portrayed in the vignette than those in the bulimia condition did ($M = 1.56$), $F(1, 57) = 4.68$, $p = .035$, partial $\eta^2 = .076$. This indicates that participants reported greater biological attribution beliefs for depression than bulimia.

To further test the hypothesis that causal attribution beliefs would be related to explicit stigma, Pearson product-moment correlations were run. There was a significant positive correlation between the environmental/personal causal attributions subscale and the perceived stigma subscale ($r = .354$). This indicates that those who endorsed environmental/personal causal

attributions for depression or bulimia also believed “most other college students” to have more stigmatizing beliefs than themselves. There were no other significant correlations (See Table 2).

Table 2.

The Effects of Causal Attributions on Explicit Stigma Ratings

	Responsibility	Pity	Anger	Personal Stigma	Perceived Stigma	Social Distancing
Biological	.056	.046	.034	-.062	.139	-.08
Environmental/ Personal	.013	.019	-.105	.095	.354***	.072

Note. N = 62. *** Correlation is significant at the 0.001 level (1-tailed).

Levels of Implicit Versus Explicit Stigma. As in other research of this type, the hypothesis that implicit stigma would be higher than explicit stigma for both depression and bulimia could only be tested indirectly. To do so, one sample *t*-tests were conducted on the IATs and the explicit stigma measures (responsibility, pity and anger scale, personal stigma scale, perceived stigma scale, and social distancing scale) comparing participants' scores to the mid-point or neutral (no stigma) score. First, a one sample t-test was conducted to compare whether the general mental illness IAT or the bulimia versus depression IAT was significantly different from the midpoint 0, which would indicate bias. The t-test did not reveal a statistically significant difference between the general mental illness IAT, (M = -.06, *SD* = .39) and 0, $t(60) = -1.16$, $p < .25$ or between the bulimia versus depression IAT, (M = .07, *SD* = .46) and 0, $t(61) = 1.17$, $p < .25$. This indicates that, on average, participants did not reveal bias on either of the IATs.

Next, a series of one sample t-tests were conducted on the subscales responsibility, pity and anger to reveal if these subscales differed from the neutral midpoint of 5. There was a statistically significant difference for responsibility, (M = 3.48, *SD* = 1.89), $t(61) = -6.33$, $p < .05$, and for anger, (M = 3.16, *SD* = 1.77) , $t(61) = -8.19$, $p < .05$, indicating that participants showed lower than neutral ratings for responsibility and anger. There was also a statistically significant difference for pity, (M = 7.27, *SD* = 1.32), $t(61) = 13.52$, $p < .05$, indicating that participants showed higher than neutral ratings for pity. Thus, participants did not associate blame with mental illness (versus physical illness) or with bulimia (versus depression) in implicit assessments, and they tended not to blame or be angry with individuals in the vignettes. They did, however, show pity towards them.

Next, a one sample t-test was run on the subscales of the stigma towards depressed students scale, the personal stigma subscale and the perceived stigma subscale to test if these differed from the neutral midpoint of 3. There was a statistically significant difference for personal stigma, (M = 2.09, *SD* = .61), $t(61) = -11.85$, $p < .05$, indicating that participants reported having less personal stigma than neutral. There was no statistically significant difference for perceived stigma, (M = 3.03, *SD* = .63), $t(61) = .34$, $p < .73$, indicating neutral ratings on the perceived stigma scale. Thus, participants reported themselves to have lower than neutral levels of stigmatizing attitudes, but reported the average college student to be neutral in their stigmatizing attitudes. The personal stigma finding is consistent with the low self-ratings of anger and responsibility above.

Finally, a one sample t-test was run on the social distancing scale to test if scores differed from the neutral midpoint of 1.5. There was a significantly significant difference for social distancing, (M = 1.15, *SD* = .62), $t(61) = -4.44$, $p < .05$, indicating that participants had lower than neutral scores for social distancing.

In sum, these analyses revealed that on both IATs, there was no difference from the midpoint of 0, indicating on average that participants reported neutral, or no bias, on the IATs. However, these analyses did reveal many of the explicit measure scores (responsibility, pity, anger subscales, personal stigma subscale, and social distancing scale) to be different from their respective midpoints. Also, all of the explicit stigma measures, except for the pity subscale, were rated significantly lower than neutral, indicating low explicit stigma. Since the IAT scores were on average neutral and the explicit measures were mostly lower than neutral, it can be said that implicit stigma was higher than explicit stigma (with the exception of pity) for participants in this study.

Relations between Implicit and Explicit Stigma. Pearson product-moment correlations were examined to evaluate the relationship between the IAT scores and the explicit stigma measures (responsibility, pity and anger scale, personal stigma scale, perceived stigma scale, social distancing scale, biological causal attributions scale, and environmental/personal causal attributions scale), first for participants in the depression condition. As is sometimes found in the literature on implicit bias, there were no significant correlations between the IAT bias scores and the explicit stigma measures.

Next, Pearson product-moment correlations were re-examined to evaluate the relationship between the IAT bias scores and the explicit stigma measures for participants in the bulimia condition. There was a significant positive correlation between the bulimia versus depression blame IAT (specific stigma IAT) and the anger subscale, $r = .305$, $n = 32$, $p = .045$ and between the specific stigma IAT and the personal stigma scale, $r = .317$, $n = 31$, $p = .039$. This indicates that those who scored high on the specific stigma IAT (indicating an association between bulimia and blameworthy) also reported high anger and personal stigma towards the target with bulimia. Thus, when narrowly assessed and well-matched to the target, implicit and explicit stigma showed some degree of correspondence.

The Influence of Implicit Blame on Explicit Stigma towards Individuals with Bulimia versus Depression. In this final set of exploratory analyses, MANOVAs/ANOVAs were rerun twice on the explicit measures of Responsibility, Pity and Anger scale, Stigma towards Depressed Students scale, and the Social Distancing scale. However, this time participants were also categorized on the basis of their IAT scores; thus high or low IAT bias was used as a factor along with condition and gender, created through a median split of the IAT scores. These analyses probed the relationship between implicit and explicit stigma for both

general and specific implicit stigma, taking into account the specific nature of the disorder being judged (i.e., bulimia versus depression condition). Although dichotomizing a continuous variable (IAT scores) is not always desirable because it discards information and can reduce power, this approach had the advantages of offering a test of the interaction between IAT bias level and experimental condition, and being analytically consistent with earlier analyses. Only main effects and interactions involving IAT bias group are reported here, as all other effects resembled those reported earlier.

