VICARIOUS EXPERIENCE: THE EFFECTS OF MESSAGE-INDUCED EMPATHY ON
ATTITUDES TOWARD INDIVIDUALS WITH SEVERE DEPRESSION

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ABSTRACT

ROBERT MCKEEVER: Vicarious Experience: The Effects of Message-Induced Empathy
on Attitudes Toward Individuals with Severe Depression
(Under the direction of Dr. Daniel Riffe)

This study sought to investigate the effects of in-group and out-group empathy

on empathic responses, attitudes and helping behaviors for people with severe

depression. To accomplish this, a three-condition experiment was employed. Two

versions of an empathic perspective-taking exercise were created in order to induce

empathy for in-group and out-group members. The results indicate differences exist

in the way observers feel empathy for someone in pain when that person is

considered part of their social group. These findings offer evidence that the amount

of expressed empathy for someone experiencing depression may be enhanced when

that person is in the same social group. Importantly however, this research revealed

that the effects of out-group empathy inductions were less likely to differ from

scores produced by those in a control condition, and were often lower than results

related to in-group empathy at levels that were statistically significant. Based on

these findings, the presence and amount of positive outcomes associated with

induced empathy appear highly contingent on perceived similarity. This finding

supports the assertion that in order to change how and when humans share and

respond to the suffering of others, it is important to establish commonality across

individuals and across groups.

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The doctoral dissertation is commonly mistaken for an academic *magnum opus*. In reality, the dissertation is not a solitary work. At each stage of the project, my loving family, friends and selfless mentors supported me. Needless to say, I am very fortunate and indebted to many people.

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CHAPTER 1

INTRODUCTION

One day, Brooke, an undergraduate student majoring in public relations, was perusing some of her favorite non-profit Blogs, when she noticed a story about an upstart advocacy program for youth living with mental health needs. Curious to learn more, she went to the organization website.

It was an impressive site, fairly sophisticated and full of technological bells and whistles. But none of that mattered to Brooke. In fact, Brooke was only seconds away from closing the window altogether, until she noticed a link labeled "Our Stories." When she clicked on it, it opened to page containing a personal narrative detailing one member's experiences as they navigated through their own struggle with mental illness as young adult.

> When I began my freshman year of college, I was struggling to overcome a traumatic childhood. Often I was plagued with feelings of guilt, shame, self-hatred and sadness, which often triggered debilitating bouts of depression. In order to cope, I turned to self-injury as a way to handle the overwhelming emotions. Even so, I was extremely successful in school. My perfectionism super exceeded my desire to admit "failure" and get help. I didn't raise any red flags and thus, didn't get connected to any services or supports. I eventually found my own way out of my depression and self-injury. However, it came at a high cost—I lost critical developmental years of my life and had to deal with the aftermath of my destructive behaviors. Looking back, I believe sheer luck prevented me

from becoming one of the more than 4,000 youth who die by suicide a year. I was scared to proactively share my pain since I would be viewed as weak. College students should not have to find their way through a difficult time alone.

Feeling particularly inspired by the story, Brooke decided to send it to her friends Rhonda and Robert. Like Brooke, Rhonda was an undergraduate student, and she also felt touched by the story, although more so.

For Rhonda, many of the writer's anxieties were similar to her own stresses. At times she felt overwhelmed by the demands of being a top student in her courses, while also maintaining her involvement in student government and completing her undergraduate honors thesis about the University of Tennessee football program.

Robert, however, was unmoved by the story. Unlike Rhonda and Brooke, who were much younger and able to relate to the perspective of a young adult struggling through college, Robert considered the young woman's tale pathetic. He was unfamiliar with depression and was raised to believe having a mental illness was a sign of weakness.

As a result, he viewed her self-injury as shameful. Robert was unable to see her perspective and did not understand why anyone would handle his or her problems in such a way. Robert also defined the term "problem" in a very different fashion. For him, solving "problems" was a process that involved the use of an abacus.

Clearly, Robert, Brooke and Rhonda were all affected by the story in different ways. While Brooke and Rhonda were both able to feel empathy for the person in the story, Robert's initial beliefs remained unchanged, at best.

Brooke was inspired by the story and because she empathized with people struggling with mental illnesses like depression, she contemplated volunteering for the organization. Rhonda decided to offer her free time and volunteer providing support for other undergrads dealing with problems such as depression and stress, as long as they weren't on college football Saturdays. Robert predictably deleted the email and decided he should go shopping for a new abacus.

Major depressive disorder is a prevalent psychiatric illness, and is associated with significant disability worldwide (Kessler, Chiu, Demler, & Walters, 2005; Pfieffer, Heisler, Piette, Rogers, & Valenstein, 2011). Figures released by the World Health Organization (2009) indicate that 121 million people worldwide suffer from major depression and the agency predicts that by 2030 depression will be the leading cause of global disease burden.

While depression accounts for much of the global burden of disease, investment in research and treatment is disproportionately low relative to the disease burden (Saxena, Thornicroft, Knapp, & Whiteford, 2007; Prince, Patel, Saxena, Maj, Maselko, Phillips, & Rahman, 2010), and campaigns promoting recognition and treatment of

depressive disorders have been largely unsuccessful due to negative public attitudes and prejudices (e.g. Wahl, 1999; Ritsher & Phelan, 2004).

To address the current state of affairs, leading mental health experts are calling for a greater world focus on research developing culturally informed methods to eliminate the stigma of depression (Collins, Patel, Joestl, March, Insel, & Daar, 2011).

Purpose

This research has several purposes. The increasing interest from the global health community in generating solutions for the global disease burden caused by depression has heightened the need for research examining new approaches for reducing the stigma attached to depression. However, few studies have explored the effect of empathy to accomplish this research aim and fewer have examined how facets such as group identification may affect the arousal of empathy for a distressed other experiencing severe depression. Two versions of a story were created and used in an empathy-inducing task used in earlier studies to manipulate empathy (e.g., Decety & Jackson, 2006; Parrot, 2004; Preston & de Waal, 2002). The attributes of the two characters used to construct the story in each treatment condition were varied to have characteristics that were either typical or dissimilar to the participants used in the (e.g., age, location, affiliation with the university) participants in the study. This dissertation explored the effect of induced empathy *for on* depression stigma may affect social support.

This dissertation sought to investigate these issues and contribute to the research on the persuasive effect of empathy for a distressed other on the provision of support benefiting people with severe depression by examining how inducing empathy for in-group and out-group members suffering from severe depression affects the evaluation of messages advocating support for severe depression, which is a condition historically associated with stigma. The findings might offer an opportunity to discern the types of appeals that are effective in overcoming resistance to persuasion and positively influence attitudes toward stigmatized groups of individuals.

The concept of empathy has become a favorite topic for researchers in persuasive health communication, as evidenced by the breadth of research conducted in recent years examining empathy-based messages in persuasive appeals (e.g., Campbell & Babrow 2004; Decety & Jackson, 2006; Parrot, 2004; Preston & de Waal, 2002). Within this body of research, a small number of studies have found empathy can improve attitudes toward stigmatized groups such as AIDS patients and drug addicts (e.g., Batson, et al. 2002; Stephan & Finlay, 1999) which offer hope for researchers investigating interventions to reduce stigma associated with depression.

An overview of severe depression and stigma are provided in the next chapter. Then, chapter 3 explicates the concept of empathy and its relationship to attitudes and support for those with severe depression. This is followed by an overview of

social support in the fourth chapter. Building on the literature review, several hypotheses and research questions are then posed. The fifth chapter details the experimental procedure developed and implemented for the dissertation. It also outlines the stimulus materials that were constructed for the study and the dependent measures selected to address the research questions and test the proposed hypotheses. It also outlines the rationale for these decisions and the appropriateness of the elected procedure and measurement strategies both conceptually and in terms of design logic.

The results section details the findings from the experiment, including results from any additional procedures that were performed to test the assumptions that must be met in order to conduct the statistical analyses used to examine relationships of interest in this study. It also provides several tables to supplement the discussion of the findings, and, where appropriate, visual aids depicting differences found among the experimental conditions. The final chapter summarizes these findings and presents conclusions based on the results.

CHAPTER II

SEVERE DEPRESSION AND STIGMA

Global health reports have documented the immense worldwide

detriment caused by the undertreatment of mental illness such as depression

(e.g., Center for Behavioral Health Statistics and Quality, 2011; Pfieffer, et al.,

2011; World Health Organization, 2009). For example, findings from the World

Mental Health Survey, which was conducted by the World Health

Organization (2009), revealed 121 million people worldwide suffer from

depression. Of those afflicted, 14.8 million reside in the United States (Kessler,

Chiu, Demler, & Walters, 2005), where depression-related fatalities are the

third leading cause of death among people 15 to 24 years of age and the 11th

leading cause of death, accounting for 33,300 deaths annually (Centers for

Disease Control and Prevention, 2006).

Mental illnesses such as depression have also been associated with

substantial employment and economic costs. Researchers estimate that in the

U.S. alone, depression is responsible for annual expenses totaling $53 billion,

with $33 billion of this total due to work impairment, as it is the leading cause

of disability in the U.S. for ages 15-44 (Greenberg, Kessler, & Birnbaum, 2004).

Further research has found that depression accounts for 4.5 percent of the worldwide total burden of disease in terms of disability-adjusted life years (Lopez & Murray, 1998). Additionally, depression is the cause of the greatest proportion of burden (attributable to non-fatal health outcomes), accounting for almost 12 percent of total years lived with disability worldwide.

Despite the tremendous societal costs attributed to the illness there remains strong resistance to seeking care for depression. Many scholars (e.g., Lindsey et al., 2006; Wahl, 2004) and mental health advocates (e.g., National Alliance on Mental Illness) contend that even though depression is often treatable, it remains a leading cause of disability worldwide because of stigma. Furthermore, stigma influences treatment outcomes in several ways.

For example, from the perspective of those in need of treatment, the choice to avoid medical care often stems from the shame associated with admitting depression. In fact, a 2009 study conducted as part of a national anti-stigma campaign in England found that 92 percent of survey respondents believed admitting a mental disorder would damage their career (Time to Change, 2009). Clearly, for depressed individuals stigmatization can harm their objective and subjective quality of life (Greenberg et al., 2003, 2004; Lindsay et al. 2006; Verhaeghe, 2008)

Studies have shown that stigma is one of the primary factors influencing

public attitudes toward sufferers of psychiatric illnesses such as major

depression (Corrigan & Penn 1999; Sergo, 2008; Wolkenstein & Meyer, 2009).

Those who attach stigma to depression influence treatment outcomes and use

of support programs by those dealing with depression. For example, those who

stigmatize depression may reinforce beliefs held by those with depression, such

as fear that revealing their illness will result in judgments, and that they will be

perceived as having a moral failing or a weakness in character. This has been

shown in several studies which have found those who associate mental

illnesses such as depression with stigma are less willing to offer support for

people with depression (e.g., Wahl, 1999; Ritsher & Phelan, 2004; Phelan et al.,

2000; Ozmen et al., 2004), making it difficult to generate endorsement for

advancing care beyond the mental health community. This is also an area of

concern for mental health advocates, because social support has shown

promise in improving health outcomes for individuals with depression, and

research suggests the effects of peer support may even be comparable to

outcomes reported from group cognitive behavioral therapy (e.g., Ayen, et al.,

2004; Kelly, et al., 2003).

While past research has examined treatment-seeking behaviors and use

of support systems from the perspective of the recipient, the current study

focuses on stigma reduction as a potential method to promote relevance to a wider set of stakeholders, which in turn may affect willingness to provide social support. Given the global disease burden caused by depression and the documented health benefits of peer support for individuals with depression (e.g., Melling & Houguet-Pincham, 2011; Pfeiffer, et al., 2011) this is a valuable direction for research examining peer support for depression.

Stigma

Perhaps the most widely recognized definition of stigma is the conceptualization given by Goffman (1963), wherein stigma occurs when an "attribute that is deeply discrediting" serves as the basis for reducing the person "from a whole and usual person to a tainted, discounted one" (p.4). Through this lens, stigma can be seen as the relationship between an "attribute and a stereotype" (Link & Phelan, 2001. p. 364). Extending Goffman's observation of this relationship, Jones et al. (1984) produced a definition of stigma as a "mark" (attribute) that links a person to undesirable characteristics. Similarly, Stafford and Scott (1986, p. 80) suggest that stigma "is a characteristic of a person" that is considered "contrary to a norm of a social unit."

As indicated in these definitions, stigma has been defined using the relationships between a set of interrelated concepts (e.g., attributes and stereotypes). Consistent with this formula, Link and Phelan (2001)

conceptualize stigma as the convergence of four interrelated components:

labeling, stereotyping, separation, and status loss. During the first component

in the Link and Phelan model, a socially selected human difference (e.g., skin

color, gender, sexual preference) is distinguished and labeled, which leads to

the second component where the socially assigned label is associated with a

stereotype. The third component involves the separation of in-groups and out-

groups, allowing the in-group members to distinguish from the stigmatized

out-group and engage in the fourth component of the process, which is

discrimination and rejection.

Link and Phelan's (2001) definition is perhaps the most valuable

conceptualization for the purposes of the current work, as its value rests

primarily in its practical utility. In particular, this conceptualization focuses on

two principles in considering how to really change stigma, based on the

fundamental assertions that stigma arises when the creation and endorsement

of negative stereotypes lead to the social exclusion of persons who hold

stigmatized status, and a power situation exists allowing judgments to serve as

the basis for separating and stereotyping individuals.

Link and Phelan (2001) also contend that in order to successfully change

stigma, which is an important component in this study, methods must "either

produce fundamental changes in attitudes and beliefs or change the power

relations that underlie the ability of dominant groups to act on their attitudes and beliefs" (p.381).

As studies indicate, prejudice and the stigmatization of mental illnesses appear to persist in public opinion. Stigma is also believed to have moderated the efficacy of prior campaigns seeking to improve public attitudes about the importance of improving the quality of medical care for sufferers of mental health disorders (e.g., Wahl, 1999; Ritsher & Phelan, 2004; Phelan et al., 2000).

The stigma associated with mental illness has been unexpectedly resilient, persisting against expectations of progress based on acceptance and support for other illness associated with stigma. In fact, some evidence suggests the stigma of depression has actually increased over the past several decades (e.g., Pescosolido, et al., 1999), a stance also adopted by the U.S. Surgeon General in the 1999 Report on Mental Health (U.S. Department of Health & Human Services, 1999), which concluded: "Stigma was expected to abate with increased knowledge of mental illness, but just the opposite occurred: stigma in some ways intensified over the past 40 years even though understanding improved" (p. 8).

