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The Effects of Construal Level on Stigmatizing Attitudes Toward an Individual with Mental Illness

Jeremy Glenn Gay

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THE EFFECTS OF CONSTRUAL LEVEL ON STIGMATIZING ATTITUDES TOWARD AN
INDIVIDUAL WITH MENTAL ILLNESS

by

JEREMY G. GAY

(Under the Direction of Karen Z. Naufel)

ABSTRACT

People with mental illness often face stigmatization by society. However, little research has examined cognitive factors that may activate or dissipate stigmatizing attitudes toward those with mental illness. Construal level, or the extent that people focus on abstract generalizations versus concrete details of events, may be one such cognitive factor. Two contradictory hypotheses emerged concerning how construal may affect stigmatizing attitudes. One hypothesis suggests that abstract construals will decrease stigmatization because abstract construals tend to increase the activation of similar goals, thus leading to a similarity focus. In contrast, another hypothesis suggests that abstract construals will increase stigmatization because abstract construals tend to increase the focus on within group similarities, thus leading to stereotype-consistent categorizations. Because stereotypes of people with mental illness are largely negative, abstract primes may lead to stigmatizing attitudes and behavior by decreasing a similarity focus between the participants and the person with mental illness. To test these competing hypotheses, participants were primed to think abstractly or concretely and completed self-report and behavioral measures of stigma. Additionally, participants completed a measure of perceived similarity with a person with mental illness. Results revealed no significant differences between construal level on measures of mental illness stigma (attitude and behavioral measures). Therefore, neither hypothesis was supported. However, exploratory analyses revealed that

participants who rated themselves as being highly similar to a person with mental illness were less likely to endorse stigmatizing attitudes toward people with mental illness than participants who rated themselves as being less similar to a person with mental illness. Future research should continue examine the role of construal level on mental illness stigma.

INDEX WORDS: Construal level Theory, Stigma, Mental Illness, Stereotypes, Priming, Stigma Reduction Interventions

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Chapter 1: Introduction

Study Aims and Significance

Although there are many treatments available for most mental disorders, the majority of individuals diagnosed with a mental disorder do not access mental health care until nearly a decade after the development of the disorder (Wang, Berglund, Olfson, Pincus, Wells, & Kessler, 2005). Stigma toward mental illness is a major reason for why people do not seek treatment for their mental disorder (Schomerus & Angermeyer, 2008) perhaps due to the fear of negative labels such as “crazy” or “emotionally weak.” (Corrigan & Watson, 2002). Given that stigma relates to a person’s decisions to seek treatment, a great need exists for evidence-based practices for reducing stigma.

Unfortunately, research suggests that stigma toward individuals with mental illness is increasing rather than decreasing, suggesting that improvements still need to be made to reduce stigma toward mental illness (Pescosolido, Martin, Long, Medina, Phelan, & Link, 2010). Evidence-based anti-stigma programs may be especially important for those living in rural areas, where stigma toward those with mental illness is believed to be particularly problematic (Hoyt & Conger, 1997).

The primary purpose of this study was to objectively identify the extent that a cognitive mechanism reduces stigmatizing attitudes toward individuals with mental illness. Specifically, the present study investigated how the cognitive mechanism, construal level, influences the stigmatization toward a person with mental illness. Construal level theory asserts that people construe events or object differently in given circumstances, sometimes abstractly and sometimes concretely (Liberman & Trope, 1998; Trope & Liberman, 2003; Trope & Liberman, 2010). Specifically, abstract construals are general, unobservable, or broad concepts while concrete

construals are specific, observable, or discrete concepts (Lieberman & Trope, 1998). Construal level may relate to mental health stigma because negative stereotypes or stigmatizing attitudes are generalizations, meaning that they are often vague or intangible. Although these descriptions are often vague, like abstract construals, people often perceive them as providing more information than more specific descriptions of the group.

This present study is important because few studies have examined cognitive factors that may activate or dissipate stigmatizing attitudes toward individuals with mental illness. The lack of literature on potential cognitive factors that may contribute to stigma is problematic, especially given the need for evidence based anti-stigma campaigns. By better understanding the cognitive mechanisms that contribute to stigma, researchers and clinicians can develop evidence based anti-stigma programs. Additionally, this study helped assess the prevalence of stigmatizing attitudes in rural areas. It is important to assess the prevalence of stigmatizing attitudes in rural areas because little research has actually examined how prevalent mental health stigma is in rural areas (Smalley, Yancey, Warren, et al., 2010).

Definition of Terms

Stigma: Stigma refers to negative judgment toward a specific group, characterized by generalizations, prejudice (negative attitudes), and discrimination (negative behavior toward a specific group) (Corrigan & Watson, 2002). In the present study, stigma was measured by assessing negative attitudes toward people with mental illness (AQ-27) as well as stigmatizing behavior toward a person with mental illness (resource allocation task).

Mental Illness: Mental illness refers to all psychiatric or mental disorders. According to the Centers for Disease Control and Prevention (2013), mental illnesses are characterized by

abnormalities in mood, thought, or behavior. Mental illnesses are categorized and defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (APA, 2013).

Construal Level Theory (CLT): Construal level theory asserts that people construe events or object differently in given circumstances, sometimes abstractly and sometimes concretely (Liberman & Trope, 1998; Trope & Liberman, 2003; Trope & Liberman, 2010). *Abstract construals* are general, unobservable, or broad concepts. Abstract construals often include inclusive categorizations of objects (e.g. dogs, mammals) due to their broad and general nature. *Concrete construals* are specific, observable, or discrete concepts. Concrete construals often emphasize tangible or specific mindsets.

Chapter 2: Literature Review

Stereotypes and Stigma: A Process of Generalization

Stereotypes are an overgeneralized set of characteristics that categorize a particular group (Judd & Park, 1993). Such generalizations may have positive connotations (e.g., people of Asian descent are good at math) and other generalizations may have negative connotations (e.g. professors are absentminded) (Siy & Cheryan, 2013; Myers, 2008). Regardless of whether stereotypes have positive or negative connotations, it is important to note that they are generalizations and lack detail. The generalizations that stereotypes provide can thus have consequences. In fact, because stereotypes are generalizations, they may not accurately describe every person who is a member of the prospective group (Judd & Park, 1993).

Stereotypes may help the person holding the stereotype conserve cognitive energy (Macrae, Milne, & Bodenhausen, 1994). Illustrating this point, participants in Macrae and colleagues' study completed a task in which they monitored auditory stimuli while forming impressions of people. Half of the participants received stereotype consistent descriptors of a person and the other half received neutral descriptors of a person. Participants then recalled all of the information that they could remember about the people previously presented. Participants presented with stereotype consistent descriptors remembered more information about the people than did the participants presented with the neutral traits condition. These results suggest that unconscious generalizations provided by stereotypes are easy to acquire. By relying on stereotypes, Macrae and colleagues argue that people can often gain information about another person without having to allocate their cognitive resources to monitor their behavior, in turn simplifying their environment. In sum, stereotypes enable people to quickly make sense of the world, make decisions more efficiently, and reduce the amount of information that a person has

to attend. Other research has confirmed this “cognitive miser” approach to stereotypes, noting that stereotypes conserve energy (e.g. Ebenbach & Keltner, 1998; Sherman & Frost, 2000).

However, in most instances, the generalized nature of stereotypes can have detrimental and harmful effects; particularly negative stereotypes. First, negative stereotypes often lead to negative judgments of a particular group (prejudice) as well as negative behavior (discrimination) (Fiske, 2000). One stigmatized group is people who are obese, particularly women who are obese (Register & Williams, 1990). To give an example, people who are obese are discriminated against more than most other social groups (Klaczynski, Goold, & Mundry, 2004). In fact, 90 % of children who are obese report being teased and feeling ashamed and humiliated (Neumark-Sztainer, Story, & Faibisch, 1998; Irving, 2000). Additionally, women who have obesity receive less pay than women who do not have obesity (Register & Williams, 1990). The discrepancy in pay between women who have obesity and women do not have obesity seems to stem directly from the belief that women who have obesity are less productive than women who do not have obesity. As illustrated, the generalized nature of this particular stereotypes may be what leads to their detrimental nature.

Second, because stereotypes are generalizations, they are often inaccurate in that they may not account for all characteristics about a group. For example, the belief that most Americans who are on welfare are African American is not true, although it is a common belief of many people based on stereotypes (Myers, 2008). Unfortunately, the generalized nature of stereotypes makes them difficult to change. Stereotypes embody characteristics that are intangible, enduring, and resistant to confirmation. Intangible terms persist across situations, whereas tangible or concrete terms are transient (Maas et al., 1989). In other words, labeling a person as “crazy” or “dangerous” makes it difficult to challenge or change the assertion due to the

intangible nature of the term. Individuals with mental illness frequently receive vague, intangible descriptors (e.g. crazy, dangerous), which maintains the negative generalizations that society offers (Corrigan & Watson, 2002). In contrast, descriptions of particular actions, as opposed to generalizations, are transient and situation dependent. To illustrate, if a person with mental illness was continually pacing around a room and someone described their behavior as “walking,” then the description of the action ceases once the person stops walking. However, if a person described the same individual as “crazy”, then the negative evaluation persists even when the person ceases their walking. That is, the label “crazy” can persist while a person is at a store, at school, or even on Mount Everest. Semantic differences in descriptions of others can dramatically affect perception (Maas et al., 1989).