A series of 2 x 2 x 2 MANOVAs and one 2 x 2 x 2 ANOVA were first run on the explicit measures (responsibility, pity and anger scale, personal and perceived stigma scale, and social distancing scale) using the grouping variable from the general stigma IAT and gender. There were no multivariate or univariate main effects for the general stigma IAT group, and no interactions between IAT group and either condition or sex.

MANOVAs were next run using the bulimia versus depression stigma IAT as the grouping variable. High bias scores on this variable indicate an implicit association between blameworthy and bulimia. A 2 x 2 x 2 MANOVA was conducted on the subscales of the Personal Responsibility Beliefs, Pity, and Anger measure using the bulimia blame IAT grouping variable (Hi/Low). There was no multivariate effect for IAT group, Wilks' $\Lambda = .992$, $F (3, 51) = .138$, $p = .937$, partial $\eta^2 = .008$, for condition and IAT group, Wilks' $\Lambda = .920$, $F (3, 51) = 1.478$, $p = .231$, partial $\eta^2 = .080$, or for sex and IAT group, Wilks' $\Lambda = .964$, $F (3, 51) = .634$, $p = .596$, partial $\eta^2 = .036$. Follow up univariate tests of between-subjects effects were run for exploratory purposes. There was a significant univariate interaction for condition and IAT group on the anger subscale, $F (1, 53) = 4.290$, $p = .043$, partial $\eta^2 = .075$. Simple effects tests revealed that participants in the bulimia condition who scored high on the bulimia blame IAT indicated

significantly more anger towards the target, F (1, 53) = 1.49, p = .226, partial η^2 = .027, than those in the bulimia condition who scored low on the bulimia blame IAT (see Figure 4).

A 2 x 2 x 2 MANOVA was conducted on the subscales of the Stigma Towards Depressed Students Scale using the bulimia-blame IAT grouping variable. There was no multivariate effect for the bulimia-blame IAT, Wilks' Λ = .984, F (2, 52) = .426, p = .172, partial η^2 = .065 or for sex and the bulimia-blame IAT, Wilks' Λ = .915, F (2, 52) = .899, p = .413, partial η^2 = .033. There was a multivariate trend for condition and IAT group, Wilks' Λ = .915, F (2, 52) = 2.430, p = .098, partial η^2 = .085. Follow up univariate tests indicated there was a significant univariate interaction for condition and IAT group on the personal stigma subscale, F (1, 53) = 4.822, p = .032, partial η^2 = .083. Simple effects tests revealed that participants in the bulimia condition who scored high on the bulimia-blame IAT indicated greater personal stigma towards the target, F (1, 53) = 1.053, p = .309, partial η^2 = .019, than those in the bulimia condition who scored low on the bulimia blame IAT. (see Figure 5).