Past research has found that the inclusion of others in one's self concept through empathy leads to enhanced altruistic motivation (Cialdini et al., 1997), though it is unclear if these effects occur when the recipient is associated with

stigma. Thus far, this chapter has examined severe depression the conceptual components of stigma and the depression-stigma connection. The next chapter explicates the concept of empathy, as well as the role of empathy in persuasion and overcoming reactance.

CHAPTER III

EMPATHY

Empathy is an important component of social cognition, and communication scholars have increasingly recognized the value of empathic processes in persuasion and health communication, as evidenced by the breadth of research conducted in recent years examining empathy-based messages as an effective strategy for these appeals (e.g., Preston & de Waal, 2002; Egbert, & Parrot, 2003; Campbell & Babrow, 2004; Decety & Jackson, 2006). Empathy has also been found to mitigate psychological reactance to undesirable persuasive messages (e.g., Campbell & Babrow, 2004; Lijiang, 2010). Empathy has been shown to improve attitudes toward stigmatized groups (e.g., Stephan & Finlay, 1999) as well as evoke actions by creating more positive reactions to the plight of the stigmatized (Batson et al., 2002). Recent developments in the field of empathy research also suggest empathy may act as neural bases for prosociality (Mather, et al., 2010).

The remainder of this chapter is organized in the following manner. First, it will provide an overview of several of the conceptual and operational definitions of empathy as well as definitions for the cognitive, affective and associative components of empathy. It then explicates the differences between state and trait empathy, while explaining the relevance of each to the current study.

Early conceptualizations of empathy typically viewed the process as a unidimensional (and primarily emotional) construct, often reflecting general emotional arousability (e.g., Lipps, 1903). For example, Titchener (1909) viewed empathy ("Einfuhlung") as the ability "to feel one's way into." Since Titchener, researchers have approached the task of defining and measuring empathy from a number of perspectives. Definitions of empathy have ranged from cognitively-focused conceptualizations (Goldie, 1999), which tend to focus on the thoughts stemming from the feelings of another, to descriptions of empathy as an affective process, characterized by emotional responses that result from another's emotional state or circumstances (Eisenberg & Strayer, 1987).

Some researchers have also argued that empathy can be viewed as a type of identification, and levels of empathy are reflected by the capacity to become absorbed in another person's feelings (Edwards & La Ferle, 2003; Escalas & Stern, 2003). Numerous operational definitions of empathy have also

been proposed, and "new" empathy measures have been published during each of the last five decades (e.g., Davis, 1996; Decety & Jackson, 2004; Gerdes, Lietz & Segal, 2011; Hogan, 1969; Johnson, Cheek, & Smither, 1983; Mehrabian & Epstein, 1972). While there has been disagreement among researchers as to the exact conceptual framework of empathy, most of the current operational approaches suggest it is a multifactorial process (e.g., Zillmann, 2006; Jabbi et al., 2007).

There appears to be a strong consensus in the academic community that empathy is comprised of at least two distinct, though likely intertwined, components: cognitive and affective (e.g., Zillmann, 2006; Jabbi et al., 2007; Preston & de Waal, 2002). A third, "associative" component has also been recognized by several researchers (Cohen, 2009; Decety & Jackson, 2006). While evidence supports a multidimensional conceptualization of empathy, it is unlikely that empathy can occur as a purely "affective" or "cognitive" function (e.g., Bagozzi & Moore, 1994; Preston & de Waal, 2002; Campbell & Babrow, 2004; Decety & Jackson, 2006; Decety & Lamm, 2006; Lazarus, 1991), which has been supported by the intercorrelation between emotional and cognitive empathic responses routinely found in empirical studies examining empathy (Leslie, Friedman, & German, 2004).

However, understanding how each component influences the other can provide insight into the various mechanisms through which audience members experience and interpret messages, since there also appear to be behaviors and consequences associated with the primary component of empathic thought elicited by a specific message (Dillard & Shen, 2005).

Cognitive Component of Empathy

The cognitive aspect of empathy, which is also sometimes referred to as "perspective-taking" (Lazarus, 1991; Smith & Lazarus, 1993; Batson, Lishner, Carpenter, Dulin, Harjusola-Webb, Stocks, et al., 2003) is a process of recognizing and comprehending another's point of view, and then adopting a similar viewpoint (Allport, 1961; Mead, 1934). As one researcher describes it, the cognitive dimension of empathy can also be conceptualized as the act of "imagining yourself in someone else's shoes" (Cohen, 2008).

Affective Component of Empathy

The affective dimension of empathy, or "emotional empathy" (Stephen and Finlay, 1999, p. 730) differs from cognitive empathy in that in entails understanding and sharing the feelings of another (Decety & Jackson, 2006; Lazarus, 1991; Smith, 2006; Zillmann, 2006). The affective aspect of empathy is also thought to be related to emotional contagion, the process where mimicking

the perceived emotional expressions of another person causes both people to converge emotionally (Hatfield, Cacioppo, & Rapson, 1993).

Associative Component of Empathy

Several scholars have also argued empathy is comprised of a third, "associative" component (Davis, 1994; Decety & Jackson, 2004). This component, which has also been labeled "identification" in some studies (Chory-Assad & Cicchirillo, 2005; Decety & Jackson, 2006) is a process of vicarious experience. This component can be conceptualized as the process of audience members both receiving and interpreting messages as if they were internally generated and, in turn, responding "as if the events in the message were happening to them" (Cohen, 2006). Though this component has been subject to less examination than the affective and cognitive counterparts, identification is perhaps the most valuable area for future research focusing on the use of empathy in the construction of persuasive messages. This is particularly evident when the message concerns topics or individuals associated with stigma, since identification is believed to cause message recipients to view persuasive appeals as less external (Steensma & Erkel, 1999).

This identification with the message or portrayals within the message, which has been found in prior research to mitigate psychological reactance (e.g., Campbell & Babrow, 2004; Lijiang, 2010), is also considered to be the

dimension of empathy that facilitates the transition from "perception" to "action" (Decety & Jackson, 2006; Decety & Lamm, 2006).

Historically, researchers interested specifically in the measure of cognitive empathy have utilized Hogan's (1969) Empathy Scale, while research focusing exclusively on affective empathy often utilizes scales such as the Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972). As several researchers have noted (e.g., Alterman, McDermott, Cacciola, & Rutherford, 2003; Cliffordson, 2001) in recent years, these have been supplanted in popularity by the Interpersonal Reactivity Index (IRI; Davis, 1983), which was designed to tap cognitive and affective components of empathy. The current work also adopts this approach because empathy is unlikely to occur as an entirely cognitive or affective process. Several experimental studies designed to examine the influence each component exerts on the other offer support this perspective. For example, Smith and Lazarus' (1993) research on the effects of cognitive empathy on affective empathy, found that the cognitive appraisal and adoption of another's point of view are causal antecedents of other-oriented affective responses. In another study, which examined how manipulating the affective component influenced the cognitive dimension of empathy, it was found that taking another's psychological

perspective and feelings, in turn, resulted in cognitive appraisals of the

environment and the situational factors affecting that person (Lazarus, 1991).

State and Trait Empathy

The distinction between trait empathy and state empathy is important in

for the current study. "State" empathy, which is conceptually different from

dispositional tendencies associated with "trait" empathy, can be evoked in the

"here-and-now" through messages. Though research on empathy-induction

and persuasive message effects, including the current study, tend to focus

directly on the outcomes of manipulated "state" empathy, several have also

acknowledged that "trait" empathy, likely influences the persuasive outcomes

of empathy-inducing appeals (Bagozzi & Moore, 1994; Omdahl, 1995; Stiff,

Dillard, Somera, Kim, & Sleight, 1988). Moreover, several studies have also

found trait empathy acts as a precursor of state empathy.

In addition to the effects of experimentally induced state empathy,

several studies using situational manipulations of empathy have shown that

dispositional assessments of empathy, such as empathic concern, can moderate

the impact of empathic perspective-taking instructions. For example, in one

study examining the relationship between empathy and interindividual

helping behavior, Davis (1983) discovered as significant interaction between EC

(scores on the Empathic Concern subscale of the Interpersonal Reactivity

Index) and the empathy manipulation used in the experiment. In the

aforementioned study also found that dispositional inclination to feel empathic

concern influenced helping behavior for participants in the control condition,

yet was unrelated to helping behavior for participants in the empathy

condition. Similar results have also been found in studies examining the effect

of empathy on measures of cooperation and agreeableness (e.g., Graziano et al.

2007; Cohen, 2008). For example, Cohen (2008) discovered that empathy

perspective-taking exercises had a positive effect on intergroup relations, but

only among participants who were low in dispositional empathy.

Empathy differences based on gender have also been observed in several

past studies (Eisenberg & Lennon, 1983; Eagly & Crowley, 1986). In one study

Batson and colleagues have shown that when women are made to feel empathy

for another individual, they are more likely to cooperate with that individual

(Batson & Moran, 1999), even after learning that the other individual acted

competitively toward them (Batson & Ahmad, 2001).

Incorporating this knowledge into the design of studies examining

empathy effects represents one of the most potentially fruitful areas for

theoretical advancement in this area of study. While considerable

advancements have been made in parsing out the underlying dimensions of

empathy, as well as the way these unique dimensions relate to message factors

and various individual characteristics in the formation of empathic responses,

the procedures used to induce empathy in many studies examining empathy

effects have undergone remarkably few changes in recent decades (e.g., Bae,

2008; Bagozzi & Moore, 1994; Batson, et al., 2010; Cacioppo & Petty, 1981;

Eisenberg & Miller, 1987; Stiff, et al., 1988). As is typical in all fields of scientific

research, methodological precision occupies a critical role in determining the

extent of theoretical development that can be achieved in the study of empathy.

By connecting these conceptual developments with a tailored design, the

current study has several advantages over prior studies using empathy

inductions, which seldom account for the threats to internal validity presented

by the known effect of empathic tendencies on perspective taking, which may

account for differences found in experimental treatments.

Consistent with previous theorizing about the development of empathic

tendencies (e.g., Hoffman, 1976; Eisenberg & Lennon, 1983; Eagly & Crowley,

1986), studies have demonstrated that greater perspective-taking ability is

associated with enhanced feelings of empathic concern and lower levels of

uneasiness when confronted with others' negative experiences (e.g., Davis,

1980). As a logical extension of these observed tendencies, the nature of these

relationships would be an important consideration in studies involving

methods designed to induce empathic responses. Strikingly, while there is

ample evidence supporting this conceptual connection between perspective-taking and empathic concern, few studies utilizing empathy-induction techniques incorporate specialized designs or appropriate statistical controls for this component of empathy. Based on the conceptual relevance of perspective-taking, the design created for use in the current study offers a meaningful methodological contribution by addressing a highly plausible alternative explanation for differences in dependent measures which prior studies have attributed to the experimental induction of empathy. In addressing this challenge, it provides a model for elucidating the true influence of experimental treatments on variance among comparison groups, which may have been exaggerated (or masked) by the effect exerted by individual differences.

In-Group and Out-Group Empathy

In addition to individual differences, group identification has also been found to affect the outcomes of empathy on attitudes and behaviors. Much of the research examining this relationship has been produced by scholars investigating the effects of empathy through the framework of the Preston and de Waal's (2002) Perception-Action model (PAM), which has incorporated methodological approaches such as neuroimaging to demonstrate differences in the way observers feel empathy for someone in pain when that person is in

the same social group (Decety, Echols, & Correll, 2010; Mathur, Harada, Lipke , & Chiao, 2010). These studies offer evidence supporting the assertion that inclusion of others in one's self concept leads to enhanced empathy and altruistic motivation (Cialdini et al., 1997; Chiao & Mathur, 2010).

Based on findings produced in this program of research, Chiao and Mathur (2010) suggest that in order to change how and when humans share and respond to the suffering of others, it is important to establish commonality across individuals and across groups. This need to create a sense of commonality, according to Dr. Joan Y. Chiao, is based on the notion that "our ability to identify with another person dramatically changes how much we can feel the pain of another and how much we're willing to help them" (Science Daily, 2010).

While much of the recent evidence for group distinctions in empathic responding has been produced by researchers in the field of neuroscience, differences in the behavioral outcomes associated with empathy have been demonstrated using several methods and have operationalized group distinctions in various fashions. For example, one of the earliest approaches to the examination of empathy responses based on social distance approached the topic by using distressed individuals who were dissimilar from research participants based on demographic characteristics (Batson et al., 1981). In this

experimental examination of the topic, Batson et al. (1981) found that when participants witnessed someone being given a series of painful electrocutions, they offered to take their place and receive the remaining shocks when both parties were from similar demographic backgrounds. However, when they were not from similar demographic backgrounds, participants only offered to be shocked in their place when they were informed they would be forced to watch the person receive the remaining shocks. According to some scholars focusing on this line of research, in-group familiarity is thought to occur for three main reasons: shared past experiences, demographic similarities (age, gender, class and culture), and personal familiarity (Decety & Chaminade, 2003).

It is also important to clarify that this is not to imply the act of imagining the self and imagining another in pain are identical mechanisms. As discussed by Lamm, Batson, and Decety (2007), "a complete blurring of self and other would be detrimental and is not the purpose of empathy." Instead, the process has been described as being causally involved in an action, or agency.

In summary, the success of empathy as the "perception–action process" (Decety & Lamm, 2006; Lijiang, 2010) has made the empathy approach an attractive strategy in health-related communication, where the goal is often focused on behavior change. Furthermore, based on the conceptually relevant

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findings from research examining the relationship between empathy and factors such as individual differences and group identification, there is considerable evidence suggesting the potential for increased efficacy when these strategies incorporating empathy targets similar to the audience viewing them. Thus, directly examining the effects of these empathy-inducing message strategies is an important direction for researchers interest in promoting prosocial behavior, as the vicarious experience of the state of the individual or group in the message affects the manner in which a recipient processes, and is subsequently persuaded by, the appeal (e.g., Bae, 2008).

Empathy and Helping

In research examining the role of empathy in attitude change and helping behavior, evidence suggests perception of emotion may lead an observer to resonate with the emotional state of another, resulting in empathic concern, which is an important antecedent to altruistic motivation. However, the responses to viewing others in pain may also result in personal distress and motivational outcomes that are egoistic, meaning they are focused on removing the source of personal distress (Batson et al., 1987).