In fact, the *linguistic intergroup bias* identifies such patterns of behavior. According to this theory, individuals tend to construe the behavior of the self, versus others, using distinct linguistic patterns that reflect their own biases and maintain the status quo (Maas et al., 1989). Maas and colleagues found that when people describe the behavior of others within their social group, they use different linguistic patterns to describe their behavior than they do to describe the behavior of others outside of their social group. Particularly, the perception of desirable behaviors of others within their social group and undesirable behaviors of those outside of their social group was abstract. Similarly, the perception of undesirable behaviors of others within their social group and desirable behaviors of those outside of their social group was concrete. Linguistically, adjectives are often abstract (e.g. aggressive) while verbs are concrete (e.g. John hit Paul). When people describe positive in-group characteristics and negative out-group characteristics they tend to use abstract language. Similarly, when people describe negative in-group characteristics and positive out-group characteristics they tend to use concrete language.

Information coded at a high level of abstraction is resistant to change, relatively stable over time, and perceived as providing more information about social targets than information encoded at a more concrete level of abstraction. (Maas et al., 1989). In other words, by holding intangible, vague, or negative generalizations about another group of people, negative beliefs about the group persist.

In summary, although generalizations help conserve cognitive energy, they often contribute to negative evaluations of others. Out-group generalizations are often negative, while in-group generalizations are often positive (Maas et al., 1989). Due to this tendency to generalize, people may inadvertently ascribe negative attributes to those outside of their social group. Because society judges people with mental illness as outsiders, society may make negative generalizations about people with mental illness, a process known as stigma (Corrigan & Watson, 2002).

Mental Illness Stigma

Goffman defined stigma as a demeaning characteristic, leading to marginalization and judgment by society (Goffman, 1963). The term stigma originally referred to signs cut or burned into a person's body to represent something unusual or bad about the moral status of that person (Goffman, 1963). Society avoided the bearers of these marks because of negative beliefs about them (e.g., they are contaminated). Although stigma is not necessarily associated with a physical burn or cut, stigmatized individuals still face disgrace and judgment from society.

Goffman (1963) described two types of stigmatized individuals, discreditable and discredited. As he describes, discreditable individuals seek to hide information that reveals that they are part of a stigmatized group. Additionally, discreditable individuals often have to manage

the tension that arises when interacting with the general population. Discreditable individuals can often hide that they are a part of a stigmatized group, whereas a discredited person must learn how to deal with and manage prejudice and marginalization on a daily basis, with no sense of escape. In sum, discreditable individuals can often hide that they are a part of a stigmatized group, whereas discredited individuals cannot hide their stigmatizing features and must learn to manage the stigmatization that they experience.

Depending on the extent of a person's mental illness, people with mental illness are often discredited and seen as less than human (Goffman, 1963). By thinking about stigmatized groups, such as people with mental illness, as less than human, it becomes easier for people to discriminate and make snap decisions about them without considering the negative implications of doing so. For example, negative generalizations or labels, are utilized without considering the original meaning of the word (Goffman, 1963). Additionally, people may interpret defensiveness from a member of a stigmatized group as further evidence of their "defect" or moral shortcoming (Goffman, 1963).

Mental health stigma encompasses several beliefs, many of which are generalizations. For example, research suggests that those with mental illness are weak, violent, sinful, or untreatable (Kobau, DiIorio, Chapman, & Delvecchio, 2010), words that incidentally would be coded as "abstract" or general on Semin and Fiedler's linguistic intergroup bias coding scale (Semin & Fiedler, 1988). Other research has found that people hold other beliefs about people with mental illness. Common beliefs found in factor analysis include: People with mental illness are dangerous, people with mental illness are to blame for the disabilities that arise from weak character, and people with mental illness are incompetent and require authority figures to make decisions for them (Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear, 1980).

Similarly, the media may also contribute to other stigmas. Popular media encourages mental illness stigma by portraying individuals with mental illness as scary, crazy, inept, or dangerous (Corrigan et al., 2012). A recent review of U.S. newspapers revealed that 39% of all articles related to mental illness portrayed people with mental illness as dangerous and violent (Corrigan, Watson, Gracia, Slopen, Rasinski, & Hall, 2005). Furthermore, media analysis of film and print representations of mental illness has revealed the following beliefs: individuals with mental illness are homicidal maniacs, they are rebellious free spirits, and they have childlike perceptions of the world (Corrigan, 1998). In short, these studies suggest that negative and stigmatizing generalizations about people with mental illness abound. In fact, beliefs about people with mental illness often construe them as exhibiting moral shortcomings or dangerousness.

These studies also tend to measure negative attitudes and judgments directed toward people with mental illness. Specifically, these studies suggest that negative attitudes are generalizations or abstract thought. In fact, if Semin and Fiedler's linguistic intergroup coding scale were applied to the beliefs of the studies described previously (e.g. people with mental illness are weak, violent, sinful, dangerous, incompetent) (Kobau et al., 2010; Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear, 1980) all would be listed as "abstract" or dispositional rather than "concrete" or situational (Semin & Fiedler, 1988). However, these studies concerning mental illness stigmas have not examined how certain cognitive mechanisms may activate or dissipate such generalizations. It is important to study public attitudes toward individuals with mental illness, including the understanding of the cognitive factors that may activate or decrease negative generalizations.

Construal Level Theory

Construal Level Theory (CLT) is one such theory that can provide insight about factors that lead to and maintain stigmatizing attitudes. Additionally, it may provide insight into ways to decrease stigma. To summarize, CLT asserts that people construe events or object differently in given circumstances, sometimes abstractly and sometimes concretely (Liberman & Trope, 1998; Trope & Liberman, 2003; Trope & Liberman, 2010). As Liberman and Trope (1998) describe, abstract construals are general, unobservable, or broad concepts. In contrast, concrete construals are specific, observable, or discrete concepts. For example, “having fun” is an abstract concept while “riding a rollercoaster” is more concrete. Additionally abstract construals often include a more inclusive categorizations of objects (e.g. dogs, mammals), and concrete construals are more focused or tangible (e.g. cocker spaniel). Although abstract construals are often more intangible or vague than concrete construals, they are often perceived as providing more information than concrete construals (Semin & Fiedler, 1988, Maas et al., 1989).

In this sense, abstract construals are very similar to the generalized nature of stereotypes. Because stereotypes are generalizations, they are often vague or intangible. Similarly, people often perceive stereotypes as globally and accurately describing a specific group of people. Although these descriptions are often vague, like abstract construals, people often perceive them as providing more information than more specific descriptions of the group.

Changing Construal Level

According to Trope and Liberman (2010), people can change their level of construal. In many instances, construal level changes due to different aspects of distance (Trope & Liberman, 2010). As distance increases people tend to think about things in increasingly abstract ways;

whereas direct contact with a person or event lead to more concrete descriptions of that particular person or event. Abstraction is as a way to look to the future or the past when one does not have direct contact with a specific person or event (Trope & Liberman, 2010). Similarly, as people become more familiar with a particular stimulus and distance decreases, people tend to think about events in a more concrete manner. In fact, changes in distance lead to changes in construal level. First, level of construal changes when temporal distance changes. People tend to view future events as abstract and present events as concrete (Liberman & Trope, 1998; Stephan, Liberman, & Trope, 2011). For example, if people are planning to take a vacation one year from now, they will likely think of their vacation in abstract ways, such as going on vacation or getting out of town. However, if people were going on vacation in the next two weeks, they would describe their trip concretely, such as going to a specific beach, staying at a specific hotel, and having a specific itinerary (Liberman & Trope, 1998). Again, future events are abstract and current or near events are concrete.

Second, level of construal changes as spatial distance changes (Trope & Liberman, 2010). People tend to view spatially distant objects as abstract and spatially near objects as concrete (Fujita, Henderson, Eng, Trope, & Liberman, 2006). Fujita and colleagues (2006) found that participants who imagined helping a friend move to a faraway location described their behavior as more abstract than participants who imagined that they were helping their friend move to a spatially closer location (e.g. putting clothes in a washing machine vs. removing odors from clothing). The tendency to view spatially distant objects as more abstract than spatially near objects occurs due to people's tendency to rely on schematic information or stereotypes when they are removed from direct experience (Fujita et al., 2006).