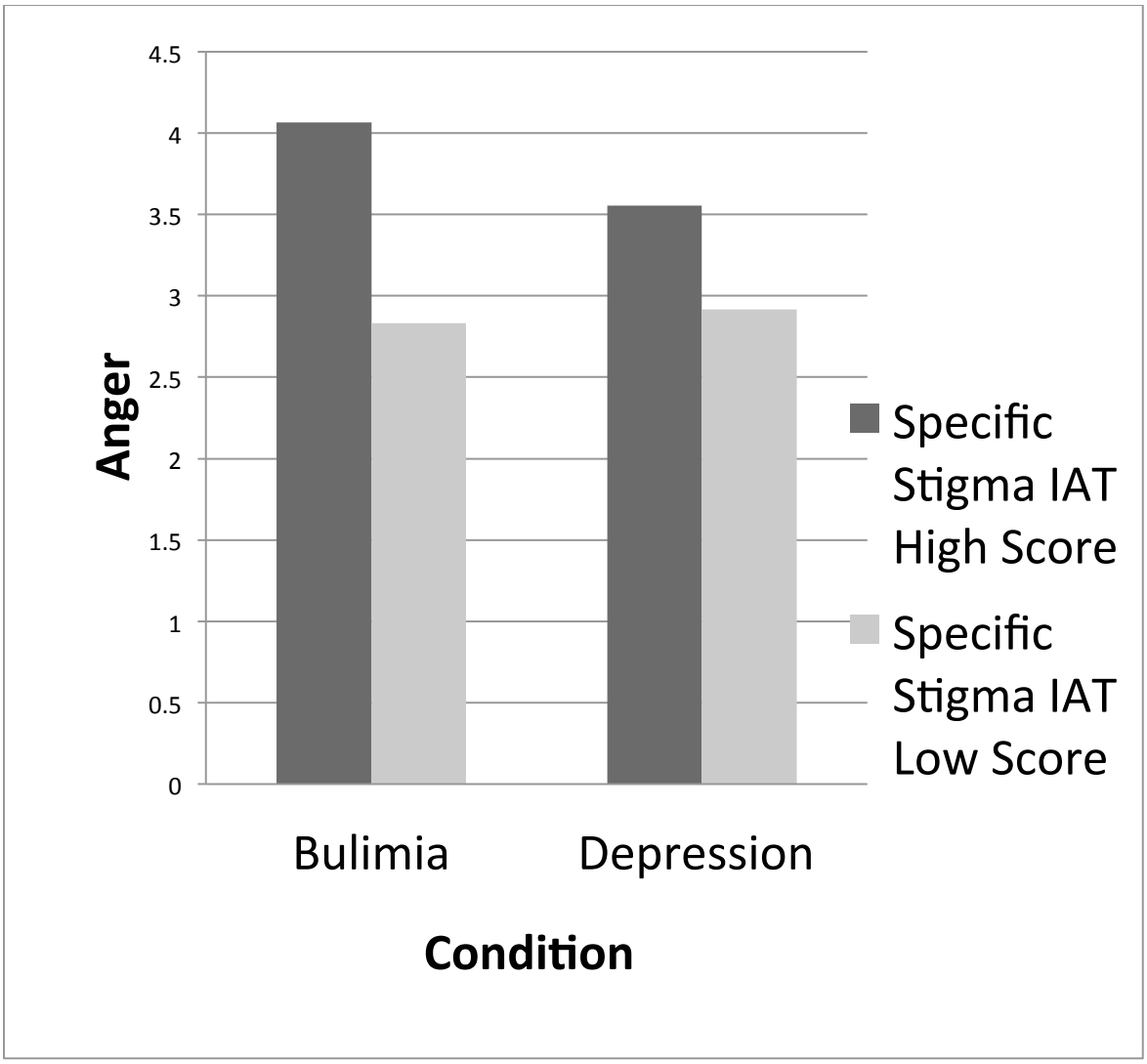

Figure 4. The effects of specific stigma IAT score on anger ratings

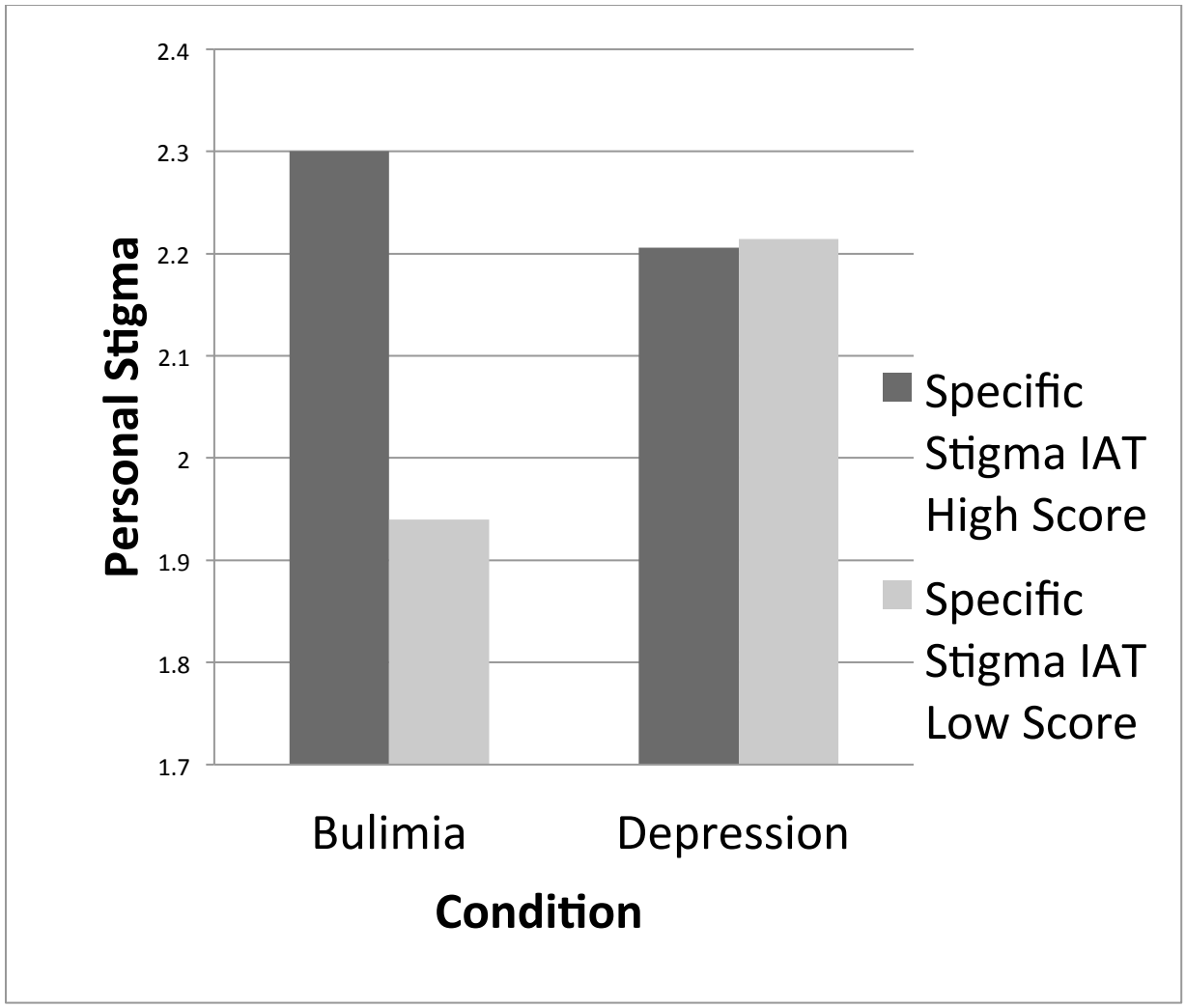

Figure 5. The effects of specific stigma IAT score on personal stigma

A 2 x 2 x 2 ANOVA was conducted on the social distancing scale using the specific stigma IAT grouping variable. There was a significant interaction effect for condition and IAT group, $F(1, 53) = 4.434$, $p = .040$, partial $\eta^2 = .077$. Participants in the bulimia condition who scored high on bulimia blame IAT reported more social distancing towards the target than those in the bulimia condition who scored low. Conversely, participants in the depression condition who scored low on bulimia blame IAT (indicating they were quicker to pair blameworthy and depression than blameless and depression) reported slightly more social distancing to the target than those in the depression condition who scored high (see Figure 6).