Based on this view of empathy effects, several factors determine whether induced empathy (or its absence) will lead to processing of prosocial content in such a way as to lead to intention to provide support. For example, materials designed to promote the adoption of the perspective of a distressed individual must actually increase empathic concern, which depends on the emotional outcomes elicited by perspective taking (Batson, et al., 1997). This is because humans have the ability to regulate emotional responses by reappraisal of emotional responses as well as the initiation of new responses when witnessing another in distress (Ochsner & Gross, 2005). These processes may enable the provision of supportive behavior in potentially harmful situations or result in the suppression of emotions elicited when witnessing distress (Lamm, Batson, & Decety, 2007).

For example, perspective taking may result in affective responses that are defensive in nature, especially in cases where the overall situation of the distressed individual is perceived as highly unpleasant (e.g., untreatable), in which case the perspective taker is likely to suppress their explicit emotions, ultimately denying the relevance of situation (Kalisch et al., 2005). In these cases, the level of agency would diminish due to the denial of relevance, which may be achieved by generating (implicitly or explicitly) an image of the

"observing self" which is unaffected by the emotional distress of the observed

other (Oschner & Gross, 2005).

However, this type of response to emotional distress has been shown to

relate to the way the perspective taker cognitively appraises the overall effect

or outcome of the situation being witnessed (Gross & Gabrieli, 2002). For

example, Lamm, Batson, and Decety (2007) exposed study participants to

stimulus materials depicting an individual suffering during a medical

treatment, manipulating participant knowledge about the outcome of the

procedure. When participants were given knowledge that the procedure failed,

they experienced increased emotional distress and detachment. This type of

perceptually triggered affective responding was down-regulated in

participants who were told the procedure was successful. Moreover, those

given knowledge that the procedure was a success exhibited greater empathic

concern which earlier studies have shown to be a primary instigator of helping

behavior. As it relates to the current study, these outcomes imply that positive

cognitive appraisals can be elicited by knowledge about the potential for

effective treatment and recovery (Lamm, Batson, & Decety, 2007).

Thus, while it is possible that the affective experience of pain may

motivate behaviors that will reduce the uneasy emotional state, there is

evidence that observing another in distress may instigate motivation to help if

they are given knowledge that provision of help will be successful. Following this framework for understanding the effects of empathy based on how it is triggered, the outcome of a task asking participants to imagine the feelings of another in distress, when followed by exposure to website content about the success associated with the provision of support for the distress experienced by the other, would produce empathic concern in such a way as to lead to intention to support.

In conclusion, in order for empathy to lead to attitude change and action in the current study, participants must be able to attend to the empathy object, experience a similar emotional state, and respond appropriately, all while inhibiting personal distress. The next chapter defines social support, provides an overview of the benefit of social support in health outcomes for depressed individuals, and examines the role of empathy in encouraging support behaviors.

CHAPTER IV

SOCIAL SUPPORT

Support from family, friends and peers is an essential element in the

management of illnesses such as severe depression. Furthermore, looking at

factors that affect engagement in supportive behaviors - rather than focusing on

ways to encourage sustained participation from support recipients - is an

important direction for researchers examining programs for depression, which are

often unavailable due to scarcity (Davidson, et al. 1999; Pfeiffer et al., 2011). While

numerous studies have verified the positive benefits of peer support for

individuals with depression, relatively few researchers have examined factors that

motivate individuals to offer services for depression through peer support.

However, evidence from studies examining predictors of support provision

behaviors for other illnesses, suggest empathy is an important determinant of

support (Devoldre, Davis, Verhofstadt, & Buysse, 2010; Trobst, Collins, & Embree;

1994).

From the perspective of the recipient, peer support interventions, when

used in conjunction with normal medical care, can have a positive combinatory

effect on patient outcomes (Maynard, et al., 2003). Studies have also shown that

these effects tend to be significant when compared to the treatment of depression

symptoms using usual care alone (Ong, et al., 1997). Furthermore, some evidence

indicates that the effect of social support may also be comparable to those of group

cognitive behavioral therapy (Kelly, et al., 2003).

For support recipients, there is large body of evidence indicating the value

of peer support interventions for improving self-management (e.g., Fisher, et al.

2010), sustained behavior change (e.g., Fisher, 1997; Boothroyd & Fisher, 2010), as

well as the provision of emotional, informational, and appraisal support (e.g.,

Dennis, 2003). While several definitions for peer support exist, one of the most

helpful distinctions that can be used to guide the creation of support initiatives

from the perspective of increasing the availability of supporters is offered by

research conducted on directive and nondirective support (e.g., Fisher et al., 1997)

Based on this model, directive support involves support from a trained

health worker, with a supporter often telling the support recipient what to do

(Gabriele et al., 2010). Conversely, nondirective support can come from

community members such as students, who instead work to bridge the gap

between their respective communities and health care. Nondirective support has

been a successful strategy for disease management and the promotion of healthy

lifestyles in recipients such as college students, because they possess the skills and

physical ability to engage the health challenge (Fisher et al. 1997; Gabriele et al. 2010). Thus, understanding the determinants of providing nondirective support has applications that are practical from the perspective of encouraging support and improving the availability of health management solutions for recipients.

Determinants of Support

As several studies have acknowledged, peer supporters typically experience certain benefits related to their provision of support (e.g., Dennis, 2003; Yalom, 2005). Furthermore, these benefits appear to be determinants of support, as "social support results in psychological and physical health benefits for both the receiver and provider" (Peers for Progress, 2011). These provider benefits are most often discussed in the literature on support given by peers who have personal experience with the condition of the recipient (e.g., Brownson & Heisler, 2009; Rogers et al., 2007). Examples of benefits include supporters experiencing decreased feelings of isolation (Dennis, 2003), outcomes similar to group therapy such as the installation of hope (Yalom, 2005), as well as increases in feelings of personal empowerment in their own self care (Rogers, et al. 2007). In fact, researchers such as Braithwaite et al. (1999) have suggested that in certain cases, those providing support to others may be the ones who, in doing so, actually derive the greatest benefit ("the helper principle"). Integral to most of these explanations is the notion that supporters view the support recipients as similar.

Within a health care context, Dennis (2003) asserts that support must also come from an individual with "similar characteristics as the target population, to address a health-related issue of a potentially or actually stressed focal person." This is consistent with Brownson and Heisler's (2009) contention that help comes from more homogeneous peers due to increased perceptions of issue relevance. Thus, relevance can enhance the likelihood that the support will result in mutual help and that peer supporters will be willing to provide continual, non-judgmental support.

It has also been shown that beliefs about the efficacy of peer support have been a strong predictor of support for peer support organizations (Powell et al. 2000). Pfieffer et al. (2010) argue that this presents a unique challenge for generating support for severe depression, given the dearth of systematic evidence of the efficacy of peer support focusing on depression. However, based on the existing research on the negative effects of stigma on support for improving health outcomes for many with severe depression, it is probable that stigma also exerts negative influence on individual decisions to provide peer support for depressed individuals.

As previously discussed, empathy has shown promise in mitigating structural prejudices. For example, Malhotra and Liyanage (2005) found that one year following student participation in an empathy-promoting peace workshop,

study participants were more likely to indicate empathic feelings toward out-

group members and donate money to an out-group charity than students who did

not attend the workshop. Though limited research has focused on empathy as a

determinant of social support, evidence from the available studies appears

promising. For example Egbert and Parrot's (2003) study of empathy processes on

social support, found that empathic tendencies increased the likelihood of

providing support for terminally ill patients.

CHAPTER V

HYPOTHESES AND RESEARCH QUESTIONS

The research reviewed offers compelling evidence that empathy may mitigate psychological reactance (e.g., Campbell & Babrow, 2004; Lijiang, 2010), and that empathic identification facilitates the transition from "perception" to "action" (Decety & Jackson, 2006; Decety & Lamm, 2006). However, studies examining empathic responses to socially distant groups have found empathy effects may diminish when the distressed other is perceived as socially dissimilar (e.g., Graziano et al. 2007; Cohen, 2008).

Past studies have also found that inducing empathy for individuals associated with stigma can improve attitudes and willingness to help members of stigmatized groups, such as AIDS patients and drug addicts (e.g., Batson, et al. 2002; Stephan & Finlay, 1999). However, researchers have also shown that the inclusion of others in one's self concept can affect the level of empathic responding to the suffering of others, and the willingness to engage in helping behaviors (Cialdini et al., 1997; Chiao & Mathur, 2010; Decety, Echols, & Correll, 2010; Mathur, Harada, Lipke, & Chiao, 2010).

Unfortunately, many past studies using vignettes to examine how induced empathy affects attitudes and behaviors toward stigmatized groups (e.g., people with AIDS) have often manipulated empathy using methods such as listening instructions and have reported the differences in aroused empathy as a check on the message manipulations (e.g., Batson, et al., 1997; 2002). While these studies offer evidence of the positive effects of empathy on persuasive outcomes, they lack clear explication of the specific message properties that arouse empathy. Thus, these studies offer little guidance for message designers and researchers seeking to replicate these strategies in different contexts.

To address this issue, the current work uses two versions of an empathy vignette. The characters in the two empathy conditions were modified based on characteristics that would make them either similar to, or different than participants' social group (Decety & Chaminade, 2003; Decety et al., 2010). By examining differences in the experimental induction of empathy linked to antecedent message attributes in the vignette, the current work explored the effects of group identification on empathic responding, attitudes, and helping behaviors toward members of a stigmatized group. First, to assess the effect of using characters designed to be either similar to or different than participants' social group in otherwise identical vignettes about a distressed individual with severe depression, the first research question asked:

RQ1: What is the relationship between empathy condition (in-group, out-group, control) and empathic concern for individuals with mental illnesses?

This dissertation also sought to replicate findings of past studies, and predicted that empathy that is brought about for one's group members would be stronger than empathy for out-group members. It was also expected that participants induced to feel empathy for an out-group member would elicit stronger empathic responses than those that did not participate in an empathy-inducing exercise. Formally stated, the following hypotheses were posed:

H1: Participants in the in-group condition should experience higher levels of empathic concern than participants in the out-group and control conditions.

H2: Individuals in the out-group empathy condition will express more empathic concern for individuals with severe depression than those in the control condition.

Next, this dissertation sought to explore the effects of induced empathy on attitudes that generalize beyond the distressed individual in the treatment conditions. Based on evidence from past research, which has found the connection between empathy and attitudes to be positive, even in the context of stigmatized groups (e.g., Stephan & Finlay, 1999), this study tested this relationship using empathy targets affected by severe depression, posing the following research question and hypothesis:

RQ2: What is the relationship between message-induced empathy and attitudes toward individuals with severe depression?

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H3: Individuals in the in-group empathy condition will express more positive attitudes toward individuals with severe depression than those in the out-group empathy condition.

Past studies have also found attitudes toward the recipients of prosocial organizations to be positively associated with attitudes toward the organization (e.g., Batson, et al., 2002). Research has also shown users orient to technology as source or social actor (Reeves & Nass 1996; Sundar & Nass, 2001). Thus, participants in the three conditions may differ in how they evaluate the organization as well as the website created (with constant features across conditions) for the "Heels for Progress" organization. Based on this possibility, as well as the predicted association between experimental treatment and participant attitudes, the current study also examined whether the empathy-attitude connection will also extend to attitudes toward the faux organization and website which was developed for this experiment. Thus, the following research question and predictions were posed:

RQ3: What is the relationship between empathy condition and attitudes toward the "Heels for Progress" website and organization?

H4a: Individuals in the in-group empathy condition will have more positive attitudes toward the Heels for Progress organization than participants in the other conditions.

H4b: Individuals in the in-group empathy condition will have more positive attitudes toward the Heels for Progress website than participants in the out-group and control conditions.

As a practical extension of the previous research question, this study also sought to examine if the anticipated differences in participant attitudes, based on group assignment, might also generalize to attitudes toward peer support initiatives designed to help individuals with severe depression. Thus,

RQ4: What is the relationship between empathy condition and attitudes toward peer support for people with severe depression?

H5: Individuals in the in-group empathy condition will have more positive attitudes toward support for severe depression than the other conditions.

As discussed in the review of literature, induced empathy has been associated with an array of socially beneficial effects. As it relates to this dissertation, one of the most encouraging outcomes found in prior research has been the finding that empathy leads to increased motivation to help members of stigmatized groups (e.g., Batson, Turk, Shaw, & Klein, 1995). To test whether similar results would be observed in the context of severe depression, this dissertation examined whether empathy affects behavioral intentions related to peer support for students with severe depression. Thus the fifth research question and subsequent predictions were made:

RQ5: What is the relationship between empathy condition and behavioral intention to provide peer support?

H6: Compared to individuals not induced to feel empathy, participants induced to feel empathy will express higher levels of behavioral intent to provide support

H7: In-group participants will express the greatest amount of behavioral intentions to provide support.

Naturally, several issues arise when using participant-provided behavioral intention measures to discern the effects of experimental manipulations on actual behaviors. Because intention measures in an experimental setting do not involve commitment to the actual behavior, participants may provide socially desirable responses. Thus, the final research question sought to assess the empathy-helping connection using behavioroid measures. Past studies have indicated that induced empathy is associated not only with intentions, but also actual helping behaviors (e.g., Chiao & Mathur, 2010; Decety, Echols, & Correll, 2010; Mathur, Harada, Lipke, & Chiao, 2010). However, these studies have also typically measured helping in terms of donations and low-involvement commitments, which are not the focus of the current study. To explore these relationships and test the predictions about the behavioral outcomes that were associated with the experimental manipulations used in this dissertation, the final research question and predictions were made:

RQ6: What is the relationship between empathy conditions and support behaviors?

H8: In-group participants will express the greatest amount of supportive behaviors.

H9: Increased empathy will be associated with willingness to participate in the peer support organization.

CHAPTER VI

METHOD

To address the research questions posed in this dissertation, a three-condition, pre-test and post-test experiment was conducted, with the pre-test used to assess trait empathy and the post-test used to measure attitudes and behaviors. The key dependent variables included empathy for individuals with severe depression, attitudes toward people with severe depression, beliefs about peer support for students with severe depression as well as attitudes toward the website created for this experiment. There were also dependent measures relating to behaviors, which included assessments of behavioral intentions, as well as a behavioroid measure of peer support provision.