Finally, construal level changes as social distance (perceived similarity with another person or group) change. For example, participants tend to describe familiar people more concretely than unfamiliar people (Idson & Mischel, 2001). Additionally, people describe strangers with more abstract traits (e.g. sensitive) than people who are familiar (Idson & Mischel, 2001). Likewise, a stranger's behavior is described in terms of traits (e.g. "He stepped on my toe because he is clumsy") whereas a familiar person's behavior may be described in more situational, concrete terms, (e.g. "He stepped on my toe because it is crowded") (Gilbert, 1998).

Level of construal not only changes with distance, it also changes with primes. For example, Freitas, Gollwitzer, and Trope (2004) demonstrated that a person could be primed to think more abstractly by having them describe why they would engage in an activity, and that a person could be primed to think more concretely by having them describe how they would engage in an activity. According to Freitas and colleagues, abstract, why construals represent the action's purpose and are important when thinking about a specific action while concrete, how construals represent the process of a particular action and are of secondary concern when thinking about a specific action. In this task, people who are primed to think abstractly are asked why they would pursue a particular goal and are then gradually asked relatively higher order goals by a series of why questions and answers, in essence thinking more and more abstractly (e.g. Why write a dissertation? Complete course requirements; Why? To get a doctoral degree etc.). People are primed to think concretely are asked how they would pursue a particular goal and then gradually asked relatively lower order activities by a series of how questions and answers (e.g. How would you attain life happiness? Have a good job; How would you go about that? Get a college degree etc.).

Similarly, having people provide examples of objects (e.g. An example of a bird is _____) or categories of objects (e.g. A bird is an example of _____) can manipulate level of construal (McCrea, Liberman, Trope, & Sherman, 2008). Specifically, identifying examples of objects primes a concrete mindset, while identifying categories of objects primes an abstract mindset.

Additionally, there are more subtle ways to manipulate construal level. For example, Liberman and Förster (2009) primed abstract mindset by having participants ignore small letters and respond to large letters as quickly as possible and primed concrete mindsets by having participants ignore large letters and respond to small letters as quickly as possible on a reaction time task. When participants focused on global features, they paid more attention to the distinguishing features of an object and less on specific details, thereby enacting a more abstract focus. Similarly, when participants focused on more local features, they paid more attention to the distinguishing features of an object, thereby enacting a more concrete focus. By focusing on large details, more global/abstract features were attended, thus priming an abstract construal mindset, while focusing on more local/concrete features, primed a concrete construal mindset.

Although abstract and concrete construals can be primed, personality, or the tendency to think abstractly vs. concretely, has also served as a predictor variable (Vallacher & Wegner, 1989). Vallacher and Wegner (1989) assessed people's tendency to view their actions in abstract versus concrete ways. In doing so, they created the Behavior Identification Form (BIF), which is a measure that assesses individual differences in describing action. On the BIF, participants viewed action verbs and endorsed a response (one response being abstract and the other concrete). For example, participants viewed the word "voting" and endorsed either "influencing the election or marking a ballot." The measure was shown to have high internal consistency ($\alpha =$

.83). Results indicate that people who tend to view action in abstract terms tend to think about actions in terms of motives and larger meanings of the action (e.g. focus on *why* they engage in an action), whereas people who tend to view action in concrete terms think about actions in terms of the detail (e.g. focus on *how* they engage in an action). Research has used this scale as a predictor variable in several studies (e.g. Luguri, Napier, & Dovidio, 2012, Freitas et al., 2002, & Bishop, Thomas, & Peper, 2000).

Abstract or concrete construals influence how people think, make decisions, and generalize (McCrea, Wieber, & Myers, 2012). For example, Förster (2009) examined the role of processing style (global vs. local) on focus of similarity. Förster hypothesized that global processing (e.g. looking at the whole picture) would induce a focus on similarities on unrelated tasks, whereas local processing (e.g. looking at parts of a stimulus) would induce a focus on differences on unrelated tasks. Participants were primed to think either globally (abstractly) or locally (concretely), utilizing various tasks (responding to small letters vs. large letters, assessing whole map vs. one location) and then asked to assess similarities or differences on unrelated tasks (TV shows, objects, statues, pictures of people). Additionally, the study viewed the effect of temporal distance and power on a focus on similarity or differences. In the temporal distance study, participants either thought about a trip to New Zealand one year from now, today, or simply thought about it, depending on condition. They then compared two television shows. In the power study, participants were primed with either high power words (e.g. authority, captain, privileged) or low power words (passive, servant, janitor) and then asked to compare two television shows. Förster found that participants primed to think globally (abstractly) found more similarities than those primed to think locally (concretely). Similarly, participants who were primed to think locally (concretely) found more differences than those primed to think globally

(abstractly). Finally, greater temporal distance and high power induced a search for similarities while temporal closeness and low power induced a search for differences. These studies suggest that subtle cues can affect how information is processed. Because abstract construals (global processing) may promote an emphasis on similarities and promote inclusive categorizations, it is reasonable that abstract construals may relate to generalizations or stigma.

In sum, priming a person to think abstractly or concretely directly influences their cognition. Given that construal level has direct implications for decision-making and social cognition, priming may be an ideal way to help people think more abstractly or concretely. In fact, priming a person to think abstractly or concretely has direct implications for stigma reduction.

Construal Level and Stigma

Some evidence suggests that activation of abstract versus concrete construals relates to how people view and behave toward stigmatized others. For example, Levy, Freitas, and Salovey (2002) examined the extent that construal level predicted attitudes and behaviors toward stigmatized groups, such as people who are homeless and people living with AIDS. These researchers hypothesized that abstract construals would increase a similarity focus toward others, thereby leading to less stigmatizing attitudes and a greater willingness to help others because abstract construals tend to put people in touch with mutually shared goals. To test this hypothesis, participants, across all studies, completed the Behavior Identification Form (BIF), a form that measured the extent that they thought abstract versus concretely. In Studies 1-3, participants completed different measures of perceived similarity with stigmatized group members like people with AIDS and people who are homeless, members of their own social

group, as well as measures of one's ability to view the world from another person's perspective and empathy.

Specifically, in Study 1, the more abstractly participants tended to think, the more similar they perceived themselves to be with other groups. In Study 2, the more abstractly participants tended to think, the more similar they felt people were to one another, and the more easily they took the perspective of another person. In Study 3, the more abstractly participants tended to think, the more similar they perceived stigmatized group members (e.g. person with aids or homeless person) to be to one another and the more empathy they felt toward stigmatized group members. Together, Studies 1-3 provide evidence that people who tend to think abstractly view themselves as being more similar to other people, more easily take the perspective of others, and feel greater empathy toward others compared to people who tend to think concretely. Additionally, the ability to see things from another's perspective was predictive of increased empathy toward others when they tended to think abstractly.

Levy and colleagues expanded their research in Studies 4-6 by assessing if people who tend to think more abstractly are more likely to help other people. In Study 4, the more abstractly participants tended to think, the more likely they were to feel empathy for others and the more likely they were to help another person. In Study 5, the more abstractly participants tended to think, the more likely they were to volunteer to help people from different groups (e.g. homeless persons, senior citizens, and sick children), participate in volunteer activities, and exhibit more empathy towards others. Finally, in Study 6, the more abstractly participants tended to think, the more likely they were to donate money to a charitable organization. Overall, these series of studies illustrates that people who tend to think abstractly not only feel greater empathy toward others, but are more likely to engage in specific helping behaviors compared to people who tend

to think concretely. These studies relate to stigma in that empathy and perceived similarity are both vital to theoretical conceptualizations of stigma (Corrigan et al., 2004). In fact, empathy relates to other measures of stigma (Brown, 2008). Similarly, these series of studies assess behavioral measures of stigma (e.g. donation task, willingness to volunteer), which are predictive of stigmatizing attitudes (Fritsche & Linneweber, 2006).

Levy and colleagues (2002) argue that these effects arise because people of all backgrounds pursue similar abstract goals. Thus, individuals who typically think of action in abstract terms are better able to perceive similarity with other people, as well as identify similar goals (Levy et al., 2002). For example, a physician may review their daily actions rather concretely (e.g. prescribing medications or diagnosing disorders) or more abstractly (e.g. providing for their family). If a person with a mental illness came to their office and the physician tended to think concretely then they would probably perceive little similarity between themselves, a doctor, and their patient (a person with mental illness). However, if the physician tended to think abstractly, they may perceive greater similarity between their goals (providing for their family) and the patient's goals (seeking treatment to better provide for their family). Because abstract goals transcend across people and social categorization, people are likely to relate to another's goal, therefore making it easier to take another person's perspective and feel highly similar to them. Confirming Levy et al.'s idea, the more people realize they share similar goals with others, the more similar they feel to others. This, in turn, leads to less conflict with others (Gaertner & Dovidio, 2000).