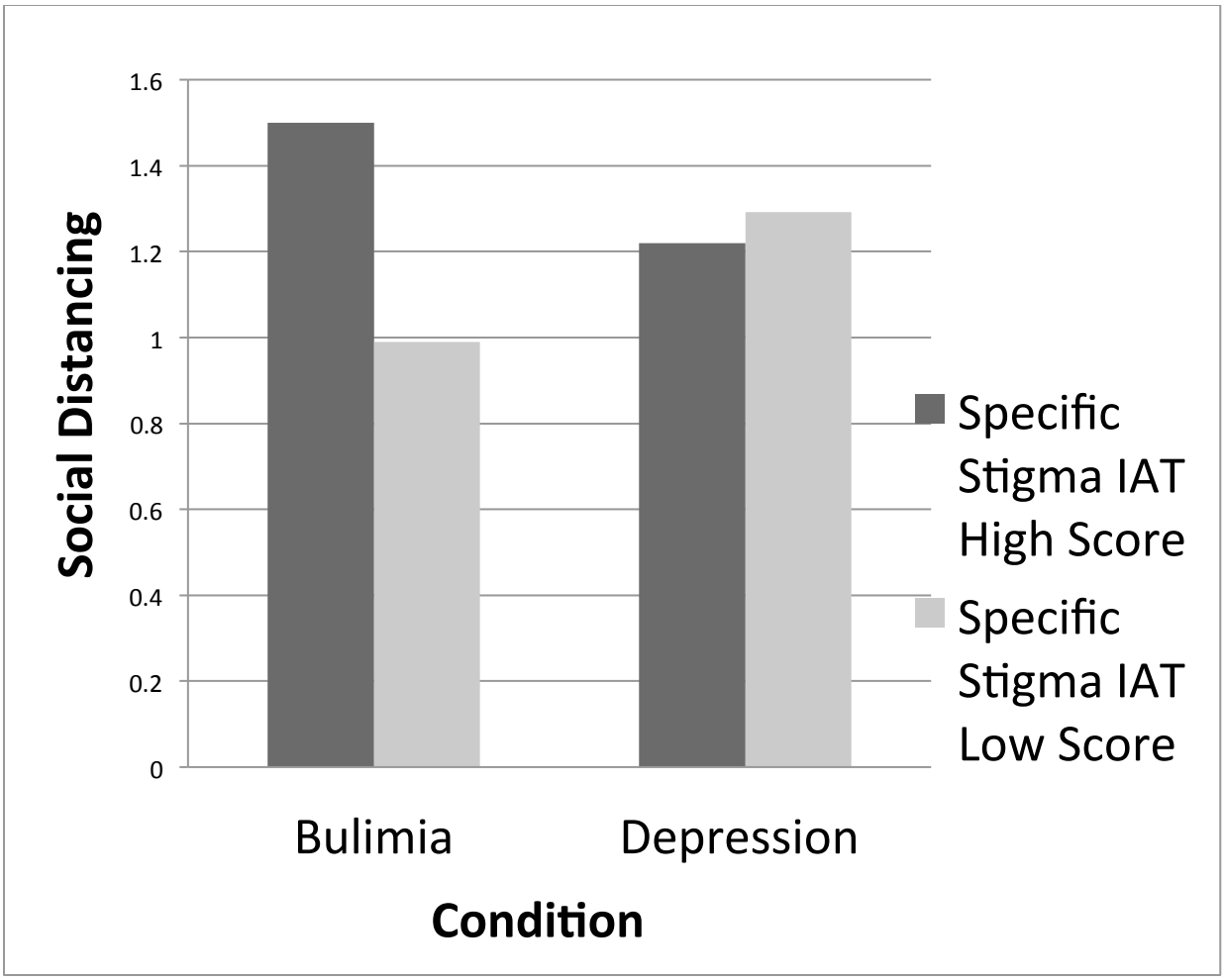

*Figure 6. The e*ffects of specific stigma IAT score on social distancing

Discussion

The present study investigated whether implicit stigma and explicit stigma would differ for depression and bulimia. Implicit stigma was explored through two Implicit Association Tests (IATs), one examining mental illness versus physical illness on facets of blame, the second examining bulimia versus depression on facets of blame. Explicit stigma was explored through explicit questionnaires assessing personal responsibility, pity, anger, social distancing, personal stigma and perceived stigma in relation to the target in the vignette. Participants were also asked about their causal attribution beliefs. Results indicated that participants on average were neutral in their implicit stigma, but low on most explicit stigma measures. Participants held somewhat different amounts of explicit stigma towards depression and bulimia with somewhat more for depression than bulimia, especially among male participants. For both disorders, participants consistently rated perceived stigma (i.e. the stigma of "most other college students") higher than their own personal stigma. Some associations between implicit and explicit measures of stigma were found, in the disorder-specific IAT, with high implicit bulimia blame being related to higher anger and personal stigma. Causal attributions were not strongly related to stigma. Overall, results suggest that the numerous facets of mental illness stigma are best understood through a disorder-specific lens, and that with this lens even explicit and implicit stigma assessments can converge.

Implicit and Explicit Stigma

Results from the present study support past research indicating that implicit mental illness stigma and explicit mental illness stigma are different constructs. Participants in the present study reported very low explicit stigma ratings, indicating that they believed they held non-stigmatizing attitudes, but the IATs indicated neutral implicit stigma scores. This discrepancy in

scores is consistent with other studies of implicit and explicit stigma, such as Teachman, Wilson and Komarovskaya (2006) which found that explicit stigma scores were not as high as implicit stigma scores in those diagnosed and not diagnosed with a mental illness. The present study found no bias in the implicit scores, but very low bias in the explicit scores. This pattern indirectly supported the hypothesis that implicit stigma would be higher than explicit stigma. These results suggest a social desirability bias in participants who may have wanted to appear non-stigmatizing in the explicit measures, but could not exert the same level of control over their performance on the implicit stigma assessment leading them to show little bias either way. This social desirability bias has been found in previous studies of implicit and explicit attitudes (Teachman et al., 2006; Dovidio et al., 1997; Greenwald & Banaji, 1995; Link & Cullen, 1983).

As previously noted, the explicit stigma scores were low overall, indicating that participants reported that they had non-stigmatizing attitudes about bulimia or depression. This was true for many of the explicit measures, except for one discrepancy in the pity section. Overall, participants reported high ratings of pity towards the target with bulimia or depression (indicating endorsement of pity, concern or sympathy for the target). So, even though participants did not report feeling anger toward the target or that the target was personally responsible for the disorder, participants did report feeling pity toward the target. This finding is similar to the idea of benevolence stigma, or the belief that those with a mental illness are like helpless children who need to be controlled by a parental figure (Corrigan & Watson, 2004). Therefore, like benevolence stigma, participants may have thought these were good attitudes to endorse. This finding is also consistent with the previous research of Corrigan et al. (2004). Corrigan et al. (2004) examined stigmatizing attitudes toward general mental illness, using responsibility, pity and anger as some of the stigmatizing attitudes, and found participants'

ratings of pity to be higher than responsibility or anger. The present study found similar results, indicating that, while participants are reluctant to admit to other, perhaps more obviously negative, forms of stigma, they will openly admit to feeling pity towards someone with depression or bulimia.