The experiment was administered to volunteer participants (*N*=80) in an on-campus computer lab. Participation was voluntary and subjects were recruited using the research participant pool, with all subjects receiving course credit for their participation. Each of the study volunteers provided informed consent prior to the start of the experimental task session. A tag with the participant number (assigned to each subject) as well as the password to the

post-stimulus questionnaire was taped below the monitor of each computer

used in the study. Unique participant numbers were used in order to connect

the pre- and post-stimulus scores, while maintaining respect for participant

confidentiality. Access to the web-based post-stimulus questionnaire was

password-restricted. This was done because the "Heels for Progress" website

created for the experiment was active, and could thus be accessed by

individuals outside of the study. Because the website contained a link that

redirected participants to the post-stimulus questionnaire, this served as a

precautionary measure in case a non-participant attempted to access the

questionnaire link, which would require additional cleaning of the data.

Participants entered the computer lab and first were given a prestimulus

questionnaire, which measured trait empathy using the perspective-taking (PT)

scale. The prestimulus questionnaire was described as a general survey being

conducted by the school, and was administered at the beginning of the

experiment in order to collect the trait empathy scores before participants

viewed the stimulus materials created for the study. After completing the

prestimulus questionnaire, participants were directed to a screen containing

details about the tasks they would be completing in the study, and were

instructed that they would be evaluating a test website for the "Heels for

Progress" student organization. Control group participants were then taken

directly to the website for evaluation, whereas subjects in the treatment

conditions had a secondary task to accomplish. Participants in the two

experimental treatments were first asked to complete an empathy-inducing

exercise before they evaluated the website. After completing the empathy-

inducing tasks, participants in the treatment groups were then taken to a screen

where they viewed the website for evaluation.

Finally, after evaluating the website, all participants completed the post-

stimulus questionnaire containing the key dependent measures. These

included measures of empathy for people with depression, participant

attitudes toward the peer support website created for the experiment, as well as

the program in general. The questionnaire also asked participants to respond to

several items measuring behavioral intentions and a behavioroid measure of

support provision. Following the completion of the post-test questionnaire,

participants were given a form debriefing them about the nature of the study

and thanking them for their participation. Participants' experimental sessions

lasted approximately 20 to 45 minutes.

Participants

Eighty (*N*=80) participants were recruited from the research subject pool

of the School of Journalism and Mass Communication at the University of

North Carolina. All subjects were undergraduate students and participated in

the experiment in exchange for course credit. Participants signed up for sessions using a website, which was distributed to the student participant pool. Each participant was assigned to one of three conditions: control (n=25), in-group (n=28), and out-group (n=27). Distribution among the conditions was based on predetermined condition assignment using a random sequence generator.

Sixty-four (80%) participants were female, while sixteen (20%) were male. Thirty-eight (48%) were juniors, followed by seniors (30%), second-year students (20%), and first-year students (3%). Most participants in the study were white or Caucasian (79.7%), followed by Asian/Pacific Islander (7.6%), African American (7.6%), and Latino or Hispanic (3.8%). Two (2.2%) participants indicated "other" when describing ethnicity.

Experimental Procedure

The experiment was administered in an on-campus computer lab, in scheduled group visits with 12-18 participants at a time. Upon arrival, participants were either greeted by the principal investigator or an assistant. After signing in, all study volunteers were given a participant identification number and instructed to use it as a login credential during the study. Each condition used a separate set of numbers, and group assignment was predetermined using a random sequence generator to assign the values to the

numbers on the sign-in sheet. Based on the assigned number, participants were then directed to one of the computer terminals, which had been preloaded with the program specific to their condition. Once seated, the monitor at the station was activated. Following activation, the monitors displayed the participant consent form, which was opened and maximized on the screen prior to the start of the session. Display preferences at each station were preset so that the monitors were at full brightness for all participants.

A duplicate version of the consent form was created for all conditions in the study to ensure that the page displayed on the opening screen was identical on each of the monitors. Depending on group assignment, each participant advanced to the appropriate condition following the provision of consent. This was accomplished by programming the three versions of the consent form with a unique case logic, which directed participants to the prestimulus questionnaire and (where appropriate) the experimental treatment, prior to administration of the poststimulus questionnaire.

On the second screen, participants were given a cover story about the nature of the study, stating they would be participating in a study about peer support and advocacy for health issues, which included a website evaluation task. They were informed that before starting, they would be responding to a brief survey, which was unrelated to the study and was designed by the school

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to assess the personality and food preferences of research participants. They were also informed that the survey was not exclusive to the study, and that it was being given to student research participants in other studies. The instructions read:

> This study is designed to improve our current understanding about the way students view health-related organizations such as those that provide peer support. During this study, you will be asked to complete evaluative tasks and provide feedback on various aspects of a student-led peer support program, "Heels for Progress."

> First, we would like you to complete a brief "personality and taste preference" survey. The 14-item survey is part of an ongoing project being conducted by the School of Journalism and Mass Communication, which is seeking to understand possible connections between individual characteristics and the types of studies selected for participation credits.

To support the cover story, participants also responded to distractor questions from a general taste preference questionnaire (Lieberman et al., 1999; McGregor et al., 1998) asking them to indicate their food preferences by responding to a series of five statements: "I like foods that are sweet," "I enjoy foods that have a 'crisp' texture," "I like foods that have a creamy texture," "Salty foods taste good to me," and "I enjoy spicy foods." These items were measured using a seven-point scale (1 = *not at all*, 7= *very much*), and were not included in the analyses.

After completing the prestimulus questionnaire, participants in all conditions advanced to a screen with the following message:

Thank you for completing the survey. Your responses will help our faculty researchers understand the relationship between individual characteristics and participation in the studies at our school. Please use the arrow on the bottom of the screen to proceed to the peer support study.

After clicking the arrow at the bottom of the screen, participants in the control condition were redirected to the screen with the instructions for viewing the site in the experiment.

Empathy Conditions

At this stage in the experiment, participants in the two treatment conditions were advanced to a screen containing instructions for the task that was used to induce empathy in this experiment. The instructions shown on the screen informed participants that they would be participating in a "brief perspective-taking exercise" prior to the website evaluation. In addition to outlining the details of the perspective-taking exercise, a brief explanation about the purpose of the task was also provided. The instructions given to participants in the in-group condition were:

Today's study focuses on elements related to prosocial campaigns and advocacy efforts by peer support organizations. Peer support programs and advocacy campaigns are often associated with very specific health issues, and because selection for this study was based on random selection, student participants may not be the intended audience for the materials you will be shown during this study. Because of this, the first part of today's study involves a brief perspective-taking exercise.

This is to help you envision the perspective of someone affected by the type of health condition associated with the organization you will be shown later in the study. On the next screen you will be shown an excerpt from a

story that will be published in the Daily Tar Heel later this semester. The story, titled "In Their Voices," features a person affected by depression. The details of the story were gathered through personal interviews and the person is an undergraduate student at UNC. **(The last sentence in this paragraph was modified in the out-group condition)**.

While you are reading the story, try to imagine how you yourself would feel if you were experiencing what has happened to the person being described and how this experience would affect your life. Try not to concern yourself with attending to all the information presented. Just concentrate on trying to imagine how you yourself would feel. Use the arrow at the bottom of the screen when you are ready to begin.

The two versions of the story used in the empathy induction exercise

(one with an in-group character with severe depression and one with an out-

group character with severe depression) were adapted from a vignette used in

previous research to experimentally induce empathy for someone with severe

depression (Phelan & Basow, 2007). The basis for the character manipulations

was derived from social-neuroscience research examining the determinants of

in-group identification (Decety & Chaminade, 2003; Decety et al., 2010). The

characters in the two empathy conditions were modified based on

characteristics that would make them either similar or different than

participants' social group (undergraduate students at UNC).

In both empathy conditions, the vignette was displayed using a static

image, which depicted the story as an excerpt from the student newspaper. The

only differences between the two depictions were within the story content. All

other components of the graphic (e.g., frame size, color and orientation) were

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identical. For example, those in the in-group condition were shown the vignette

in Image 1:

Image 1. In-Group Empathy Vignette

dailytarheel.com
Serving UNC students and the community since 1893 | The Daily Tar Heel

HOME   NEWS   DTH TOPICS   BLOGS   SPORTS   DIVERSIONS   MULTIMEDIA   OPINION   INTERACT   ABOUT   EVENTS   BUY PHOTOS   SEARCH   VOTE CAROLINA'S FINEST!

RSS

Jesse is a sophomore at UNC. For the past year, Jesse has been feeling really down. He wakes up in the morning with a flat, heavy feeling that sticks with him all day long. He isn't enjoying things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make Jesse happy.

He pushes on through his days, but it is really hard. He finds it hard to concentrate on anything in class. And even though Jesse feels tired, when night comes, he can't go to sleep. Jesse feels pretty worthless, and very discouraged. Jesse's friends have noticed that he hasn't been himself for about the last year and that he has pulled away from them. Jesse just doesn't feel like talking.

After participants in the out-group condition had read the instructions

relating to the empathy-inducing exercise, they were advanced to a separate

page, where they were shown the following image:

Image 2. Out-Group Empathy Vignette

dailytarheel.com
Serving UNC students and the community since 1893 | The Daily Tar Heel

HOME   NEWS   DTH TOPICS   BLOGS   SPORTS   DIVERSIONS   MULTIMEDIA   OPINION   INTERACT   ABOUT   EVENTS   BUY PHOTOS   SEARCH   VOTE CAROLINA'S FINEST!

RSS

Jesse is a middle aged man living in Alaska. For the past year, Jesse has been feeling really down. He wakes up in the morning with a flat, heavy feeling that sticks with him all day long. He isn't enjoying things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make Jesse happy.

He pushes on through his days, but it is really hard. He finds it hard to concentrate on anything at work. And even though Jesse feels tired, when night comes, he can't go to sleep. Jesse feels pretty worthless, and very discouraged. Jesse's family has noticed that he hasn't been himself for about the last year and that he has pulled away from them. Jesse just doesn't feel like talking.

The screens containing the vignettes were identical in layout, color and the size of the vignette image (1,036px × 545px) was kept constant in both conditions. The characteristics of the individuals in each vignette were altered based on location and station in life, and job descriptors (class, work) were modified to maintain continuity with the details in each narrative.

In both treatment conditions, the screen containing the image used in the perspective-taking task also displayed the following text (font size and style were identical in both conditions) below the story:

> Remember: try to imagine how you yourself would feel if you were experiencing what has happened to the person in the story and how this experience would affect your life. When you are finished and ready to proceed to the next section, please click the arrow at the bottom of the screen. It will take you to the next set of questions.

After completing the exercise, participants in the treatment conditions were then advanced to the page containing the manipulation check item, followed by a screen with the instructions shown to those in the control condition directly following their completion of the prestimulus questionnaire. The following instructions were shown on the screen:

> In the next section of the study, you will be shown a test website for the "Heels for Progress" student organization. After you have learned a little about the program by looking at the materials contained on their site, you will be asked to provide feedback relating to your personal impressions about the organization and the materials it is using to promote its goals. The test website you will be viewing mirrors the content shown on the Heels for Progress official webpage. For the purpose of this study, links to external content (such as the program's Facebook page) have been removed.

Also, links to resources and message boards have been disabled to ensure participants remain focused only on the information shown on the site itself. This version of the site contains the three sections on the official website ("Main," "Resources," and "About Us") as well as a fourth section constructed solely for the purpose of this study ("Finished"). It contains the link that will direct you to the final set of questions in today's study. Once you are on the website, each of these sections can be accessed using the tabs shown at the top of the screen.

Remember, to help us accomplish the goals of the current study it is important that you pay close attention to the information about the organization shown on the site. Please take about 5-10 minutes to familiarize yourself with the goals of the organization by reading the content contained on the site.

When you are done evaluating the website, go to the page labeled "Finished," which can be accessed by clicking the "Finished" tab on the webpage. This page will contain the link that will redirect you back to this website for the final section of questions in today's study. At the beginning of the final questionnaire, you will be prompted to enter a password. This password is printed on the slip of paper and taped below your monitor. If you experience problems please alert the research assistant on duty.
Click on the arrow at the bottom of the screen when you are ready to begin.

After participants read the information and used the cursor to select the

arrow button on the bottom of the screen, the Qualtrics portal redirected them

to the "Heels for Progress" website, which opened in the same browser

window used to display the instructions.

Stimulus website

The website created for the experiment was for a faux organization,

"Heels for Progress," and was designed to emulate the features and

information available on the official website for the University's student

chapter of the National Alliance on Mental Illness (NAMI): "NAMI On

Campus." The name for the organization was modeled after a global peer

support organization, "Peers for Progress" (http://peersforprogress.org).

In order to present the organization as an authentic university program,

the dummy site also included images such as the university seal, which is

included on the official student organization pages hosted on the university

server. To replicate the functional and informative characteristics typical of

sites for other student-led organizations at the university, three navigable

dummy pages were incorporated within the stimulus site. Flash was embedded

in each page. A static image of the main page is depicted below.[1]

Image 3. Main Site Page

The remaining pages on the website were categorized under the headings "Main," "Resources" and "About Us." These pages contained organization-relevant content, and each area of the site was designed using categories and content that closely modeled these sections on the official NAMI on Campus site. Static screenshots of the "Resources" (Image 4) and "About Us" (Image 5) sections are shown below.