Though Levy and colleagues (2002) provided evidence that abstract thinking predicts empathy toward stigmatized groups, they did not provide evidence that abstract thinking *causes* empathy toward stigmatized groups. Instead, Levy and colleagues evaluated differences in

participants who tended to evaluate action in abstract versus concrete terms, rather than directly manipulating level of construal via an unrelated task or prime. This distinction is important because people who chronically view action in either concrete or abstract terms may have different personality variables that could affect their outlook or judgments independently of psychological distance (Watkins, 2011). Priming an individual to think abstractly vs. concretely via an unrelated task may produce different results than simply relying on a self-report personality measure. Second, manipulation and random assignment are important when assessing the cause-effects between any variables (Stangor, 2011) including that of construal level and stigma. By manipulating construal level and randomly assigning participants into either be primed to think abstractly or concretely, the effects of the effects of construal level can be measured independent of personality characteristics.

In sum, personality variables may not generalize to an experimental manipulation of construal level. It is important to assess how priming affects construal level and stigmatizing attitudes. Although Levy et al.'s research suggests that thinking abstractly leads to less stigmatizing attitudes; other experimental research suggests that abstract primes may increase stereotypes or stigmatizing attitudes.

Although abstract construals may reduce negative attitudes because they predict less prejudice, they may increase the activation and use of stereotypes, particularly when specific stigmatized categories (i.e. gender, race) are prominent (McCrea et al., 2012). McCrea and colleagues (2012) examined the influence of construal level on the activation of stereotypes. They hypothesized that participants who were primed to think abstractly would endorse more stereotypes than people who were primed to think concretely, perhaps because abstract construals increase a person's tendency to view groups as highly similar to one another.

Specifically, in their Study 1, participants who received the abstract prime were more likely to judge job applicants based on gender stereotypes than participants who received concrete primes (e.g. evaluated the men as more qualified than the women). In Study 2, participants who received the abstract prime made more stereotypical evaluations of the lawyer (e.g. evaluated the lawyer as more aggressive and argumentative) than the priest. In Study 3, women who received the abstract prime rated themselves as more feminine and less masculine than did the men; although no effect was observed among men. In Study 4, women who received the abstract prime performed worse on a math test than did men, maintaining a longstanding stereotype that women are worse at math than men. In Study 5, participants who received the abstract prime and who wrote down their gender (5a) or age (5b) responded faster to gender stereotypical words or age stereotypical words than did participants who received the concrete prime or who did not write down their age or gender. Overall, McCrea and colleagues found that participants who were primed to think abstractly were more likely than participants who were primed to think concretely to make stereotypic judgments of a job applicant, apply occupational stereotypes, report greater identification with their specific in-group, assign more stereotypic traits to themselves, perform in more stereotypic ways, and endorse more stereotypic traits. McCrea and colleagues explain these results by suggesting that abstract construal do not directly prime stereotypes but may increase people's focus on the group generalization, leading to the use stereotypical social categorizations. In other words, by priming people to think abstractly, they are more likely to categorize people based on social cues than when primed to think concretely. However, when no categorization cues are present, stereotype activation may not occur.

In sum, some research suggests that abstract construals are related to reduced stigma (Levy et al., 2002). As Levy and colleagues (2002) found, people who tend to think abstractly

show greater empathy and a greater willingness to help stigmatized individuals than people who tend to think concretely (Levy et al., 2002). However, other research suggests that abstract construals increase stigma. McCrea and colleagues (2012) found that people, who are primed to think abstractly, endorse more stereotypical judgments than people who are primed to think concretely. Thus, it is unclear the extent that construal level contributes to stigma. This contradiction in the literature is vital to understanding how different approaches in thought can increase or decrease stigmatizing attitudes and behavior. In examining the literature, it appears that perceived similarity with another person or group may be an important factor in evaluating whether people will stigmatize or stereotype others.

Statement of Problem and Hypothesis

Research by Levy and colleagues (2002) has shown that people who tend to view action abstractly perceive greater similarity between themselves and members of stigmatized groups, endorse more empathy toward disadvantaged groups, and are more willing to help than individuals who tend to view action concretely. Levy and colleagues explained that as people think abstractly, they more easily identify shared goals, leading to a greater focus on the inclusion and similarity of others. Similarly, as people begin to feel highly similar to others, it becomes easier to take another's perspective, which leads to greater empathy and compassion toward others. Finally, when people feel compassion and empathy toward others, they are more likely to help others.

In the context of mental illness, people who tend to think abstractly should be able to overlook stigmatizing features of the person with mental illness and simply see them as a person. Because abstract construals foster a focus on similarity (Levy et al., 2002), people who think

abstractly should overlook their differences leading to less stigmatizing attitudes and behavior. However, research has failed to test this hypothesis utilizing experimental manipulation.

In the present study, participants were primed to think abstractly or concretely, and then evaluated a person with a mental illness. Based on research suggesting abstract construals predict less stigmatizing attitudes and behavior by increasing a similarity focus toward others (Levy et al., 2002), it was predicted that participants who were primed to think abstractly would endorse less stigmatizing beliefs and be more willing to help individuals with mental illness than individuals who were primed to think concretely.

Hypothesis 1a: Participants primed to think abstractly will stigmatize a person with mental illness less than a person primed to think concretely, because abstract primes will increase the activation of similar goals, leading to a similarity focus. The perception of similarity with a person with mental illness will explain the relationship between construal level and stigmatizing attitudes and behavior.

On the contrary, there is also evidence that when people are primed to think abstractly, they may be more likely to rely on stereotypes, particularly when categorization cues are present (e.g. gender, race) (McCrae et al., 2012). In the context of mental illness, people who are primed to think abstractly may focus on categorization cues leading to more stereotypical attitudes and behavior toward people with mental illness than people who are primed to think concretely. Because most stereotypes of people with mental illness are negative generalizations, the term “mental illness” should serve as a cue for negative social categorization when people are primed to think abstractly (Corrigan et al., 2012; Corrigan, 1998).

Hypothesis 1b: Participants primed to think abstractly will stigmatize a person with mental illness more than a person primed to think concretely because abstract primes will increase a focus on within group similarities leading to more stereotype consistent categorizations. Because stereotypes of people with mental illness are largely negative, abstract primes will lead to stigmatizing attitudes and behavior by decreasing a similarity focus between the participants and the person with mental illness.

In sum, no research has assessed the effects construal level on mental illness stigma. In the present study, I aimed to fill these gaps by examining how construal level affects mental illness stigma. Specifically, I manipulated level of construal and measured both stigmatizing attitudes and stigmatizing behavior toward people with mental illness. Additionally, a measure of perceived similarity with people with mental illness was administered, as perceived similarity was thought to explain the relationship between construal level and stigmatizing attitudes and behavior.

Chapter 3: Method

Participants

Participants included 87 male (42%) and 121 female (58%) college students, recruited from a regional southern university, consisting of 79 African Americans (38%), 106 Caucasians (51%), 6 Hispanics (2.9 %), and 4 Asians (1.9%). Nine students identified as Multiracial (4.3 %) and 4 students did not identify with any of the listed categories (4.9%). The mean age of the sample was 19.93 (SD = 3.90). The number of participants needed was based on a power analysis utilizing two consecutive regression models (model 1: construal level, perceived similarity, and stigmatizing attitudes; model 2: construal level, perceived similarity, and stigmatizing behavior) (Cohen, 1992). The characteristics of the sample are listed in Table 1.

Participants were recruited through the Psychology Department Research Pool. They completed the study as a requirement for an undergraduate class or in exchange for extra credit. Participants were treated in accordance with the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 2002). Informed consent was obtained from all subjects.

Design & Materials

For this study, a between participants experimental design with random assignment was utilized. Additionally, mediation modeling was utilized to examine the mechanism of how construal level impacts stigmatizing attitudes and behavior. Construal level (Abstract, Concrete, Control) was the predictor variable and stigmatizing attitudes and behavior were the outcome variables. Perceived similarity with a person with mental illness was utilized to explain the relationship between construal level and stigmatizing attitudes and behavior. To manipulate construal level, participants were primed to think abstractly or concretely using a manipulation

adapted from Freitas et al. (2004). This manipulation is widely used in the literature and was used in McCrea et al.'s (2012) study, which was one of the key studies in developing our hypotheses and method. Effect sizes for this manipulation range from Cohen's d .40 to 1.47 in previous research (Freitas et al., 2004).