Differences in Stigma toward Bulimia and Depression

The hypothesis that bulimia would be more stigmatized than depression on an implicit and explicit level was not supported. The second IAT, which directly assessed participants' implicit stigma toward bulimia versus depression on facets of blame, was neutral overall, which indicated little bias in the form of blame toward depression or bulimia on an implicit level. On an explicit level, there was tentative evidence that participants were more stigmatizing toward depression than bulimia, especially male participants. Although multivariate test were not significant, univariate tests revealed that participants thought other college students would hold somewhat more stigmatizing attitudes towards the depressed target than the bulimic target. Univariate tests also revealed that male participants held somewhat more personal stigma towards the target with depression than the target with bulimia, both of whom were female. Furthermore, male participants thought both targets were somewhat more personally responsible for their condition, but this was especially true for the depression target. The strongest of these findings suggests that male participants believed more strongly that, for the depression target, her disorder was her own fault, she was responsible for it, and that it was controllable. For female participants, personal responsibility ratings and ratings of blame tended in the other direction with higher responsibility and blame assigned to the bulimia target.

Although the personal and perceived stigma measures assess a broad range of attitudes, such as dangerousness, personal responsibility, and the reality of the disorder, the explicit

personal responsibility measure is narrowly focused on blame. Thus, these explicit blame findings are especially interesting because there was no evidence of implicit blame differences. Another important difference that could explain why differences were found for explicit but not implicit blame, is that the IAT assessed general attitudes toward depression and bulimia, whereas the explicit measures assessed attitudes toward a specific individual (the target in the vignette).

The finding that depression is somewhat more stigmatized than bulimia conflicts with previous research on the stigmatization of depression and eating disorders. Roehrig and McClean (2010), in a study of differences in stigma for eating disorders (anorexia and bulimia) and depression, found participants (equal number of male and female) in the bulimia condition to report greater stigma toward a female target with bulimia, including attributing more personal responsibility to a target with bulimia than to one with depression. The previous research did indicate that little research had been done comparing eating disorder stigma to other disorders. Also, different measures may elicit different responses in participants. Therefore, it is understandable that in the present study, results differ somewhat from this previous research, and that depression is more stigmatized than bulimia (especially by men), because there is not a lot of solid past research on this topic. Future research comparing the stigma between bulimia and depression for males and females using explicit measures (and possibly in the future implicit measures as well) is needed to answer the question of which is greater stigmatized.

Perceived Stigma versus Personal Stigma

While people may not readily report personal stigma due to the social desirability bias, previous research has indicated that people believe others hold more stigma than themselves (perceived stigma: Griffiths et al., 2004; Calear, Griffiths, & Christensen, 2011). In line with previous research, it was predicted that perceived stigma would be higher for both depression

and bulimia in the present study. The results supported this prediction. Participants in the present study were asked about their own personal stigma, and then were asked to answer the same questions about how "most other college students" would feel (e.g. "People with a problem like Lily's could snap out of it if they wanted"; "Most other college students believe that people with a problem like Lily's could snap out of it if they wanted"). Across both conditions, participants believed that most other college students had significantly greater stigmatizing beliefs than their own personal stigma.

This finding corresponds with previous research on perceived stigma versus personal stigma. In a study of depression stigma and how specific interventions can decrease stigma, Griffiths et al. (2004) found that before and after the intervention, participants rated perceived stigma as significantly higher than personal stigma. The results of previous studies and the present data suggest that many people believe others are stigmatizing, but they themselves are not. It is unclear whether this discrepancy is real or merely due to the social desirability bias of participants not wanting to admit stigmatizing beliefs in order to appear non-biased. It could be part of a larger pattern of "self-serving bias" observed in social cognition research. The present study included implicit stigma to attempt to solve this discrepancy, but further research including implicit stigma, explicit stigma and perceived stigma directed at the same specific target will be required.

The Relationship between Implicit Bulimia Blame and Explicit Stigma

The second IAT assessed participant's levels of implicit stigma toward bulimia versus depression on facets of blame. While the second IAT on average scored as neutral, there was a wide range of IAT scores. Therefore, participants were split into two groups, one of participants who scored high and one of participants who scored low. Participants who scored high were

quicker to pair bulimia and blameworthy (henceforth called the bulimia-blame group) while participants who scored low were quicker to pair depression and blameworthy (henceforth called the depression-blame group). Results using these groups indicated that the bulimia-blame group also scored high on explicit measures of personal stigma and anger. This suggests that those who had higher implicit blame toward bulimia also had higher personal stigma and anger toward the target with bulimia.

There is no previous research assessing individuals' implicit and explicit stigma toward bulimia to compare the present findings with. Previous research on bulimia does indicate that people have personal stigma toward bulimia, specifically through blame (Crisp, 2005; Roehrig & McClean, 2010). The present results and previous research suggest a connection between beliefs of blame for bulimia and other facets of personal stigma. While the previous research does not address this, the present results indicate that when a participate finds the bulimia target more blameworthy for her disorder, even on an implicit or automatic level, they are also more angry at her. This anger may possibly come from the blame individuals place on those with bulimia for the disorder, and possibly from the suppression of these blaming attributions. If the root of this anger is coming from the implicit blame being associated with bulimia, this is something that could be addressed in future stigma reduction interventions specifically for eating disorders. It may be necessary to first make people aware of the blaming attributions they hold, and then attempt to change them. Future research in this area using implicit and explicit stigma measures, feedback to participants about their scores, and blame attribution-challenging attributions could be of benefit.

Causal Attributions

Consistent with previous research on the relationship between depression and biological causal attributions (Goldstein & Rosselli, 2003), the present study's results indicated that more participants endorsed a biological cause for the target with depression. Previous research on mental illness stigma and causal attribution beliefs indicate that the two are related (Weiner, 1995; Corrigan & Watson, 2004; Corrigan, 2000; Corrigan et al., 2002; Read & Law, 1999). In line with this, it was hypothesized that causal attribution beliefs would be related to explicit stigma. The causal attributions in the present study were categorized as environmental/personal (i.e. weakness of character; stressful life experiences) or biological (i.e. chemical imbalance). The present study did not support the hypothesis that causal attribution beliefs would be related to explicit stigma. Results from the present study did indicate that participants who endorsed environmental/personal causal attributions for either disorder also had high ratings of perceived stigma. This suggests that those who believed either disorder was caused by environmental or personal factors also believed that "most other college students" had more stigmatizing attitudes than themselves. Past research has indicated that biological attribution beliefs are associated with lower blame (Corrigan et al., 2002). The present study is indirectly consistent with this past research, finding that environmental/personal causal attribution beliefs are associated with higher stigma expectations in other people. Overall, the results from the present study did not find a strong relationship between causal attribution beliefs and explicit stigma. This conflicts with the previous research, but may be due the specific nature of this study. Previous research examined general mental illness stigma, whereas in this study, participants were asked to answer causal attribution questions about depression or bulimia. Also, participants were given a vignette about either a character with depression or bulimia symptoms which did not include any hints to causal

factors, and were then asked to answer the causal attribution scale about causes of depression or bulimia in anybody. Reading the vignette may have somehow altered participants' answers to the causal attributions scale. Also, the high level of self-monitoring and social desirability in the current sample may have interfered with the typical associations between explicit attributions and explicit stigma.