Image 4. "Resources" Webpage **Image 5. "About Us" Webpage**
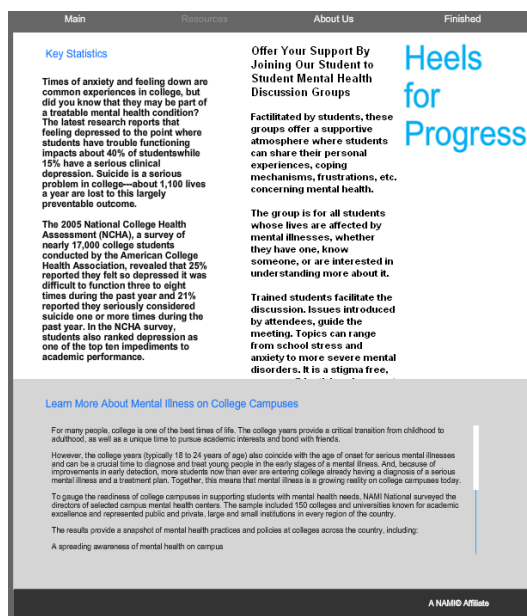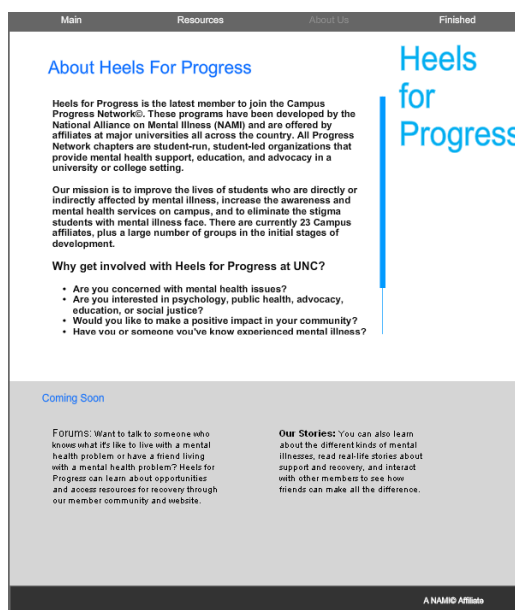
Both of these pages included animated scrollbar components allowing participants to peruse additional content in the subsections equipped with this feature. Each of the pages was carefully constructed to emulate specific characteristics on official sites in order to enhance the believability of the

organization. Site navigation was designed using Flash, and the site was

programmed so that specific content remained unaltered during transitions

between sections. Specifically, the frame containing the "Heels for Progress"

logo and the page footer with the "NAMI © affiliate" designation, were held

constant while participants navigated the site sections. This was done to ensure

the name of the peer support program and affiliated organization remained

present on the screen during the evaluation task. All other forms of site content,

which included the section headings, text and the animated scrollbar

components for each page, were different in the separate sections.

The manipulated content was not limited to website features. In addition

to the site attributes, content shown on the browser was altered for continuity

with the site. The Mozilla Firefox web browser toolbar and page tab (both

shown below in image 6) were manipulate to display the text "Heels for

Progress – Beta Test Site." This manipulation was designed to serve as an

additional credibility cue in order to enhance realism and mitigate doubts

about the authenticity of the organization.

Image 6. Browser Toolbar
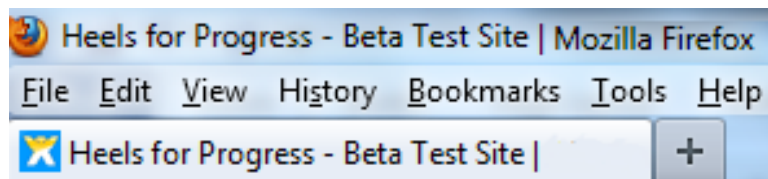
The same website was used for all three conditions and all participants used

identical (brand and model) computers and monitors during the experiment.

Dependent Measures

There are eight key dependent variables: induced empathy for people

with severe depression, attitudes toward social support for depression,

attitudes toward the "Heels for Progress" program, attitudes toward the

website, attitudes toward severe depression, behavioral intentions, behaviors

and a qualitative measure of situational support. A discussion of the scale

properties (e.g., internal reliability coefficient) follows the description of each of

the quantitative dependent measures listed below.

Induced empathy for people with Severe Depression

As discussed in the prior chapter, the first measured variable, induced

empathy, was assessed as a dependent measure as opposed to a check on the

experimental manipulation. This was measured following the site evaluation

task, by asking participants to rate how well six adjectives described their

emotions toward people suffering from severe depression (adopted from

Batson, Chang, Orr, & Rowland, 2002). Participants were asked to "please rate

how well the adjectives listed below describe your emotional responses to

witnessing someone with severe depression" using the following six items,

which were measured using 7-point scales (1 = not at all, 7 = extremely):

1. sympathetic

2. compassionate

3. softhearted

4. warm

5. tender

6. moved

After assessing the suitability of the data for factor analysis, the 6 items of

the scale were subjected to principal components analysis (PCA). To assess the

suitability of the data, the correlation matrix (Table 1) was checked to ensure

coefficients were .3 and above.

Table 1: Correlation Matrix for Empathy Measures

Item	A	B	C	D	E	F
E1:	1.00	-	-	-	-	-
E2:	.344**	1.00	-	-	-	-
E3:	.542**	.567**	1.00	-	-	-
E4:	.458**	.599**	.548**	1.00	-	-
E5:	.429**	.658**	.597**	.779**	1.00	-
E6:	.434**	.612**	.645**	.711**	.769**	1.00

Note. *Correlation is significant at p < .05. All items measured on 1-7 scales where 1=strongly disagree and 7=strongly agree, except where noted.

Based on Kaiser's (1974) classification of measure values, the Kaiser-Meyer-

Olkin (KMO) value (.827) was "meritorious" (p. 35). The Barlett's test of

Sphericity was also statistically significant ($p < .0005$), supporting the

factorability of the correlation matrix. To assess dimensionality, the items were

subjected to principal components analysis (PCA), and factor retention was

based on eigenvalues exceeding that which could be attained using a randomly

generated data matrix of the same size (retention criterion for the first factor

eigenvalue = 1.16).[2] Principal components analysis of the empathy scale items

yielded a single dimension with an eigenvalue of 3.825, which exceeded the

minimum eigenvalue needed for factor retention. The factor explained 63.75%

of the variance in the data, and the scale was reliable ($\alpha = .89$).

Attitudes toward Social Support for Depression

This attitude variable was measured using four items on 7-point scales

(with the anchors strongly disagree and strongly agree) adopted from Rains

and Karmikel (2009). The statements asked participants to indicate if they

would:

1. Donate money to support research on severe depression

2. Volunteer to work for an organization that helps those suffering from severe depression

3. Vote for a bill to increase government funding for research on severe depression

4. Not donate money to support research on severe depression (reverse-scored)

---

[2] This was based on the median eigenvalue calculated from the distribution of eigenvalues produced by Monte Carlo principal components analysis with 1000 replications. This method was used to assess the dimensionality of all scales used in the study.

To assess the suitability of the data for factor analysis, the correlation matrix was checked to ensure coefficients were .3 and above. The Kaiser-Meyer-Olkin (KMO) value (.683) exceeded the recommended value of .6 (Kaiser, 1974). Barlett's test of Sphericity also was statistically significant ($p < .0005$), supporting the factorability of the correlation matrix. Principal components analysis yielded a single dimension with an eigenvalue of 2.089, which exceeded the corresponding criterion value. The single factor explained 69.62% of the variance in the data, and the scale was reliable ($\alpha = .84$).

Attitudes toward the "Heels for Progress" program

Attitudes toward the program were measured using three items that asked participants to use a 1-7 scale, where 1 = "strongly disagree" and 7 = "strongly agree," to rate their agreement with the following three statements:

1. I support what the Heels for Progress organization is trying to accomplish.

2. I agree with the position advocated by Heels for Progress.

3. I am favorable toward the main point of Heels for Progress's message.

The three items were examined to determine the suitability of the data for factor analysis, and then subjected to principal components analysis (PCA). First, to the correlation matrix was inspected, confirming that coefficients were .3 and above. The Kaiser-Meyer-Olkin (KMO) value (.785) was above the .6

value recommended by Kaiser (1974). The results from Barlett's test of

Sphericity were statistically significant ($p < .0005$), which also supported the

factorability of the correlation matrix. Principal components analysis on the

three items yielded a single dimension with an eigenvalue of 2.787, which

exceeded the corresponding criterion value for a randomly generated data

matrix of the same size (3 items x 80 participants). The single factor explained

69.68% of the variance in the data, and the reliability coefficient from the scale

showed good internal consistency ($\alpha = .88$).

Attitudes toward Severe Depression

Participant attitudes toward severe depression were measured using five

items ($\alpha = .81$), which were designed to assess beliefs about, concern for, and

feelings toward people with depression. These measures were adapted from

Batson et al.'s (2002) scale developed to measure attitudes towards drug

addicts. Participants were asked to use a 1-7 scale to respond to the following

statements:

1. How much do you personally care about the plight of people with severe depression? (1 = not at all, 7 = very much)

2. Our society does not do enough to help people with severe depression. (1 = strongly disagree, 7 = strongly agree)

3. Compared with other social problems we face today (e.g., crime, education, drugs, homelessness, environmental protection, energy

conservation), how would you rate the importance of helping people with severe depression? (1 = not at all important, 7 = extremely important)

4. Our society should do more to protect the welfare of people with severe depression. (1 = strongly disagree, 7 = strongly agree)

5. In general, what are your feelings toward people with severe depression? (1 = extremely negative, 7 = extremely positive)

After assessing the suitability for factor analysis, the 5 items included in the scale were subjected to principal components analysis (PCA). An inspection of the correlation matrix revealed that all coefficients exceeded .3, and the Kaiser-Meyer-Olkin (KMO) value (.758) exceeded the recommended value of .6 (Kaiser, 1974). The result from final assessment of factorability, Barlett's test of Sphericity, was also statistically significant ($p < .001$). Principal components analysis yielded a single dimension with an eigenvalue (2.293) that exceeded the corresponding criterion value for a randomly generated data matrix of the same size (5 items x 80 participants), explaining 57.36% of the variance in the data.

Attitudes toward the Peer Support Site (**A**website)

Participant attitudes toward the website were measured using Sundar's (2004) website perceptions scale. The 12 items included in the scale were subjected to principal components analysis (PCA). First, the suitability of the data for factor analysis was assessed. An inspection of the correlation matrix

(Table 2) revealed that all but one of the coefficients were larger than .3 (the single exception = .283).

Table 2. Correlations

	A	B	C	D	E	F	G	H	I	J	K
Appealing											
Useful	.416**										
Positive	.458**	.426**									
Good	.564**	.469**	.745**								
Favorable	.576**	.498**	.631**	.856**							
Attractive	.856**	.360**	.444**	.597**	.609**						
Exciting	.726**	.354**	.268*	.470**	.434**	.777**					
Pleasant	.517**	.368**	.501**	.679**	.603**	.581**	.459**				
Likeable	.621**	.346**	.431**	.610**	.574**	.685**	.519**	.765**			
H-Quality	.749**	.391**	.369**	.548**	.587**	.791**	.743**	.540**	.646**		
Interesting	.503**	.502**	.420**	.545**	.532**	.554**	.614**	.551**	.445**	.535**	
Sophisticated	.648**	.386**	.275*	.473**	.566**	.705**	.629**	.415**	.564**	.821**	.516**

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

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

The Kaiser-Meyer-Olkin (KMO) value (.902) was "meritorious" based on Kaiser's (1974) classification of measure values, and Barlett's test of Sphericity was significant ($p < .005$), supporting the factorability of the correlation matrix. Principal components analysis (KMO = .902) yielded a single dimension with an eigenvalue exceeding the corresponding criterion value for a randomly generated data matrix of the same size (12 items x 80 participants), that explained 60.42% of the variance in the data ($\alpha = .94$). This measure asked

participants to rate the following twelve items on a nine-point scale (1 = the

term describes very poorly, and 7 = the term describes very well):

1.Appealing

2.Useful

 3.Positive

4.Good

5.Favorable

6.Attractive

7.Exciting

8.Pleasant

9.Likeable

10.High Quality

11.Interesting

12.Sophisticated

Behavioral Intentions

Intentions were measured using participant agreement with six statements

describing an array of behaviors ranging from seeking information to active

participation in the "Heels for Progress" organization. The items used to create

the scale were adapted from the original measures developed by Weberling

(2011) assessing the endogenous variable proposed in her working model for a

Theory of Situational Support (p. 166). The scale was developed using three

items adapted from earlier work in the theoretical development of Fishbein and

Aizen's (1975) Theory of Reasoned Action and three items that have been used

to assess the primary dependent measure in research testing the relationships

proposed in Grunig's (1984) Situational Theory of Publics. All items were

measured on seven-point scales.

Principal components analysis (KMO = .841) yielded a single dimension

with an eigenvalue exceeding the corresponding criterion value for a randomly

generated data matrix of the same size (6 items x 80 participants). The single

factor explained 63.7% of the variance in the data (α = .884). For subsequent

analysis, the six items were summed and then averaged. The statements

included in the scale were:

1. I intend to participate in the Heels for Progress program in the near future.

2. How likely is it that you will participate in Heels for Progress in the near future?

3. How likely are you to share information about Heels for Progress with others on Campus?

4. If you see or hear information about Heels for Progress, how likely are you to pay attention to it?

5. How likely are you to communicate about Heels for Progress through a social media site, such as Facebook or Twitter?

6. How likely are you to seek information about Heels for Progress?

Behavioroid Measure

Behaviors were assessed through the use of a behavioroid measure.

Participants were asked to commit to volunteer using a sign-up sheet. In order

to present the sheet as unrelated to the study, participants were shown the

following text on the terminal before viewing the sheet:

> Thank you for your participation in this research study. After viewing
> the materials presented in this study you may feel the desire to learn more
> about the Heels for Progress student organization. The president of Heels
> for Progress has provided an informational flyer with details and sign up
> information for any student interested in the program. On the next screen,
> interested participants will have the opportunity to view the flyer and may
> indicate their interest in the program with the completion of an optional
> survey.
> Please note that you have completed the primary research study. You
> are free to leave at this point. Any responses to the survey items on the next
> screen are voluntary and your answers will be given directly to the Heels
> for Progress organization.

Only those who indicated having additional interest in the organization

were advanced to a screen containing the volunteer opportunity questionnaire,

which was accompanied by a faux appeal from the director of the organization

(Appendix C). Participants who elected to leave were given the debriefing

form. Those who indicated interest in volunteering on the questionnaire were

asked if they would like to lead peer support group sessions. In both cases,

volunteers were also asked to provide the estimated number of minutes

(monthly) they would be willing to commit to each activity.

Open-Ended Measure of Situational Support

Finally, because the current study is exploratory in nature, an open-

ended approach was also used to assess situational support by examining the

depth of elaboration (low, medium, or high) in participant responses to a

question asking them to describe the actions they would take if they witnessed

a friend exhibiting signs of depression. Specifically, participants were asked to

describe how they would react to the following hypothetical scenario: "Imagine

you are at a party and notice a friend standing across the room all alone. Your

friend is not being social, and appears to be sad."

Responses were collected using an on-screen text box. The following

instructions were also shown on the screen: "please describe what you would

do in this situation." As participants began typing, a character counter (below

the text box) continually updated to display the number of remaining

characters that would fit in the text box, which was limited to 350 characters.