Stigma Measures

Attribution Questionnaire (AQ-27). The Attribution Questionnaire is a measure of mental illness stigma, which utilizes a short, neutral vignette about a fictional character named "Harry." Corrigan et al. (1999) showed that asking participants to respond to a specific person with mental illness is a more sensitive measure of attitudes than a general measure of mental illness stigma. The AQ-27 is comprised of 27 items in which participants respond to "Harry" utilizing a 9 point Likert type scale (e.g. "Harry would terrify me"; 9 = very much). The scale is comprised of nine factor scores, which include responsibility, pity, anger, dangerousness, fear, avoidance, coercion, segregation, and help. Brown (2008) identified six factors, which include fear/dangerousness ($\alpha = .93$), help/interact ($\alpha = .82$), responsibility ($\alpha = .60$), forcing treatment (.79), empathy ($\alpha = .77$), and negative emotions (.81). Additionally, Brown (2008) found that 20 of the 27 items had acceptable reliability and validity, comprising four scales (fear/dangerousness, help/interact, forcing treatment, & negative emotions). These four scales are positively correlated with other measures of stigma (e.g. Social Distance Scale, Dangerousness Scale, Affect Scale). For this study, the Cronbach's alphas for each of the nine factors are as follows: Blame = .56, Anger = .86, Pity = .73, Help = .79, Dangerousness = .90, Fear = .92, Segregation = .86, Coercion = .54, and Avoidance = .78. Due to their low internal consistency, the Blame and Coercion factors were no included in the analyses.

Resource Allocation (Behavioral Measure of Stigma). Behavioral measures are important

because self-report measures are often biased due to social desirability and demand characteristics of the researcher (Fritsche & Linneweber, 2006). Behavioral measures tend to mirror a person's actual views and are less sensitive to bias than self-report measures. In this study, a behavioral measure was collected by telling participants they would have a chance of winning a drawing, and they were subsequently asked how much of the money they would like to donate to the charity if they indeed, did win the money. Participants viewed four options: (1) \$25 to me and \$0 to the charity (b) \$15 to me and \$10 to the charity (c) \$10 to me and \$15 to the charity, or (d) \$0 to me and \$25 to the charity. The winning participant had their prescribed share of the money donated to NAMI following the completion of the study. The National Alliance on Mental Illness (NAMI), an organization that advocates for individuals with mental illness and their families, was the charity used in this study. Participants drew a number after completing the study. This measure was based on Corrigan's measure of resource allocation (Corrigan, Watson, Warpinski, & Gracia, 2004).

Mediator

Inclusion of Others in the Self Scale (IOS). The *IOS* is a single item, pictorial measure of closeness, usually utilized in close relationship research. Although it has been well validated in close relationship literature (Aron, Aron, & Smollan, 1992), it has never been utilized in mental illness stigma research. It has been shown to have high internal consistency ($\alpha = .93$) and has been shown to correlate well with other measures of intimacy (Aron, Aron, & Smollan, 1992; Woosnam, 2010). Rather than asking participants to rate how close they feel to someone with mental illness, this measure assessed how similar the participants felt to someone with a mental illness utilizing a Venn diagram (see appendices A and B). Additionally, another version was utilized to assess how similar participants perceived "Harry" to be with other individuals with

schizophrenia.

Manipulation Check

Behavior Identification Form (BIF). The BIF is a 25-item, dichotomous-response questionnaire, which assesses people's tendency to view action as either abstract or concrete. As previously described, each item describes a particular action (e.g., "voting") and participants either endorse an abstract response (e.g. "influencing the election") or concrete response ("marking a ballot"). The measure has been shown to have high internal consistency ($\alpha = .83$). The BIF was utilized as a manipulation check to assess whether participants were actually primed to think either concretely or abstractly, as it has been used in previous research (Belding, Naufel, & Fujita, 2015). The order of BIF administration was counterbalanced, with half of the participants receiving it after the construal level task and half of the participants taking it after the administration of the dependent variables (Perdue & Summers, 1986).

Procedure

Participants were run, two at a time, in a laboratory setting. All measures were administered on a computer using Qualtrics. Participants were told that they would be completing a series of studies. To decrease demand characteristics, they were not told that the questionnaires were related to one another. Participants were then randomly assigned to a construal level condition (abstract, concrete, control), utilizing Freitas and colleagues (2004) manipulation. In the control condition, participants simply proceeded to the second part of the study and received no construal level manipulation. After the construal level manipulation was completed a manipulation check was utilized to assess participants' construal level. The Behavior identification Form (BIF) was utilized as a manipulation check and was counterbalanced with half of the participants completing the BIF directly after the construal level

task and the other half of the participants completing the BIF after the dependent measures were administered. Next, participants completed the Attribution Questionnaire (AQ-27). Finally, participants completed the resource allocation task outlined above.

Chapter 4: Results

Inclusion Criteria for Study and Analyses

Inclusion criteria for the study included being age 18 or older. Inclusion criteria for the analyses included completing all of the measures. Initially, there were 211 participants in the study. However, three of the participants did not complete all of the measures. Therefore they were not included in the analyses.

Descriptive Statistics

Descriptive statistics for all measures utilized were analyzed for normality. The mean scores, standard deviations, ranges, and standard errors for all participants on the AQ-27 subscales are included in Table 2. The mean score for participants on the resource allocation task (behavioral measure of stigma) was 2.78 ($SD = 1.16$; $SEM = .08$). The range for the scale was 3 with a minimum of 1 and maximum of 4. The mean score for the measure of perceived similarity with an individual with mental illness was 2.62 ($SD = 1.64$; $SEM = .11$). The range for the scale was 6 with a minimum 1 and a maximum of 7. The mean score for the measure of within group similarity between the target (“Harry”) and people with schizophrenia was 4.82 ($SD = 1.56$; $SEM = .11$). The range for the scale was 6 with a minimum of 1 and a maximum of 7. Finally, the mean score of participants on the behavior identification form (BIF) was 15.59 ($SD = 5.38$; $SEM = .37$). The range for the scale was 24 with a minimum 1 and a maximum of 25. The data were not significantly skewed.

To examine the relationship between perceived similarity and mental illness stigma, a series of correlations were conducted. Previous research suggests as people perceive greater similarity with a person of a stigmatized group they exhibit less stigma toward the stigmatized group (Levy et al., 2002). A significant positive correlation was found between perceived

similarity with a person with mental illness and willingness to assist persons with mental illness, $r(206) = .23, p < .001$. Similarly, there was a significant negative correlation found between perceived similarity with a person with mental illness and the following AQ-27 subscales: anger, $r(206) = -.15, p = .04$, dangerousness, $r(206) = -.15, p = .03$, fear, $r(206) = -.17, p = .01$, segregation, $r(206) = -.21, p = .002$, coercion, $r(206) = -.29, p < .001$, and avoidance, $r(206) = -.30, p < .001$. Overall, as perceived similarity with a person with mental illness decreases, participants tended to view people with mental illness as more angry and dangerous. Similarly, as perceived similarity with a person with mental illness decreases, participants endorsed higher levels of fear toward people with mental illness and were more likely to endorse greater avoidance and attitudes favoring the segregation of people with mental illness from the rest of society. In summary, these findings suggest that as perceived similarity with a person with mental illness decreases, negative attitudes toward individuals with mental illness increase, confirming previous research (Levy et al., 2002). A correlation matrix summarizing these results is found in Table 3.

Manipulation Check

There were no order effects found, $F(1, 206) = .35, p = .56, \eta_p^2 = .00, ns$. In order to assess the effectiveness of the construal level task, an ANOVA was conducted to assess the main effect of the randomly assigned construal level condition on the participants' BIF scores. The ANOVA revealed no significant differences between construal level on participants' BIF scores, $F(2, 205) = .77, p = .47, \eta_p^2 = .01, ns$, possibly indicating that the manipulation was not successful. Due to the failed manipulation check, a coding scheme was developed to assess whether participants correctly completed the construal level manipulation. Two coders independently evaluated each survey and completed the coding sheet. The kappa score of the two

independent raters was .73. Discrepancies between raters were decided by a third reviewer. Participants who failed the manipulation, based on the raters' evaluations of the surveys, were removed from the survey. After removing the participants who failed to complete the construal level task appropriately from the analysis ($n = 23$), the ANOVA was repeated and there continued to be no significant differences between construal level on participants' BIF scores, $F(2,182) = .58, p = .56, \eta_p^2 = .01, ns$. The BIF is a measure of a person's action identification (e.g. tendency of a person to construe action in abstract versus concrete terms) and has been well validated in previous literature (Levy et al., 2002; Luguri et al., 2012; Maas et al., 1989; Vallacher & Wegner, 1989). Because of the failed manipulation, analyses assessing the main effects of construal level on stigma were performed twice: Once with the manipulation as the independent variable, and once with the BIF as the predictor variable.

The Effects of Construal Level on Mental Illness Stigma

A multivariate analysis of variance (MANOVA) was conducted to assess the effects of construal level on stigmatizing attitudes (as assessed the AQ-27 subscales) toward individuals with mental illness. As previously reported, the Blame and Coercion scales were not included in the MANOVA due to their low internal consistency. There was a significant effect of construal level on stigmatizing attitudes toward an individual with mental illness, $F(14, 398) = 1.81, p = 0.04, \eta_p^2 = .06$. However, the tests of between-subjects effects revealed the pity scale to be the only significant condition, $F(2, 205) = 3.93, p = .02, \eta_p^2 = .04$. Those who were in the control condition pitied Harry more ($M = 21.41; SD = 4.73$) than those in the abstract ($M = 19.32; SD = 4.86$) or concrete conditions ($M = 19.74; SD = 4.73$). Thus, no meaningful differences were observed between construal level and stigmatizing attitudes towards an individual with mental illness.