Gender Differences

As noted earlier in the bulimia verses depression discussion, some gender difference emerged throughout the present study. It was hypothesized that females would have more stigmatizing attitudes towards bulimia than men. This hypothesis received some support in the explicit measures. Females had slightly more personal stigma toward the target with bulimia than the target with depression. Females also attributed somewhat more personal responsibility to the bulimia target than the depression target. Females rated these items higher for the bulimia target than men did. This finding is similar to previous research on gender differences in stigma for eating disorders (including bulimia). Wingfield et al. (2011), in a study of college students' perceptions of eating disorders, looked at stigmatizing attitudes towards anorexia and bulimia. Researchers found that females were more stigmatizing towards the target (male or female) with either eating disorder, finding them to be more self-destructive and less likely to recover than men. The present study examined different facets of stigma, but like the previous research, found females to be somewhat more stigmatizing than men of the target with bulimia. This finding is interesting due to the high percentage of those with bulimia being female. It is possible that females may have harsher attitudes towards other females in general. Future research is required to examine why females are more stigmatizing towards those with bulimia (mostly being other women). Conversely, as discussed earlier, men had more personal stigma and attributed more

personal responsibility to the target with depression. There were no gender differences found in the implicit stigma measures.

Limitations

The present study had several limitations. The biggest limitation in this study was the lack of counterbalancing. Every participant took the two IATs first and then answered the explicit measures. Taking these two IATs about general mental illness blame and bulimia versus depression blame may have primed the participants and affected how they answered subsequent explicit measures. This may account for the low ratings on the explicit measures (with the exception of pity), indicating non-stigmatizing attitudes. Previous research on implicit and explicit stigma indicates that the order of measures does affect results, but the research varies on the definitive answer about which measure should go first. In a research paper on implicit and explicit stigma about mental illness, Stier and Hinshaw (2007) note, "utilising explicit measures of mental illness stigma before the participant engages in implicit attitude testing… could prime responses that might not otherwise have been observed. Similarly, following implicit… measures with assessments of overt attitudes could taint the latter" (p. 113). Therefore, the best solution may be to counterbalance implicit and explicit measures and to then study the effects of order of presentation.

Another limitation of the present study is the lack of representation of the population. This applies the most to gender and major. There were not enough males in the present study to have really strong gender differences, and some of the most interesting findings suggested that gender was an important contributor to stigmatizing reactions. Also, a majority of the participants were psychology students, who, on a whole, may report lower stigma due to their education on mental illness. Psychology students may have also been aware of what an IAT was

prior to the study, which may indicate for the lack of bias shown on the IATs. It would be more beneficial to use participants who ranged more in gender and major, were perhaps less educated about mental illness stigma, and were more naïve to the assessments used.

Future Research

Future research examining implicit and explicit stigma could counterbalance the implicit and explicit measures. As discussed in the limitations, the order of measures may affect the results, therefore it would be beneficial in future research to counterbalance the measures. Also, future research could implement these implicit and explicit measures as pre and post tests to examine the effects of a stigma reduction intervention on implicit and explicit stigma. In addition, future research could use different facets of stigma on the implicit stigma measure to examine other forms of stigma and how they converge or don't converge at the implicit and explicit level. While the present study used facet of blame, future research could use other facets of stigma such as dangerousness or pity. Also, the present study used female targets in the vignettes, whereas future research could use male and female targets. The gender of the target may have been a primary factor in the participant gender differences observed. Overall, future research is needed to expand the growing body of research on implicit and explicit mental illness stigma.

Conclusion

This research demonstrated the complexity of implicit and explicit stigma surrounding depression and bulimia. Though implicit stigma was overall neutral, there was a wide range of responses for both IATs, indicating individual differences in implicit bias. Participants reported non-stigmatizing attitudes on the explicit measures (except for pity), but indicated that other college students were stigmatizing. The high ratings of pity and perceived stigma indicate that

stigma is still a problem in college students, and that it might be expressed in disguised or indirect forms that are in some ways harder to detect and change. The National Alliance of Mental Health, in a 2012 survey of college students, indicated stigma as the top barrier for receiving help for a mental health issue (NAMI, 2012). One way to decrease stigma surrounding mental illness is through education about mental illness. College mental health advocacy groups such as Active Minds can use these data to further educate students about mental illness stigma, what forms it takes and how to reduce stigma. Many times, groups like Active Minds teach mental health education about stigma in a general sense. The data from the present study indicates that stigma occurs in many different forms, such as pity. College mental health advocacy groups could use this information to run education sessions about the different facets of stigma and how they can be harmful. Overall, the present study's findings have important implications for future research and education in mental health issues.

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Appendix A

Informed Consent

I hereby consent to participate in Emily Morse's research about mental illness perceptions of physical and mental health on a college campus.

I understand that this research will involve taking a computerized word test, reading a vignette, completing four surveys about the character in the vignette, and filling out a demographics form.

While I understand that the direct benefits of this research to society are not known, I have been told that I may learn more about my perceptions about physical and mental health.

I understand that this research will take about 45 minutes.

I have been told that there are no known risks or discomforts related to participating in this research. However, it is possible that some questions might be distressing to some participants depending on their personal history and background. I understand that I will be given contact information for Student Counseling Services if I wish to talk about any issues that were raised for me during this study.

I understand that I may decline to answer any questions as I see fit, and that I may withdraw from the study without penalty at any time.

I have been told that Emily Morse can be contacted at emorse@conncoll.edu.

I understand that I may decline to answer any questions as I see fit, and that I may withdraw from the study without penalty at any time.

I understand that all information will be identified with a code number and NOT my name. All answers to these surveys will be confidential.

I have been advised that I may contact Emily Morse or her advisor Professor Zakriski (x 5134; alzak@conncoll.edu) who will answer any questions that I may have about the purposes and procedures of this study.

I understand that this study is not meant to gather information about specific individuals and that my responses will be combined with other participants' data for the purpose of statistical analyses.