The responses were content analyzed to determine the level of elaboration

participants used to describe the situational support they would provide for a

friend experiencing depression. This choice of analysis was ideal because it

provides a systematic method for assigning open-ended response content to

categories based on operational definitions (Riffe, Lacy, & Fico, 2005).

Coding

To conduct the analysis, two coders were trained by reviewing the coding

protocol in order to clarify the operational definitions for the three levels of the

variable being coded. Several sample statements were created to provide

examples of types of responses that would go in each category. The units of

analysis were each of the participant responses, which were coded for level of

elaboration. The total number of coded responses was relatively small for

content analysis. To ensure an adequate sample was used to assess reliability,

the second coder independently reanalyzed a random subsample of 50% of the

responses to ensure coding reliability. This exceeded the 10%-25% reliability

sample size recommended by Wimmer and Dominick (2003).

Content Measurement

The level of elaboration in each response was determined using the

following set of operational definitions.

Low Elaboration. To be categorized as low elaboration, the responses were

limited to statements describing recognition of the friend's presence, and did

not include actions specifically acknowledging the distress. Examples of these

types of responses included statements such as "Go talk with him or her" and "I would try to engage with him or her," which, based on social conventions associated with seeing a friend a party, did not differ from the way one might respond to seeing any other friend.

Medium Elaboration. Responses in the medium level of elaboration described engaging in a behavior that sought to specifically understand the reasons for their friend's troubles. These responses included statements such as "I would approach the friend and ask how they were doing and if they wanted to talk. If I thought it was appropriate, I would remove them from the situation and give them one-on-one attention and try to show them I could function as a support system if something was wrong."

High Elaboration. To be categorized as high elaboration, responses included discussion of actions that would be taken to solve the problem affecting the friend at the party. Just as the responses indicating medium levels of elaboration differed from the low elaboration responses by including an additional dimension of distress-related inquiry, high elaboration responses also described actions that would then be taken to improve the welfare of the distressed friend.

Coder Reliability Assessments

Coder agreement was measured using Hayes and Krippendorff's (2007) SPSS macro designed to compute Krippendorff's alpha (α) reliability estimate for judgments. The results of the intercoder reliability test (α = .923) indicated a successful level of agreement.

Manipulation Check

The experimental manipulations of the in-group and out-group attributes of the person in the two vignettes were achieved by altering explicit message characteristics. To assess whether the manipulations produced the desired differences in participant perceptions of the character's being in- or out-group members, subjects in the treatment groups were also asked to rate the character used in the two vignettes in terms of similarity. This was accomplished by asking participants to rate their level of agreement with the following statement: "I consider myself to be similar to the character in the story" using a 7-point Likert-type scale with the anchors "strongly disagree" and "strongly agree."

Potential Covariate (Control) Measure

Perspective Taking

A trait empathy measure of perspective taking was initially included as a potential covariate. The perspective taking measures were collected using a pre-stimulus questionnaire containing items from the perspective-taking

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subscale of Davis' (1980) Interpersonal Reactivity Index (IRI). Two negatively-worded items were removed from the original scale to create the five-item version (α = .865). The set of scale items was comprised of the following statements:

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

2. I sometimes try to understand my friends better by imagining how things look from their perspective.

3. I believe that there are two sides to every question and try to look at them both.

4. I try to look at everybody's side of a disagreement before I make a decision.

5. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Data and Analysis

The data from the experiment, which included prestimulus and post-test scores on the dependent measures in the experiment as well as manipulation checks on each group condition, were collected, and then analyzed using IBM® SPSS® statistical computing software (Version 19.0). Certain analyses were also performed using R (Version 2.13.1) statistical computing software (R Development Core Team, 2010).

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CHAPTER VII

RESULTS

Before answering this dissertation's six research questions and testing

the ten proposed hypotheses, this chapter first outlines some of the overall

demographic and descriptive characteristics of the participants in the

experimental study, as well as information about the distribution of

participants among the three groups.

Following the reported statistics about the study participant

characteristics, the findings related to the efficacy of the experimental

manipulation and group-level results on the control measure are then

presented. The remainder of the section then presents the findings related to

each research question including results from the tests of the dissertation

hypotheses.

Demographic and Descriptive Statistics

Overall, sixty-four (80%) of the study participants were female and

sixteen (20%) were male. As depicted in Table 3, most participants in the study

were white or Caucasian (80%), followed by Asian/Pacific Islander (7.6%) and

African American (7.6%). Three (3.8%) of the volunteer participants identified

as Latino/Hispanic, while two (2.5%) selected "other" as their ethnicity. In

terms of class year, thirty-eight (48%) were juniors, followed by seniors (30%).

Second-year students (20%) and first-year students (3%) represented the

smallest proportion of study participants.

Table 3: Descriptive Statistics of Participants Compared to UNC Undergraduate Population

	Respondents	UNC
Key Categorical Variables	**% (f)** [a]	**%** [b]
1. Gender: Female	80.0 (64)	59.2
Male	20.0 (16)	40.8
2. Race/Ethnicity: White	79.7 (63)	66
Asian or Pacific Islander	7.6 (6)	7
Black or African American	7.6 (6)	9
Latino or Hispanic	3.8 (3)	11
Other	2.5 (2)	14

Note. [a]Total N=80. [b]UNC population proportions do not add to 100% for race/ethnicity because of differences between university statistics and categories offered to participants in the experiment.

While a relatively small percentage of study participants were male, there

were no significant gender-related differences in the distribution of participants

among the three conditions. As shown in Table 4, among the measured

demographic variables collected from participants, only one significant

difference (race) emerged between conditions. This difference in the

proportion of white participants between the control and out-group conditions

was statistically significant when tested using a Bonferroni-adjusted

significance criterion, a correction to adjust for the effects of multiple testing.

Table 4: Summary of Demographic Statistics as a Function of Condition.

Key Categorical Variables	Control	Out-group	In-Group
	% (N)	% (N)	% (N)
1. Gender: Male	16.0 (4)	33.3 (9)	10.7(3)
Female	84.0(21)	66.7 (18)	89.3(25)
2. Race/Ethnicity: White	95.8(23)a	63.0(17)a	82.1(23)b
Asian or Pacific Islander	0.0(0)	14.8(4)	7.1(2)
Black or African American	0.0(0)	14.8(4)	7.1(2)
Latino or Hispanic	4.2(1)	7.4(2)	0.0(0)
Other	4.2(1)	0.0(0)	3.6(1)

Note: Each common subscript letter denotes a subset of group categories whose column proportions differ significantly from each other based on the Bonferroni-adjusted significance criteria: $p<.016$.

Manipulation Check

The content variation between the two messages was explicitly different.

However, to assess whether participants perceived the characters in each

version of the empathy induction procedure as varying in group similarity (in-

group vs. out-group), scores on a measure of group identification with the two

characters were compared. The results confirmed participants in the in-group

conditions ($M = 3.82$, $SD =1.81$) perceived the character in the vignette as being

more similar to themselves than participants assigned to the out-group

condition ($M = 2.63$, $SD =1.41$) condition ($M_{\text{In-group}} - M_{\text{Out-group}} =1.19$), $t(51) =$

2.713, $p<.005$ (one-tailed).

Control Measure

Perspective Taking was assessed based on evidence in prior studies indicating this measure may be a potential covariate affecting the outcomes of empathy-inducing exercises. This variable was measured using the five-item scale from the pretest ($N = 80$, $M = 5.4418$, $SD = 0.8335$, $\alpha = .879$). The group scores were first inspected for differences among the three conditions. Next, the variable was analyzed to determine the suitability for use as a covariate in subsequent analysis.

After testing the assumptions necessary for conducting an Analysis of Variance (ANOVA), a one-way ANOVA was performed to examine potential differences among participants in the three experimental conditions. The ANOVA assumptions were tested, revealing no outliers and the data were normally distributed for each group, as assessed by boxplot and Shapiro-Wilk test ($p < .05$), respectively. There was homogeneity of variances, as assessed by Levene's Test of Homogeneity of Variance ($p = .087$), meaning the ANOVA assumptions were met.

The ANOVA results indicated that participants in the control ($M = 5.38$, $SD = .80$), out-group ($M = 5.48$, $SD = 1.01$), and in-group ($M = 5.46$, $SD = .68$) conditions did not differ significantly ($F\ (2, 77) = 0.1014$, $p = 0.9037$).

Before this measure could be used as a covariate, several assumptions needed to be tested to determine if this variable could be included in the analysis. Because ANCOVA shares all of the same underlying assumptions as an ANOVA, the first set of assumptions were met, based on the tests conducted in the one-way analysis of variance. In addition to the ANOVA assumptions, however, several additional assumptions must also be met for ANCOVA. The first ANCOVA tested whether there is a linear relationship between the covariate and the dependent measure of empathy. The relationship between pre-test scores and the post-test measure of empathy was not linear, as assessed by visual inspection of a scatterplot, meaning ANCOVA is not suitable. Thus, the additional ANCOVA assumptions about the homogeneity of the slopes of the regression lines were not tested and the perspective taking measure was not included as a covariate in the analysis of induced empathy.

Research Questions and Hypotheses Results

This section reports findings related to each of the six research questions and ten hypotheses proposed in this dissertation. After reporting the results and analyses, the final section explores responses to the qualitative measure of situational support, which asked participants to describe how they would respond in a hypothetical scenario involving a friend experiencing depression. Findings from this measure are reported in terms of their quantitative

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attributes and analyzed qualitatively to examine the content of the open-ended

measure.

Empathy

The first research question (**RQ1**) posed for this study was based on

prior research examining the effects of group identification on empathic

responding. Specifically, **RQ1** asked "what is the relationship between

empathy condition (in-group, out-group, control) and empathic concern for

individuals with mental illnesses?"   In answering this research question, this

study also proposed to test the following hypotheses:

H1: Participants in the in-group condition should experience higher
    levels of empathic concern than participants in the out-group and
    control conditions.

H2: Individuals in the out-group empathy condition will express more
    empathic concern for individuals with severe depression than those
    in the control condition.

First, the empathic concern items used to measure empathy were

explored in terms of means, standard deviations, correlations, total scale

reliability (alpha) and factor structure before the items were combined to form

an index for use in further analysis. Prior to performing factor analysis, the data

were assessed to ensure suitability for the procedure. Inspection of the

correlation matrix revealed all coefficient values were greater than .3 (Table 5).

The Kaiser-Meyer-Olkin value was .868, exceeding the recommended value of

.60 (Pallant, 2007), and Bartlett's (1954) Test of Sphericity reached statistical

significance, supporting the factorability of the correlation matrix.

Table 5: Correlation Matrix for Empathic Concern (EC)

Item	EC1	EC2	EC3	EC4	EC5	EC6
EC1:	1.00	-	-	-	-	-
EC2:	.344**	1.00	-	-	-	-
EC3:	.542**	.567**	1.00	-	-	-
EC4:	.458**	.599**	.548**	1.00	-	-
EC5:	.429**	.658**	.597**	.779**	1.00	-
EC6:	.434**	.612**	.645**	.711**	.769**	1.00

Note. *Correlation is significant at p < .05. All items measured on 1-7 scales where
1=strongly disagree and 7=strongly agree, except where noted.

Principal components analysis revealed the presence of a single

component with an eigenvalue exceeding the corresponding criterion value for

a randomly generated data matrix of the same size (6 items x 80 participants).

The single component solution explained 65.23% of the variance. The six-item

scale also produced an acceptable internal reliability coefficient (eigenvalue =

3.94; α =.912) when subjected to reliability analysis.

The next step to answer the question posed in **RQ1** was to examine the

mean values of empathic concern scores by group. As shown in Figure 1,

participants in the in-group conditions had the highest levels of empathic

concern (*M* = 3.89, *SD* = .723), followed by participants in the out-group

condition (*M*=3.53, *SD* =.867) and those in the control group (*M* = 3.12, *SD*

=.611).
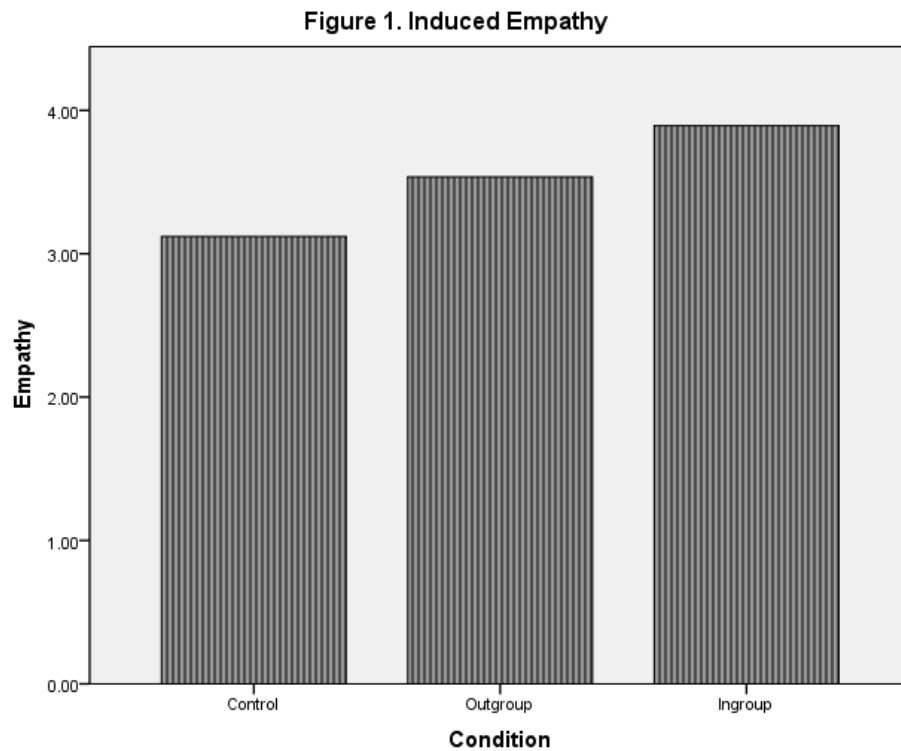
Figure 1. Induced Empathy

There were no outliers and the data were normally distributed for each group, as assessed by boxplot and Shapiro-Wilk test (p < .05), respectively. There was homogeneity of variances, as assessed by Levene's Test of Homogeneity of Variance (p = .067). Because the necessary analysis of variance (ANOVA) assumptions were met, a one-way ANOVA was conducted to discern whether the differences in induced empathy were statistically significant. As shown in Table 6, ANOVA results revealed significant differences among the empathy scores in the three groups (F (2, 77) = 7.7124, p<0.005, η^2 =.156).