An ANOVA was then utilized to assess the main effects of construal level on stigmatizing behavior (resource allocation task) toward individuals with mental illness. An ANOVA also revealed non-significant differences between construal level on the resource allocation task (behavioral measure), $F(2, 205) = .69, p = .50, \eta_p^2 = .01, ns$. A chi square analysis also revealed no significant relationship between construal level and the resource allocation task, $X^2(6, N = 208) = 4.97, p = .55, ns$.

Two ANOVAs were then utilized to assess the main effects of construal level on a) perceived similarity with an individual with mental illness and b) perceived similarity between “Harry” and other people with Schizophrenia. The first ANOVA revealed no significant differences between construal level on perceived similarity with an individual with mental illness, $F(2, 206) = .98, p = .38, \eta_p^2 = .01, ns$. The second ANOVA also revealed no significant differences between construal level on perceived similarity between “Harry” and other people with schizophrenia, $F(2, 204) = 1.10, p = .34, \eta_p^2 = .01, ns$. No significant main effects were noted on any of the stigma measures, even after removing participants who did not complete the construal level manipulation appropriately.

The Correlation of Construal Level with Mental Illness Stigma

In order to assess the relationship between a person’s tendency to construe action in abstract versus concrete terms and mental illness stigma, bivariate correlations were conducted to assess the relationship between the participants’ BIF scores, AQ-27 scores, and the resource allocation task. No significant correlations were found between BIF scores, AQ-27 scores, and the resource allocation task, with one exception. There was a significant positive correlation found between BIF scores and AQ-27 help scale, $r(206) = .22, p = .001$. This finding suggests a

higher level of construal (e.g. increased abstract thinking) is associated with a greater willingness to help people with mental illness. A correlation matrix summarizing these results is presented in Table 6.

Mediation Analyses

To test hypotheses 1a, Preacher and Hayes' (2004) mediation analysis was utilized to assess whether perceived similarity with a person with mental illness mediates the relationship between construal level and stigmatizing attitudes (as measured by the AQ-27 subscales) and behaviors toward individuals with mental illness (as measured by the resource allocation task). Bias corrected boot strapping procedures were used ($N = 1000$) to generate 95% confidence intervals (Preacher and Hayes, 2004). Construal level conditions were dummy coded for the analyses (e.g. Abstract – 1; Concrete – 2; and Control – 3). This analysis yields many benefits compared to other types of mediation analysis (e.g. Baron and Kenny, 1986). For example, Preacher and Hayes' analysis reduces the possibility of both a Type I and Type II error by looking at indirect effects (Preacher and Hayes, 2004). Additionally, unlike other mediation analyses, neither the predictor and mediator nor the mediator and outcome variables are required to be related to one another to run the analysis. Unfortunately, these analyses revealed no significant indirect effects (see table 4 for results). To test hypotheses 1b, Preacher and Hayes' (2004) mediation analysis was utilized to assess whether perceived within group similarity between the target ("Harry") and other people with schizophrenia mediates the relationship between construal level and stigmatizing attitudes (as measured by the AQ-27 subscales) and behaviors toward individuals with mental illness (as measured by the resource allocation task). Bias corrected boot strapping procedures were again used ($N = 1000$) to generate 95% confidence intervals (Preacher and Hayes, 2004). These analyses revealed non-significant

indirect effects (see Table 5 for results). In lieu of these failed analyses, both mediation models (Hypotheses 1A and 1B) were repeated using the BIF as the predictor variable. Both of these analyses again revealed non-significant indirect effects.

Rural vs. Urban effects

Two MANOVAs were conducted with rurality classification on AQ-27 subscales. The Blame and Coercion subscales were not included in the analyses due to their low internal consistency. There were no significant rural differences found between people from rural versus urban areas, $F(7,198) = 1.03, p = .41, \eta_p^2 = .04, ns$, or people currently living in rural versus urban areas on stigmatizing attitudes toward an individual with mental illness, $F(7, 198) = .71, p = .66, \eta_p^2 = .03, ns$. Two ANOVAs were subsequently conducted with rurality classification and the resource allocation task. There were no significant rural differences found between people from rural versus urban areas, $F(1,206) = .67, p = .41, \eta_p^2 = .00, ns$, or people currently living in rural versus urban areas, $F(1, 206) = 1.26, p = .26, \eta_p^2 = .01, ns$, on the resource allocation task. Chi square analyses also revealed non-significant relationship between the resource allocation task and rural differences between people from rural versus urban areas, $X^2(3, N = 208) = 6.48, p = .09, ns$, or people currently living in rural versus urban areas, $X^2(3, N = 208) = 3.44, p = .33, ns$.

Chapter 5: Discussion

The purpose of the present study was to investigate the effects of construal level on stigmatizing attitudes and behavior toward people with mental illness. Furthermore, this study sought to clarify the role of construal level on mental illness stigma. A discrepancy exists in the literature, with some research citing that construal level increases stigma (McCrae et al., 2012) and other research citing that construal level decreases stigma (Levy et al., 2002). Due to these discrepancies, competing hypotheses emerged. First, it was hypothesized that participants primed to think abstractly would stigmatize a person with mental illness less than participants primed to think concretely, due to their focus on similarities between themselves and the stigmatized group member. Alternatively, it was hypothesized that participants primed to think abstractly would stigmatize a person with mental illness more than participants primed to think concretely, due to their reliance on mental illness stereotypes.

Manipulation Check

In order to assess the effectiveness of the construal level task, an ANOVA was conducted to assess the effect of the randomly assigned construal level condition on the participants' BIF scores. There was no effect of construal level on participants' BIF scores, indicating that the manipulation may not have been successful. This finding is interesting because one recent study found that the how/why manipulation alters scores on the BIF in the predicted direction (Belding, Naufel, & Fujita, 2015); yet this did not replicate in the current study. This null result cannot be attributed to a floor or ceiling effect in the measure because the overall sample BIF mean was 15 ($SD = 5.38$), which falls in the middle of the scale. Therefore, it is important to explore the possible reasons that this manipulation failed.

One reason the manipulation may have failed in the current study is that participants may not have adequately attended to the experimental manipulation. Indeed, 32% percent of this study's data was collected in the final two months of the spring semester and participants may have rushed through the survey in order to complete their course assignments. Confirming this assumption, 23 participants (11% of the sample) did not complete the manipulation correctly. However, no attentional measures were utilized to ensure adequate effort. Given the lack of attentional measures, it is not possible to definitively verify this hypothesis. Further research could use one of the other manipulations, such as having participants provide examples of categories (abstract prime) or objects (concrete prime), to determine if the construal level task is related to participant's BIF scores. Additionally, future research should utilize attentional measures to assess appropriate effort while completing the measures.

Action Identification and Mental Illness Stigma

Due to the unsuccessful construal level manipulation (see manipulation check above), BIF scores were utilized to examine the relationship between a person's tendency to view action in abstract vs. concrete terms and mental illness stigma. Thus, a series of bivariate correlations were conducted to assess the relationship between BIF scores (a person's tendency to view action in abstract vs. concrete terms), AQ-27 scores (attitude measure of stigma), and the resource allocation task (behavioral measure of stigma). Overall, participants' BIF scores were not correlated with measures of mental illness stigma with one exception: Participants who construed action in more abstract terms tended to endorse a greater willingness to help people with mental illness than did participants who construed action in more concrete terms. This finding is consistent with previous research that suggests that people who tend to construe action in abstract terms display less stigmatizing attitudes than people who tend to construe action in

concrete terms (Levy et al., 2002). However, based on Levy and colleagues findings, BIF scores should have also been correlated with other measures of stigma, which was not found.

The Effects of Construal Level on Mental Illness Stigma

Against hypotheses, there were no significant effects of construal level on AQ-27 scores or the resource allocation task. The hypotheses may not have been supported because stigma measure were not appropriate for the sample. The Attribution Questionnaire (AQ-27) was utilized based on its high construct validity (Corrigan et al., 1993; Corrigan, 1999; Corrigan et al., 2004), and has been previously utilized with college student populations (Corrigan et al., 2003; Corrigan et al., 2004). However, it should be noted that Corrigan utilized community college populations, recruited from the general student body, because they tend to be more demographically diverse than university students (Corrigan et al., 1999; Corrigan et al., 2002). In contrast, this study utilized university students, recruited from introductory psychology classes. Such differences in the population could have yielded differences on the measures.