I consent to publication of the study results as long as the identity of all participants is protected.

I understand that this research has been approved by the Connecticut College Human Subjects Institutional Review Board (IRB).

Concerns about any aspect of this study may be addressed to Professor Jason Nier, Chairperson of the Connecticut College IRB (439-5057; janie@conncoll.edu2333).

I am at least 18 years of age, and I have read these explanations and assurances and voluntarily consent to participate in this research about mental health perceptions of physical and mental health.

Name (printed) _____

Signature _____

Date _____

Appendix B

IAT 1:

Mental Illness: Bulimia, Bipolar Disorder, Depression, Alcoholism, Anxiety

Physical Illness: Diabetes, Cancer, Multiple Sclerosis, Cerebral Palsy, Chron's disease

Blameworthy: Guilty, Preventable, Responsible, At fault, Culpable

Blameless: Innocent, Unpreventable, Guiltless, Not responsible, Not at fault

IAT 2:

Depression: Sad, Gloomy, Hopeless, Miserable, Tearful

Bulimia: Binging, Compensatory, Purging, Weight conscious, Impulsive

Blameworthy: Guilty, Preventable, Responsible, At fault, Culpable

Blameless: Innocent, Unpreventable, Guiltless, Not responsible, Not at fault

Appendix C

Please read the following description about a hypothetical Connecticut College student and respond to the questions that follow.

Depression Vignette (this label not shown to participants)

Lily is a sophomore at Connecticut College who has been feeling unusually sad and miserable for the last 3 months. She is tired all the time and has trouble sleeping at night. Lily can't keep her mind on her studies and her grades have dropped. She no longer enjoys activities she used to enjoy. She puts off making any decisions and even day-to-day tasks seem too much for her. Lily's family and friends have suggested she go see someone for depression.

Bulimia Vignette (this label not shown to participants)

Lily is a sophomore at Connecticut College who has been bingeing and purging for the past 3 months. She is concerned about how she looks all the time and is worried about being overweight. Lily is so preoccupied that her grades have dropped. Multiple times per week, Lily eats large quantities of high calorie food all at once, feeling like she cannot stop. To compensate for overeating, she regularly takes laxatives or vomits. Lily's family and friends have suggested she go see someone for bulimia.

Appendix D

Personal Responsibility Beliefs, Pity, and Anger Questionnaire (title not shown to participants)

Please read the following statements and questions carefully and indicate the answer that best describes your opinion about Lily, the person in the vignette you just read.

1. I would think that it were Lily's own fault that she is in the present condition.

1	2	3	4	5	6	7	8	9
No, not at all								Yes, absolutely

2. I would feel pity for Lily.

1	2	3	4	5	6	7	8	9
None at all								Very much

3. I would feel aggravated by Lily.

1	2	3	4	5	6	7	8	9
None at all								Very much

4. How controllable is the cause of Lily's present condition?

1	2	3	4	5	6	7	8	9
Not at all under personal control								Completely under personal control

5. How much sympathy would you feel for Lily?

1	2	3	4	5	6	7	8	9
None at all								Very much

6. How angry would you feel at Lily?

1	2	3	4	5	6	7	8	9
None at all								Very much

7. How responsible is Lily for her present condition?

1	2	3	4	5	6	7	8	9
Not at all responsible								Very much responsible

8. How much concern would you feel for Lily?

1	2	3	4	5	6	7	8	9
None at all								Very much

9. How irritated would you feel by Lily?

1	2	3	4	5	6	7	8	9
Not at all								Very much

Appendix E

Stigma towards Depressed Students Measure (title not shown to participants)

The next few questions contain statements about "Lily's" problem. Please indicate how strongly YOU PERSONALLY agree or disagree with each statement.

1. People with a problem like Lily's could snap out of it if they wanted.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

2. A problem like "Lily's" is a sign of personal weakness.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

3. Lily's problem is not a real medical illness.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

4. People with a problem like "Lily's" are dangerous.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

5. It is best to avoid people with a problem like "Lily's" so that you don't develop this problem.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

6. People with a problem like "Lily's" are unpredictable.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

7. If I had a problem like "Lily's", I would not tell anyone.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

Now we would like you to tell us what you think MOST OTHER COLLEGE STUDENTS believe. Please indicate how strongly you agree or disagree with the following statements.

1. Most other college students believe that people with a problem like Lily's could snap out of it if they wanted.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

2. Most other college students believe that a problem like "Lily's" is a sign of personal weakness.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

3. Most other college students believe that Lily's problem is not a real medical illness.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

4. Most other college students believe that people with a problem like "Lily's" are dangerous.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

5. Most other college students believe that it is best to avoid people with a problem like "Lily's" so that you don't develop this problem.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

6. Most other college students believe that people with a problem like "Lily's" are unpredictable.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

7. If they had a problem like "Lily's", most other college students would not tell anyone.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

Appendix F

Social Distancing Scale (title not shown to participants)

Please rank your willingness to do the following…

1. Be roommates with Lily

0	1	2	3
Definitely unwilling			Definitely willing

2. Spend a night socializing with Lily

0	1	2	3
Definitely unwilling			Definitely willing

3. Make friends with Lily

0	1	2	3
Definitely unwilling			Definitely willing

4. Work closely on a group project with Lily

0	1	2	3
Definitely unwilling			Definitely willing

5. Eat meals with Lily

0	1	2	3
Definitely unwilling			Definitely willing

6. Elect Lily to be head of a student organization

0	1	2	3
Definitely unwilling			Definitely willing

Appendix G

Causal Attribution Scale (title not shown to participants)

The next few questions are about possible causes of [depression/bulimia] in <u>ANYBODY.</u>
How likely do you think each of the following is to be a cause of [depression/bulimia]?