Table 6: Summary of Means (with standard deviations in parentheses) and *F* values for Empathy as a Function of Condition.

Variable	Condition			*F*	η^2
	Control	Out-Group	In-Group		
Empathic Concern	3.12 (.611) a	3.53 (.867) b	3.89 (.799)a	7.124***	.156

Note: Higher scores indicate more positive perceptions. Comparisons between means, specified by lowercase subscripts, are horizontal only. Cell means that share a letter in their subscripts differ at *p* < .05 according to Tukey HSD test. * *p* < .05. ** *p* < .01. *** *p* < .005.

Post-hoc analysis using Tukey's HSD test[3] was then conducted to examine the nature of these differences and test the predictions posed in the first two hypotheses. The HSD results indicated that participants in the in-group condition responded more empathically than participants in the control condition at a level that was statistically significant (*p* < .005), though they did not differ significantly from participants in the out-group condition (*p* =.183). Thus, **H1**, which predicted individuals in the in-group empathy condition would express more empathic concern for individuals with severe depression than those in the out-group *and* control conditions, was only partially supported.

The HSD results also revealed that empathy scores in the out-group condition, which were higher than those in the control condition, did not differ

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[3] Tukey's HSD, which was designed for a situation with equal sample sizes per group, can be adapted to unequal sample sizes as well. In this case, Tukey's HSD is adapted to use the harmonic mean, as it accurately maintains alpha levels at their intended values with small sample size differences as long as all other statistical model assumptions are met.

at the level of statistical significance (p =.116). Thus, the prediction that out-group participants would express more empathic concern than those in the control condition, posited in **H2**, was not supported.

Attitudes toward Individuals with Severe Depression

The focus of the second research question in this study (**RQ2**) pertained to attitudes toward individuals with severe depression. Specifically, **RQ2** explored the relationship between induced empathy and participant attitudes toward those with severe depression. Formally stated:

> **RQ2:** What is the relationship between Message-Induced Empathy condition and attitudes toward individuals with severe depression?

In answering this research question, the following prediction was also made:

> **H3:** Individuals in the in-group empathy condition will express more positive attitudes toward individuals with severe depression than those in the out-group empathy condition.

Again, the data were examined to ensure the ANOVA assumptions were met. A Shapiro-Wilk test (p<.05) confirmed there were no outliers and the data were normally distributed for each group. There was homogeneity of variances, as assessed by Levene's Test of Homogeneity of Variance (p = .094).

As shown in Table 7, ANOVA results comparing attitudes toward people with severe depression by group assignment demonstrated that attitudes were significantly different among the three conditions, (F (2, 77) = 4.396, p< .05, η^2

79

=.102). Post-hoc analysis revealed attitudes toward those with severe

depression were greater in the in-group condition (*M* = 5.42, *SD* = .547) than

attitude scores from participants in the out-group condition (*M* = 4.80, *SD*

=.839). Thus, **H3**, which predicted that individuals in the in-group empathy

condition would express more positive attitudes toward individuals with

severe depression than those in the out-group empathy condition, was

supported. These mean values are displayed below in Figure 2.

Figure 2. Attitudes Toward Severe Depression
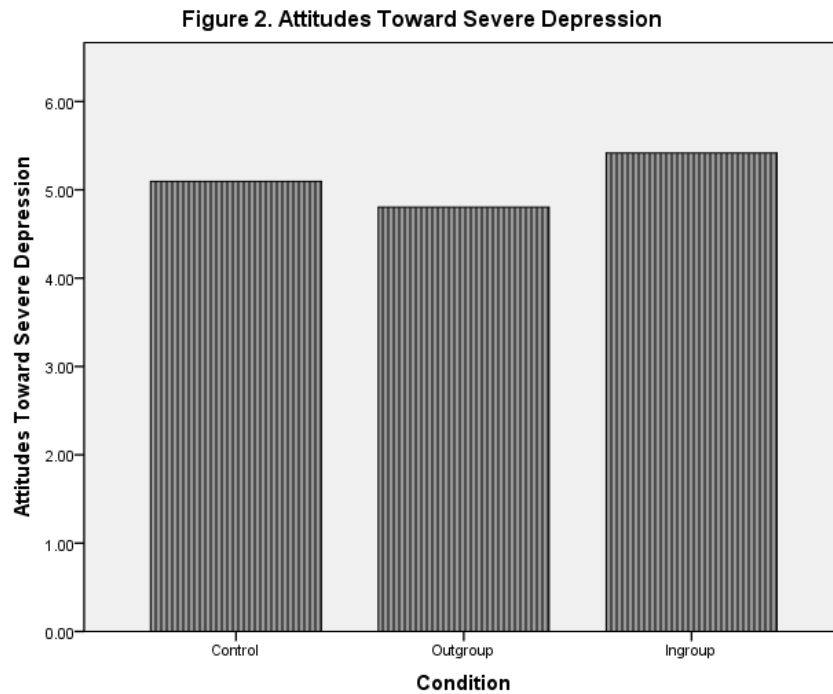
While statistical analysis found differences between the treatment groups,

as shown in Figure 2, the mean values in the out-group condition were the

lowest among the three, and neither of the treatment conditions differed

significantly from the control condition ($M = 5.09$, $SD = .891$) in terms of attitudes toward severe depression.

Attitudes toward Heels for Progress and website

The next set of research questions and hypotheses sought to examine the effects of group identification on attitudes toward peer support for those with severe depression and how induced empathy and in-out-group distinctions might influence reactions to the website to determine whether differences emerge in how participants evaluate the (constant) site's characteristics. This was examined in terms of attitudes toward the specific program used in the experimental study (Heels for Progress), which was designed with characteristics from prosocial campaigns and organizations promoting the welfare of people with mental illnesses. It also examined attitudes toward the website created for the peer support organization as well as attitudes toward peer support in general.

Specifically, **RQ3** asked: "What is the relationship between empathy condition and attitudes toward the "Heels for Progress" organization and website?" In answering this research question, this study also proposed to test the following hypotheses:

H4a: Individuals in the in-group empathy condition will have more positive attitudes toward the Heels for Progress organization than participants in the other conditions.

H4b: Individuals in the in-group empathy condition will have more positive
attitudes toward the Heels for Progress website than participants in
the out-group and control conditions.

To discern whether differences observed in attitudes toward "Heels for

Progress" were significant among the experimental conditions, the data were

screened for normality and to ensure the assumption of homogeneity of

variances was met. Then a one-way analysis of variance (ANOVA) was

conducted. ANOVA results revealed significant differences among the three

groups in participant attitudes toward the "heels for progress" organization (F

$(2, 77) = 12.914$, $p < 0.005$, $\eta^2 = .251$). Attitudes in the in-group condition were

the highest ($M = 6.536$, $SD = .428$), followed by participants in the out-group

condition ($M = 6.346$, $SD = .603$) and those in the control group ($M = 5.80$, $SD = $

$.585$). These mean values as a function of condition are shown below in Figure

3.

Figure 3. Attitudes Toward Heels for Progress
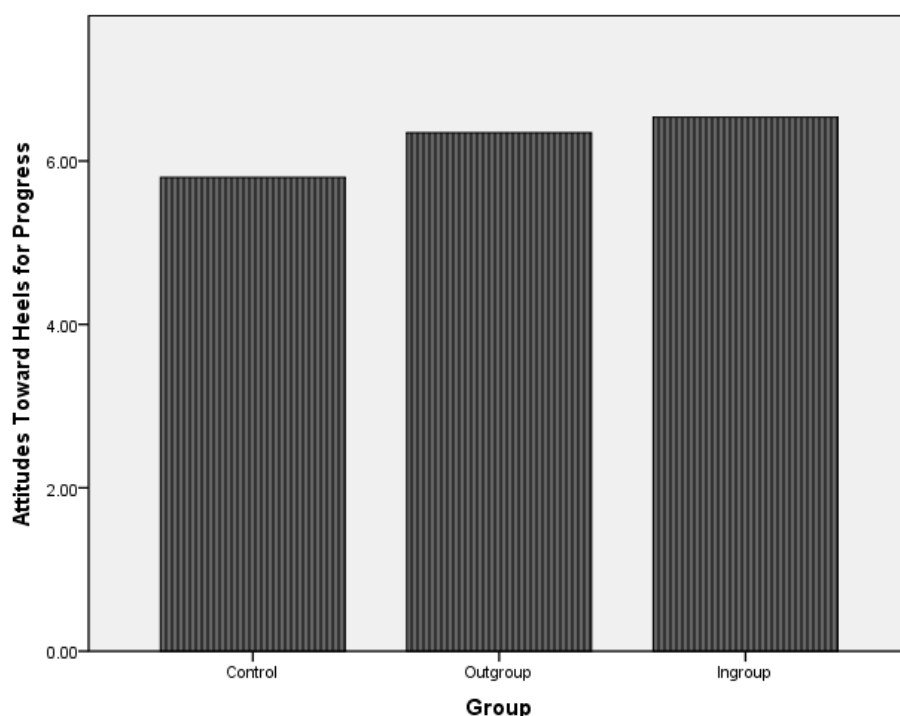
Post-hoc analysis using the Tukey HSD test was then conducted to test the prediction posed in the fourth hypothesis. The results indicated that both participants in the in-group and out-group conditions reported significantly greater attitudes toward the organization than participants in the control condition ($p < .005$), though neither of the treatment conditions differed significantly. Thus, **H4a** was only partially supported.

Next, to examine whether attitudes toward the "Heels for Progress" website differed significantly among the experimental conditions, a one-way analysis of variance (ANOVA) was conducted. As shown in Table 7, ANOVA results revealed significant differences among the three groups on measures of

attitudes toward the site: F (2, 77) = 3.192, p < .05, η^2 =.077. As shown in Figure

4, attitudes toward the website in the in-group condition were the highest (M =

4.985, SD = .835), followed by participants in the out-group condition (M =

4.855, SD = .833) and those in the control group (M = 4.433, SD = .797).

Figure 4. Attitudes Toward the Heels for Progress Website
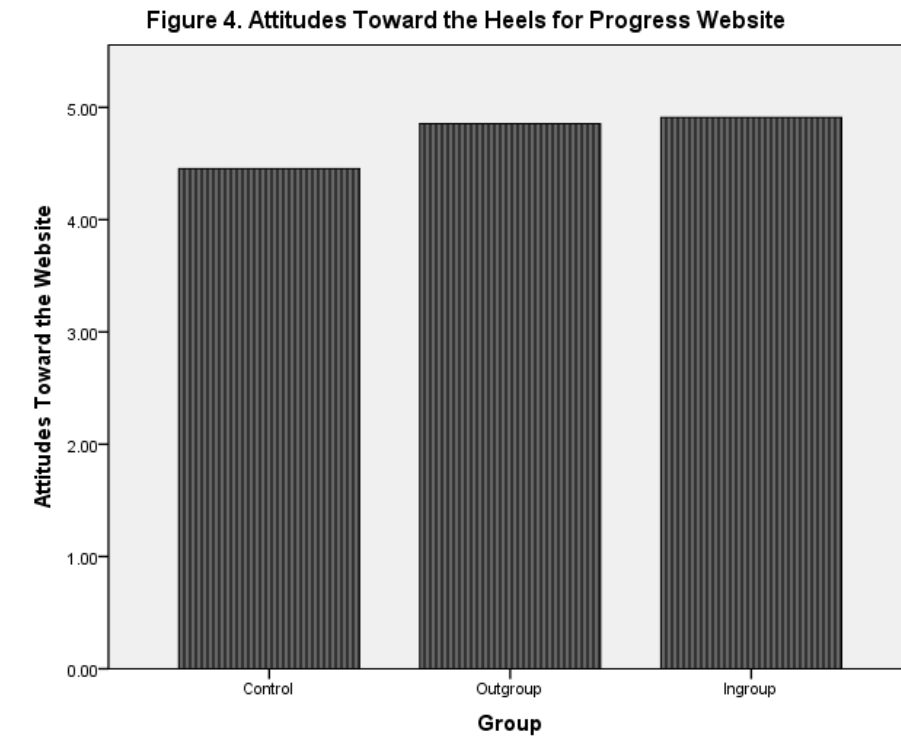
Post-hoc comparisons were performed using the Tukey HSD test to

determine the nature of the differences among the three groups. The results

indicated that the mean score for in-group participants was significantly

different from control group participant scores, though out-group participant

scores did not differ significantly from either in-group or control group scores.

Thus, **H4b** was also only partially supported.

RQ4 asked: "What is the relationship between empathy condition and attitudes toward peer support for people with severe depression?" In answering this research question, this study also proposed to test a hypothesis predicting a positive effect of the in-group treatment condition on participant attitudes:

> H5: Individuals in the in-group empathy condition will have more positive attitudes toward support for severe depression than the other conditions.

To discern whether differences observed in attitudes toward support were significant among the experimental conditions, a one-way analysis of variance (ANOVA) was conducted. As shown in Table 7, ANOVA results revealed no significant differences among the three groups on measures of attitudes toward support: $F\ (2,\ 77) = .43$, $p = ns$.

Table 7: Summary of Means (with standard deviations in parentheses) and *F* values for Attitude Variables as a Function of Condition.

Measure	Condition			*F*	η^2
	Control	Out-Group	In-Group		
A heels for progress	5.80 (.585) a,b	6.34 (.602) a	6.53 (.428) b	12.914***	.251
A depression	5.09 (.891) a	4.80 (.839) b	5.42 (.547) b	4.396*	.102
A website	4.43 (.797) a	4.86 (.834) b	4.99 (.835) a	3.192*	.077
A support	4.16 (1.29) a	4.02 (1.28)b	4.31 (.922) c	00.43	

Note: Higher scores indicate more positive perceptions. Comparisons between means, specified by lowercase subscripts, are horizontal only. Cell means that share a letter in their subscripts differ at *p* < .05 according to Tukey HSD test. Effect sizes were only indicated when statistically significant differences were found among the three groups.
* *p* < .05. ** *p* < .01. *** *p* < .005.

Thus, **H5**, which predicted participants in the in-group condition would have more positive attitudes toward support for severe depression, was not supported.