This study's sample was comprised entirely of undergraduate students recruited from Introduction to Psychology classes. These classes typically include lectures and reading materials regarding prejudice, conformity, and stigmatization (APA, 2014). This is in contrast to Corrigan's study, which recruited from the general student body. The fact that this study's participants were currently taking introductory psychology classes may have sensitized them to issues of stigma and mental illness. Previous research has shown education and contact with a person from a stigmatized group are the most effective ways of reducing stigma (Corrigan et al., 2007). Therefore, it is possible that this study's sample was less likely to display stigmatizing attitudes toward persons with mental illness than participants recruited from the general body of

a community college, thus decreasing the AQ-27's generalizability. Confirming this hypothesis, the present study's population was less likely to avoid and more willing to help people with mental illness than the community college comparison sample (Corrigan et al., 2004). Mean scores for community college students on the AQ-27 subscales include: Blame – 8.2 ($SD = 4.4$), Pity – 18.8 ($SD = 5.6$), Anger – 8.3 ($SD = 4.1$), Danger – 12.0 ($SD = 5.2$), Fear – 10.2 ($SD = 5.6$), Help – 9.7 ($SD = 5.7$), Coercion – 17.1 ($SD = 4.1$), Segregation – 9.8 ($SD = 5.3$), and Avoidance – 14.5 ($SD = 6.5$).

Another possible reason for the lack of significant findings in this study could be related to the chosen behavioral measure. Behavioral measures are important because they tend to mirror a person's actual views and are less sensitive to bias than self-report measures (Fritsche & Linneweber, 2006). Therefore, a behavioral measure was developed for this study based upon Corrigan's measure of resource allocation (Corrigan, Watson, Warpinski, & Gracia, 2004). However, it is important to acknowledge that in Corrigan's research, participants were given money and then provided the option of either keeping the money or donating it to a mental health organization. The present study utilized a random drawing and asked participants how they would like the money distributed if they won the random drawing. Because the participants were not actually given money prior to their decision to allocate, it is possible that the money was not perceived as psychological reality. In fact, the participant who won the drawing asked the experimenter "Do I have to donate the money like I said that I would?" If participants did not perceive the money as psychological reality then it may have translated into an unreliable behavioral measure of stigma.

Additionally, the null results in this study could have resulted from the fact that construal level simply does not affect mental illness stigma. As previously discussed, a discrepancy exists

in the literature with some research citing that construal level increases stigma (McCrae et al., 2012) and other research citing that construal level decreases stigma (Levy et al., 2002).

Although previous literature has examined how construal level impacts peoples' negative judgements towards other stigmatized groups (e.g. gay men and lesbians, people with AIDS, people who are homeless,) it has never examined how construal level effects mental illness stigma. Therefore, it is possible that mental illness stigma is different from other types of stigma. Future research should clarify how mental illness stigma differs from other types of stigma.

Rural and Urban Differences

Another aim of this study was to examine rural versus urban stigma differences. In this study, no differences in mental illness stigma were found between rural versus urban residents. Although this data contrasts with Hoyt and Conger's research (1997), it is consistent with data from our laboratory (Gay, Losee, & Naufel, 2013). Specifically, we found no differences in mental illness stigma (including self-stigma and public stigma) between rural and urban residents. This current study and our previous study suggest that there may not be differences in mental illness stigma between rural and urban areas. Additional research is needed to compare rural and urban mental illness stigma, as much of the previous literature do not utilize comparison groups. The belief that rural areas stigmatize mental illness more than urban areas may serve as a barrier to help seeking behaviors. By assessing the actual prevalence of mental illness stigma, in rural versus urban areas, a better understanding of the existence of stigma can be constructed. An empirically derived understanding of the prevalence of rural versus urban mental illness stigma could also serve to inform public policy, psychoeducation, and help in developing interventions to decrease mental illness stigma.

Perceived Similarity

Exploratory analyses revealed that as perceived similarity with a person with mental illness decreases, negative attitudes toward individuals with mental illness increase. This finding may give credence to the hypothesis that perceived similarity with a stigmatized group decreases stigma (Levy et al., 2002). According to recategorization theory, contact with out-group members (e.g. people with mental illness) results in changes in out-group classification, from “them” to meaningful relationships (Gaertner et al., 1990). Thus, perceived similarity with a person with mental illness may suggest that the person with mental illness is given in-group status, thus reducing stigma. Future research should explore the relationships between these variables as the exact mechanism of contact reducing stigma is unknown (Binder et al., 2009).

Suggestions for Future Research

In sum, it is unclear if construal level affects mental illness stigma. Therefore, future research is still needed to assess the effects of construal level and other mediating factors (e.g. perceived similarity with a person with mental illness) on mental illness stigma. As previously stated, a discrepancy exists in the literature, with some research citing that construal level increases stigma (McCrae et al., 2012) and other research citing that construal level decreases stigma (Levy et al., 2002). Future research should examine the utility of using the behavior identification form as manipulation check for construal level priming. Although one study has demonstrated the utility of the BIF as a construal level manipulation check (Belding, Naufel, and Fujita, 2015), more research is needed. Perhaps other construal level tasks could also be utilized as a manipulation check. For example, construal level could be primed utilizing the manipulation by Liberman and Förster (2009) (e.g. abstract mindset primed by ignoring small letters and respond to large letters; concrete mindset primed by ignoring large letters and responding to

small letters) and Freitas et al.'s (2004) manipulation could be used as a manipulation check.

Future research should also utilize attention measures to ensure that adequate attention is paid to construal level tasks. Participants in this present study may not have paid adequate attention to the materials, thus minimizing the effectiveness of the priming. However, it is not possible to test for this effect since effort measures were not utilized. It will be important to address this flaw in the future by including such measures. For example, additional questions could be utilized to ensure that participants adequately comprehended the instructions and adequately attended to the tasks.

Next, future research should examine how mental illness stigma is similar or different from other types of stigma, making it easier to evaluate these conflicting results. This could be done by examining how stigma differs from other known stigmatized groups such as gays and lesbians (Bridges et al., 2001). By assessing how mental illness stigma differs from other types of stigma, it will be easier to establish interventions to decrease mental illness stigma, as well as evaluate how well other types of anti-stigma campaigns generalize to mental illness stigma.

Lastly, additional research may help delineate the role of perceived similarity with a person with mental illness and stigma. This study revealed that participants who perceived themselves as being similar to a person with mental illness tended to endorse lower levels of stigma toward individuals with mental illness. Although previous research has theorized that this may be the case (Levy et al., 2002) little research has directly examined the role of perceived similarity on mental illness stigma.

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Table 1
Sample Demographics

<i>Gender</i>	Frequency	Percent
Male	87	41.8
Female	121	58.2
 <i>Residence</i>		
Urban	89	42.8
Rural	119	57.2
 <i>Age</i>		
18-19	129	62
20-21	61	29.3
22 or over	18	8.7
 <i>Race</i>		
African American	79	38
Caucasian	106	51
Hispanic	6	2.9
Asian	4	1.9
Multiracial	9	4.3
Other	4	4.9
 <i>Religious Affiliation</i>		
Catholic Christian	24	11.5
Protestant Christian	17	8.2
Other Christian	132	63.5
Atheist	8	3.8
Agnostic	9	4.3
Other	10	4.9
No Response	8	3.8

Table 2
AQ-27 Descriptive Statistics

	Range	Minimum	Maximum	Mean	Standard Error	Std. Deviation
<i>AQ-27 Factor</i>						
Blame	15.00	3.00	18.00	6.74	.25	3.64
Anger	24.00	3.00	27.00	7.91	.31	4.51
Pity	20.00	7.00	27.00	20.16	.33	4.73
Help	21.00	6.00	27.00	20.34	.33	4.74
Dangerousness	24.00	3.00	27.00	12.05	.39	5.65
Fear	24.00	3.00	27.00	10.55	.40	5.70
Segregation	21.00	3.00	24.00	9.57	.35	5.01
Coercion	22.00	5.00	27.00	16.14	.29	4.23
Avoidance	24.00	3.00	27.00	14.99	.40	5.84

Note. Each subscale has 3 items with each subscale having a possible range of 3 to 27.