1. A virus or infection

0	1	2	3	4
Very unlikely				Very likely

2. An allergy or reaction

0	1	2	3	4
Very unlikely				Very likely

3. A genetic predisposition

0	1	2	3	4
Very unlikely				Very likely

4. Day to day problems such as stress, family arguments, difficulties at school or financial difficulties

0	1	2	3	4
Very unlikely				Very likely

5. The recent death of a close friend or relative

0	1	2	3	4
Very unlikely				Very likely

6. Stressful life experiences

0	1	2	3	4
Very unlikely				Very likely

7. Some recent traumatic event such as a house fire, severe traffic accident or being mugged

0	1	2	3	4
Very unlikely				Very likely

8. A chemical imbalance in the brain

0	1	2	3	4
Very unlikely				Very likely

9. Problems from childhood such as being badly treated or abused, losing one or both parents when young, or coming from a broken home

0	1	2	3	4
Very unlikely				Very likely

10. Being a nervous person

0	1	2	3	4
Very unlikely				Very likely

11. Relationship difficulties

0	1	2	3	4
Very unlikely				Very likely

12. Having a weakness of character

0	1	2	3	4
Very unlikely				Very likely

Appendix H

Familiarity with Mental Illness Scale (title not shown to participants)

The next questions ask about your current and past mental health challenges. Responding is entirely optional. I ask these questions because I would like to understand how thoughts and feelings vary among people who have and have not faced these challenges in their lives.

1. Are you currently, or have you ever struggled with moderate to severe mental or emotional difficulties (e.g. depression, panic attacks, anxiety, fighting a lot with family or friends, problems in school, etc.) that lasted a minimum of several weeks and interfered with your daily life?

   Yes

   No

2. Is this a past or current difficulty?

   Past

   Current

   N/A

3. Have you ever struggled specifically with depression?

   Yes

   No

   N/A

4. Is this a past or current difficulty?

   Past

   Current

   N/A

5. Have you ever struggled specifically with bulimia?

   Yes

   No

   N/A

6. Is this a past or current difficulty?

    Past

    Current

    N/A

7. Have you ever gotten help for mental or emotional difficulties from any of the following? **Please select all that apply by circling, or select "None of the above."**

    Psychologist

    Psychiatrist

    School Counselor

    Licensed Mental Health Practitioner

    General Practitioner

    Teacher

    Family Member

    Friend

    Religious Leader

    Coach

    Self Help Book

    Prescription medicine

    Other

    None of the Above

8. Are you currently receiving help for mental or emotional difficulties, or was this in the past?

    Past

    Current

    N/A

9. How beneficial do/did you find the help you received? Circle N/A if not applicable.

1	2	3	4	5	6	7
not at all helpful	barely helpful	slightly helpful	somewhat helpful	moderately helpful	very helpful	extremely helpful

N/A

10. Have you ever been given a diagnosis by a mental health professional?

Yes

No

Now you will be asked the same question about SOMEONE CLOSE TO YOU. Remember, Responding is entirely optional.

1. Is someone close to you currently, or has someone close to you ever struggled with moderate to severe mental or emotional difficulties (e.g. depression, panic attacks, anxiety, fighting a lot with family or friends, problems in school, etc.) that lasted a minimum of several weeks and interfered with their daily life?

Yes

No

2. Is this a past or current difficulty?

Past

Current

N/A

3. Has someone close to you ever struggled specifically with depression?

Yes

No

4. Is this a past or current difficulty?

   Past

   Current

   N/A

5. Has someone close to you ever struggled specifically with bulimia?

   Yes

   No

6. Is this a past or current difficulty?

   Past

   Current

   N/A

7. Has someone close to you ever gotten help for mental or emotional difficulties from any of the following? **Please select all that apply by circling, or select "None of the above."**

   Psychologist
   Psychiatrist
   School Counselor
   Licensed Mental Health Practitioner
   General Practitioner
   Teacher
   Family Member
   Friend
   Religious Leader
   Coach
   Self Help Book
   Prescription medicine
   Other
   None of the Above

8. Is someone close to you currently receiving help for mental or emotional difficulties, or was this in the past?

   Past

   Current

   N/A

9. How beneficial do/did you find the help that someone close to you received? Circle N/A is not applicable.

1	2	3	4	5	6	7
not at all helpful	barely helpful	slightly helpful	somewhat helpful	moderately helpful	very helpful	extremely helpful

   N/A

10. Has someone close to you ever been given a diagnosis by a mental health professional?

    Yes

    No

Appendix I

Demographics Questionnaire

Please read each question carefully and provide the answer that best applies.

1. What is your sex?

   Male

   Female

   Other

2. What is your age? _____

3. How would you describe your race?

   Hispanic or Latino

   Black or African American

   Asian or Asian American

   American Indian

   Hawaiian or other Pacific Islander

   Non-Hispanic White

   Other

4. What is your class year?

   Freshman

   Sophomore

   Junior

   Senior

5. What is your major? _____

Appendix J

Debriefing Form

First of all, thank you for participating in this research dealing with perception of mental and physical illness. In this research, I am examining how much implicit stigma (measured by the computerized word test), explicit stigma, and perceived stigma there is towards depression and bulimia in college students.

Previous research has shown that stigma can lay both on the surface explicitly and subconsciously on an implicit level (Stier & Hinshaw, 2007). Eating disorders (bulimia and anorexia) have been shown to be more explicitly stigmatized than depression (Roehrig & McLean, 2010) in studies of college students. Perceived stigma (what we believe other people think about mental illness) often measures higher than personal (explicit) stigma, but personal stigma can lead to lower rates of help-seeking (Eisenberg, Down, Golberstein & Zivin, 2009). Previous researchers have not looked specifically at implicit stigma towards depression and bulimia nor conducted a comparison of the two. The present study is designed to examine explicit and implicit stigma towards depression and bulimia while also comparing these forms of stigma to perceived stigma. The facets of stigma being measured in the present study include personal responsibility beliefs, anger, pity, blame, social distancing and causal beliefs. Causal beliefs were measured to assess whether biological beliefs about the disorders would lead to lower stigma. A personal history was measured to assess whether familiarity with mental illness would lead to lower stigma.

Please do not share information about this study with peers until the end of the academic year when the study is completed. If you are interested in this topic and want to read more literature in this area, please contact me (Emily Morse) at emorse@conncoll.edu. Some helpful references are provided below. Any concerns about how this study was conducted can be addressed to Professor Nier, chair of the IRB (860-439-5057).

If participating in this study caused you distress or raised questions for you about your own health or the health of someone you care about and you would like to talk to someone at Student Counseling Services, please call 860-439-4587.

Listed below are sources you may want to consult to learn more about this topic:

Phelan, J. E. & Basow, S. A. (2007). College students' attitudes toward mental illness: an examination of the stigma process. *Journal of Applied Social Psychology, 37*(12), 2877-2902.

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

Eisenberg, D., Downs, M., Golberstein, E. & Zivin, K. (2009). Stigma and help-seeking for mental health among college students. *Medical Care Research and Review, 66*(5), 522-541.