Table 3

The Relationship between Perceived Similarity with a Person with Mental Illness and Mental Illness Stigma

AQ-27 Subscale		IOS 1
Blame	Pearson Correlation	-.13
	Significance	.07
Anger	Pearson Correlation	-.15
	Significance	.04*
Pity	Pearson Correlation	-.04
	Significance	.53
Help	Pearson Correlation	.23
	Significance	.001**
Dangerousness	Pearson Correlation	-.15
	Significance	.03*
Fear	Pearson Correlation	-.17
	Significance	.01**
Avoidance	Pearson Correlation	-.30
	Significance	.00**
Segregation	Pearson Correlation	-.21
	Significance	.00**
Coercion	Pearson Correlation	-.29
	Significance	.00**
Resource Allocation Task	Pearson Correlation	.01
	Significance	.84

Note: **. Correlation is significant at the < 0.01 level (2-tailed)

*. Correlation is significant at the < 0.05 level (2-tailed)

Table 4

*Hypothesis 1A Mediation Model**Perceived Similarity with a Person with Mental Illness as Mediator between Construal Level and Mental Illness Stigma*

AQ-27 Subscale	β eta	95% Confidence Interval (Lower Limit)	95% Confidence Interval (Higher Limit)	Z	Significance Test
Blame	-.04	-.07	.12	.53	.91
Anger	.21	-.09	.16	.55	.58
Pity	1.00	-.06	.08	.26	.80
Help	-.65	-.25	.13	-.59	.55
Dangerousness	.22	-.11	.20	.55	.58
Fear	.18	-.13	.23	.57	.57
Avoidance	.49	-.20	.39	.61	.54
Segregation	-.07	-.13	.24	.59	.56
Coercion	-.35	-.15	.28	.61	.54
Resource Allocation Task (Behavioral Measure)	-.09	-.02	.02	-.09	.93

Table 5

Hypothesis 1B Mediation Model

*Perceived Similarity between Target and People with Schizophrenia as Mediator between
Construal Level and Mental Illness Stigma*

AQ-27 Subscale	β eta	95% Confidence Interval (Lower Limit)	95% Confidence Interval (Higher Limit)	Z	Significance Test
Blame	.03	-.13	.05	-.81	.42
Anger	.21	-.07	.13	.65	.51
Pity	.96	-.07	.15	.77	.44
Help	-.68	-.13	.07	-.60	.55
Dangerousness	.24	-.09	.13	.36	.72
Fear	.20	-.09	.14	.43	.66
Avoidance	.53	-.08	.19	.75	.45
Segregation	-.06	-.07	.17	.79	.43
Coercion	-.33	-.06	.14	.78	.44
Resource Allocation Task	-.07	-.06	.02	-1.03	.30

Table 6

Pearson Correlations for BIF scores and Mental Illness Stigma Variables

AQ-27 Subscale		BIF
Blame	Pearson Correlation	.11
	Significance	.10
Anger	Pearson Correlation	-.08
	Significance	.24
Pity	Pearson Correlation	-.01
	Significance	.85
Help	Pearson Correlation	.22
	Significance	.001*
Dangerousness	Pearson Correlation	-.04
	Significance	.54
Fear	Pearson Correlation	-.07
	Significance	.31
Avoidance	Pearson Correlation	-.08
	Significance	.28
Segregation	Pearson Correlation	-.40
	Significance	.58
Coercion	Pearson Correlation	-.05
	Significance	.47
Resource Allocation Task	Pearson Correlation	.08
	Significance	.23

Note: **. Correlation is significant at the < 0.01 level (2-tailed)

Appendix A

At the conclusion of this study, you will be given a chance to take part in a random drawing. YOU will have a chance of WINNING \$25 dollars if your participant number is selected. If you win, you can choose to keep the money for yourself or donate some or all of it to the National Alliance on Mental Illness (NAMI). Please see the attached fact sheet, which describes NAMI and then make your decision about how to allocate the money that you may win as a result of participating in today's experiment.

What is NAMI?

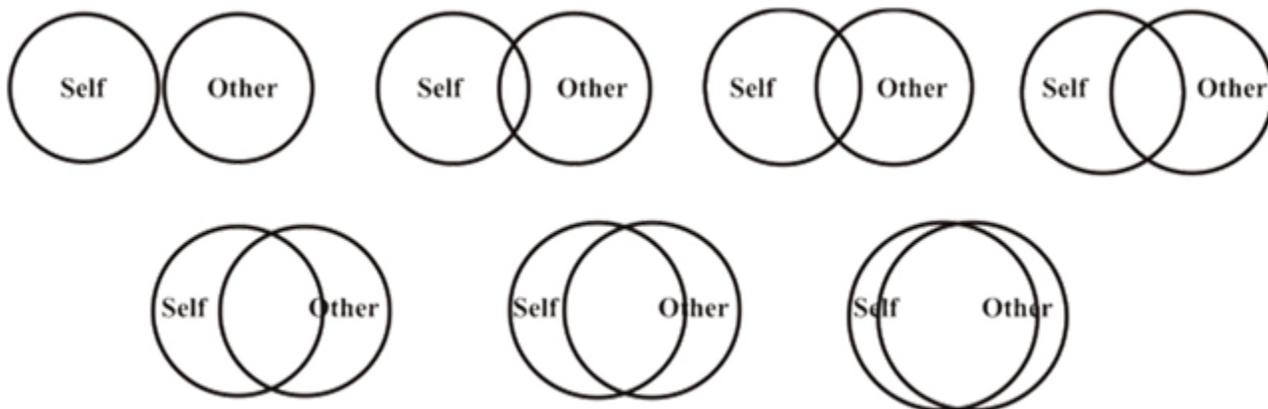
NAMI is the National Alliance on Mental Illness, the nation's largest grassroots mental health organization dedicated to building better lives for the millions of Americans affected by mental illness. NAMI advocates for access to services, treatment, supports and research and is steadfast in its commitment to raise awareness and build a community for hope for all of those in need. NAMI members and friends work to fulfill their mission by providing support, education, and advocacy for people affected by mental illness and their families.

Please choose how you would like the money allocated if you win the random drawing:

- (a) "\$25 to me and \$0 to NAMI,"
- (b) "\$15 to me and \$10 to NAMI,"
- (c) "\$10 to me and \$15 to the NAMI,"
- (d) "\$0 to me and \$25 to the NAMI."

Appendix B

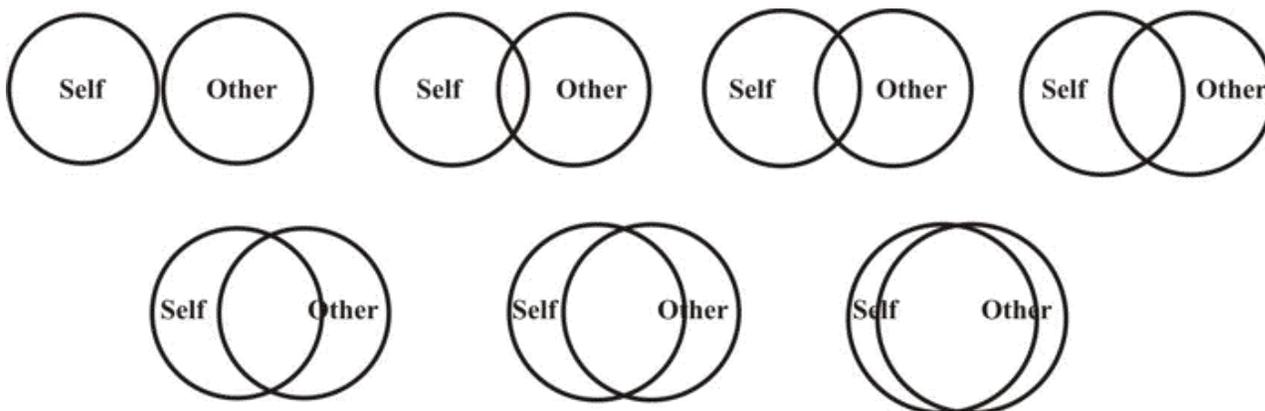
INSTRUCTIONS: Using the diagrams below, indicate how similar you feel to a person with mental illness.
CIRCLE a response.



Appendix C

INSTRUCTIONS: Using the diagrams below, indicate how similar that you feel Harry is to other people with Schizophrenia.

CIRCLE a response.



Appendix D

1. What is your gender?

Male

Female

2. Consider where you currently live. Does that place seem more rural or more urban?

rural

urban

3. Consider the place where you spent most of your childhood years. Does that place seem more rural or urban?

urban

rural

4. What is your age? (in years) _____

5. What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree

High school degree or equivalent (e.g., GED)

Some college but no degree

Associate degree

Bachelor degree

Graduate degree

6. Have you ever visited a psychologist or other mental health professional?

Yes

No

I prefer not to respond

7. Are you now married, widowed, divorced, separated, or never married?

Married

Widowed

Divorced

Separated

Never married

8. What is your race? Check all that apply.

American Indian or Alaskan Native

Asian

Black or African-American

Hispanic

Native Hawaiian or other Pacific Islander

White

I prefer not to respond

From multiple races

9. What is your religious affiliation?

Atheist

Agnostic

Buddhist

Catholic Christian

Christian, other

Jewish

Muslim

Hindu

Protestant Christian

___ Other

___ I prefer not to respond

10. How invested are you in your religious practices or to what extent does religion play a major role in your life?

___ Extremely Important

___ Very Important

___ Important

___ Neutral

___ Not important

11. Has a family member or a close friend sought help for emotional difficulties (or mental illness?) ___