Empathy and Behavioral Intentions

RQ5 asked: "What is the relationship between empathy condition and behavioral intentions to provide peer support for people with severe depression?" Participant responses to a behavioral intentions scale were used to examine this question. Also, in answering this question, the following two hypotheses were tested:

H6**:** Compared to individuals not induced to feel empathy, participants induced to feel empathy will express higher levels of behavioral intent to provide support

H7: In-group participants will express the greatest amount of behavioral intentions to provide support.

As shown in Table 8, ANOVA results revealed significant differences among the three groups on the behavioral intentions scale (F (2, 77) = 8.643, $p <$ 0.005, η^2 =.183). The result of Levene's Test of Homogeneity of Variance, which tests for similar variances, was statistically significant (p = .027), indicating the population variances on this measure were unequal and did not meet the homogeneity of variances assumption of ANOVA.

Table 8. Behavioral Intentions as a Function of Condition.

Variable	Condition			F	η^2
	Control	Out-Group	In-Group		
Behavioral Intentions	3.40a (.935)	3.87a (1.29)	4.57a (.807)	8.643***	.183

Note: Comparisons between means, specified by lowercase superscripts, are horizontal only. Cell means that share a letter in their subscripts differ at $p < .05$ according to Games-Howell test. * $p < .05$. ** $p < .01$. *** $p < .005$.

Because this assumption was violated, a Welch F test was used to determine if statistically significant differences existed among the groups. The Welch test revealed an overall statistically significant difference in group means (Welch's F (2, 77) = 11.938, $p < 0.005$), but post-hoc tests were needed to confirm the nature of the differences between groups. Because the data did not meet the homogeneity of variances assumption, post-hoc comparisons were conducted using a Games-Howell[4] test, which does not assume population variances or cell

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[4] Games-Howell does not assume population variances are equal or that sample sizes are equal, so is a good alternative to Tukey's HSD, which relies on homogeneity of variance.

sizes are equal. This was used to explore the nature of the differences from the

Welch *F* test results.

The in-group participants (*M*=4.57, *SD*=.807) not only differed significantly

from those in the control condition (*M*=3.40, *SD*=.935), they were also higher than

those in the out-group treatment (*M*=3.87, *SD*=1.29). These differences are shown

below in Figure 5.

Figure 5. Behavioral Intentions
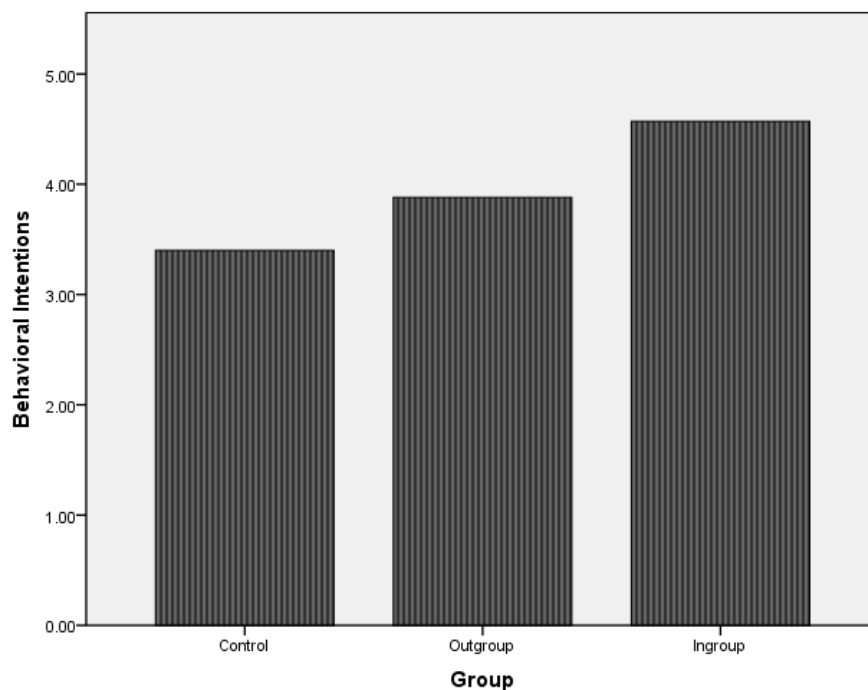
Based on this analysis, both treatment conditions were both significantly higher in

behavioral intentions when compared to the control group, and in-group

participants had higher levels of behavioral intentions than out-group participants.

However, **H6** was an a priori or multiple comparison, predicting that both

treatment groups would be greater than the control group. Thus, to test this prediction, further analysis was necessary. This was accomplished using Dunnett's *t*-tests, a more powerful approach to use when wanting to compare a control against several treatments. The results of this test indicated only the difference between the control and in-group treatment was larger than the region of rejection for the null hypothesis. Thus, **H6** was only partially supported. However, **H7**, which predicted that individuals in the in-group empathy condition would express higher levels of behavioral intentions than those in the out-group empathy condition, was fully supported ($M_{\text{In-group}} - M_{\text{Out-group}} = 0.69$, $p < .05$).

In testing **H6** and **H7**, the statistically significant differences between groups appeared to follow the pattern found in the analyses conducted thus far. In-group participant scores on the measured variables were routinely higher than those in the control group, and several of the differences between the out-group and control conditions were also statistically significant. This was consistent with the observed differences in aroused empathy among the three groups. As discussed in the review of literature, previous research examining empathy as a "perception-action process" has provided evidence that, in certain contexts, empathy serves a mediating role in the relationship between pro-social appeals and helping behavior (e.g., Decety & Lamm, 2006). Thus, based on the parallels between group assignment's relationship with empathy and the

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additional dependent measures found in the analyses conducted thus far, there is

a distinct possibility that empathy may also be mediating the relationships

between the experimental conditions and the dependent measures in the present

study.

Because of this possibility, additional analysis was conducted to explore

whether empathy was mediating the relationship between group membership

and behavioral intentions. Based on the results from Sobel's test (z=2.32, p<.05),

which was statistically significant, and the fact that the beta weight for the basic

relationship between the independent and dependent measures also remained

significant, the analysis indicates that partial mediation had occurred. The model

depicting these relationships is shown below in Figure 6.

Figure 6. Mediation Model
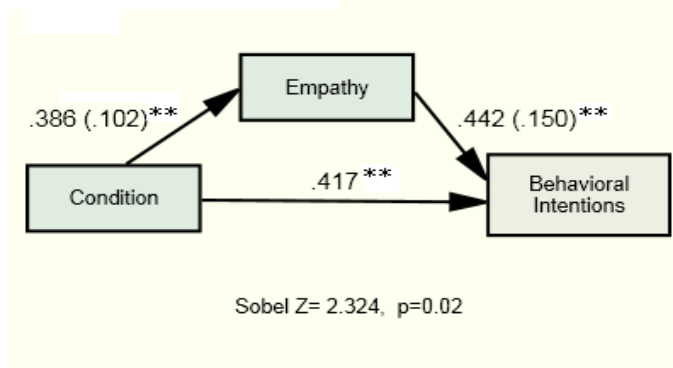
Next, the amount of effect attributed to the indirect path was determined

by dividing the indirect effect (.171) by the total effect (.5876), which produced a

90

value of .363. Thus, in this particular case, it seems that about 36.3% of the effect

of the independent variable on the behavioral intentions is mediated by

empathy, and the remaining effect (63.7%) is direct.

Empathy and Support Behaviors

The final research question asked: "What is the relationship between

empathy conditions and support behaviors?" Participant responses to

behavioroid measures were used to examine this question. In answering this

question, this study also tested the remaining two hypotheses:

> H8: In-group participants will express the greatest amount of supportive
>   behaviors.

> H9: Increased empathy will be associated with willingness to participate in
>   the peer support organization.

As shown in the first row of Table 9, the number (and proportion of total) of

participants that indicated interest in attending a "Heels for Progress" meeting

differed significantly based on experimental condition, with the largest amount

of volunteers produced in the in-group condition. These findings offered support

for the predictions posed in **H8**.

Table 9: Summary of Behavioroid Variables as a Function of Condition

Dependent Variables	Condition		
	Control	Out-Group	In-Group
N of Volunteers	2 (8.00%) [a]	5 (18.52%) [a]	12 (42.86%) [a]
Days/Month (all volunteers)	5	14	34
Avg. Days/Volunteer	2.5	2.8	2.834
Total Time Commitment (min)	180	900	2260
Avg. Minutes/Volunteer	90 (42.43)	180 (73.48)	188.33 (67.39)

Note: Comparisons between values, specified by lowercase subscripts, are horizontal only. Proportions that share a letter in their superscripts differ at $p < .05$ (Bonferroni Method).
* $p < .05$.

While group differences were predicted in the number of participants that would offer to provide support, overall only a small percentage of participants were expected to participate in the program. These expectations were consistent with the study findings, as only 23% of study participants indicated interest in participation on the behavioroid measure. Because of the limited number of participants who were interested in participating in the organization, the relationship between empathy and willingness to participate in the peer support organization was analyzed across all conditions in order to test the final hypothesis, which predicted increased empathy will be associated with willingness to participate in the peer support organization. The point biserial correlation between empathic concern and willingness to participate in the peer

support organization was positive across conditions, $r_{pb}(80) = .279$, $p < .05$, supporting **H9.**

Situational Support

A second measure of behaviors looked at situational support by asking participants to describe how they would respond to a friend exhibiting signs of depression. Thus, the final component measured in this dissertation examined how participants responded to a friend exhibiting signs of depression by asking them to describe how they would react if they noticed a friend at a party who was acting depressed. Answers to this question were collected using a text box in the electronic questionnaire, which had explicitly defined character limits and examined using content analysis.

Prior to content analysis, the data were examined for descriptive content features, such as word and character counts. Overall, participant responses contained an average of 133.7 characters, with a mean value of 26.675 words per response. As shown in Table 10, response length differed based on group assignment. On average, participants in the in-group condition provided the longest answers to the question, averaging 37.14 words (189.11 char.) in their responses. The second longest responses were provided by the out-group participants (avg. 22.96 words; 115 char.) followed by those in the control group (avg. 18.96 words; 91.84 char.).

Table 10: Open-Ended Questions as a Function of Condition.

Dependent Variables	Condition		
	Control	Out-Group	In-Group
Characters	2296/8750	3105/9450	5295/9800
	(26.24%)ₐ	(32.86%)ₐ	(53.92%)ₐ
Total Words	474	620	1040
M Word Count	18.96	22.96	37.14

Note. Comparisons between proportions, specified by lowercase subscripts, are horizontal only. Each common subscript letter denotes a subset of group categories whose column proportions differ significantly from each other based on the Bonferroni-adjusted significance criteria: $p<.016$.

To see if these differences in the use of available characters were statistically significant, a Bonferroni-adjusted significance criterion was determined prior to performing repeated z tests comparing the proportion of characters in responses in the 3 groups. Based on the Bonferroni-adjusted significance criterion ($p<.016$), in-group participants used a significantly larger proportion of the available characters in their responses than the proportion of characters that were used by participants in the out-group and control conditions. In addition, out-group participants used significantly more of the allotted characters in their responses than those in the in the control conditions.

Content Analysis Results

The descriptive characteristics of the coded content are provided below in Table 11.

Table 11. Descriptive Statistics of Responses

	Frequency	Percent
Low Elaboration	17	21.5
Medium Elaboration	30	38.0
High Elaboration	32	40.5
Total	79	100.0

Overall, of the three coded categories, the largest percentage of responses given by study participants were high elaboration (40.5%) when describing situational support for a friend exhibiting signs of depression. Medium elaboration responses were the second most prevalent (38%) followed by low elaboration responses (21.5%). These differences are displayed in Figure 7.

Figure 7.
Characteristics of Participant Responses (N=79)
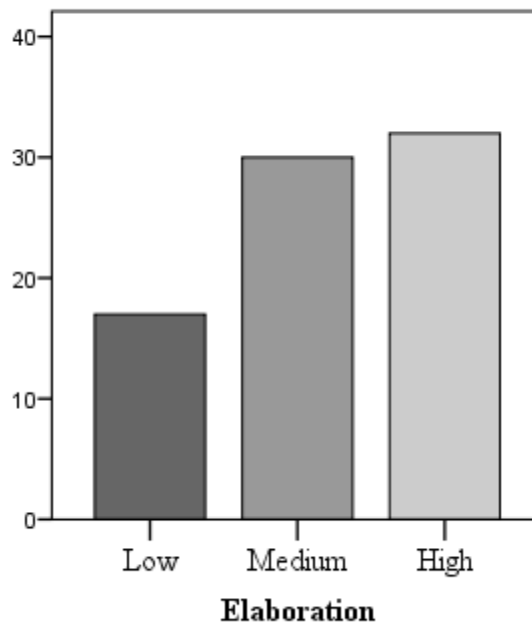
When elaboration levels were examined by group (Table 12), elaboration appeared to vary as a function of condition, particularly among the high and low elaboration responses. To see if these differences were statistically significant, a Bonferroni-adjusted significance criterion was determined prior to performing repeated z tests comparing the proportion of high, medium and low responses among the 3 groups.

Table 12: Depth of Elaboration as a Function of Condition.

	Elaboration		
	Low	Medium	High
Control	10_a (41.7%)	11_b (45.8%)	3_e (12.5%)
Out-group	10_a (37.0%)	12_c (44.4%)	5_e (18.5%)
In-group	2_a (7.1%)	7_d (25.0%)	19_e (67.9%)
Total	17 (21.5%)	30 (38.0%)	32 (40.5%)

Note. Comparisons between groups, specified by lowercase superscripts, are vertical only. Each common subscript letter denotes differences in proportions based on the Bonferroni-adjusted significance criteria: $p<.016$.

Based on the Bonferroni-adjusted significance criterion ($p<.016$), all three groups differed significantly in the percentage of both low and high elaboration responses. Interestingly, no statistically significant differences existed among the three groups in the proportion of medium elaboration responses. For high elaboration responses, the largest proportion were given by participants in the

in-group condition (67.9%), followed by the out-group (37.0%) and control (12.5%) conditions. When looking at the differences found among the groups relating to the low elaboration responses, the order was reversed, with control group participants providing the largest proportion of low elaboration responses (41.7%), followed by the out-group (18.5%) and in-group (7.1%) conditions. These differences are illustrated below in Figure 8.

Figure 8. Level of Elaboration By Group

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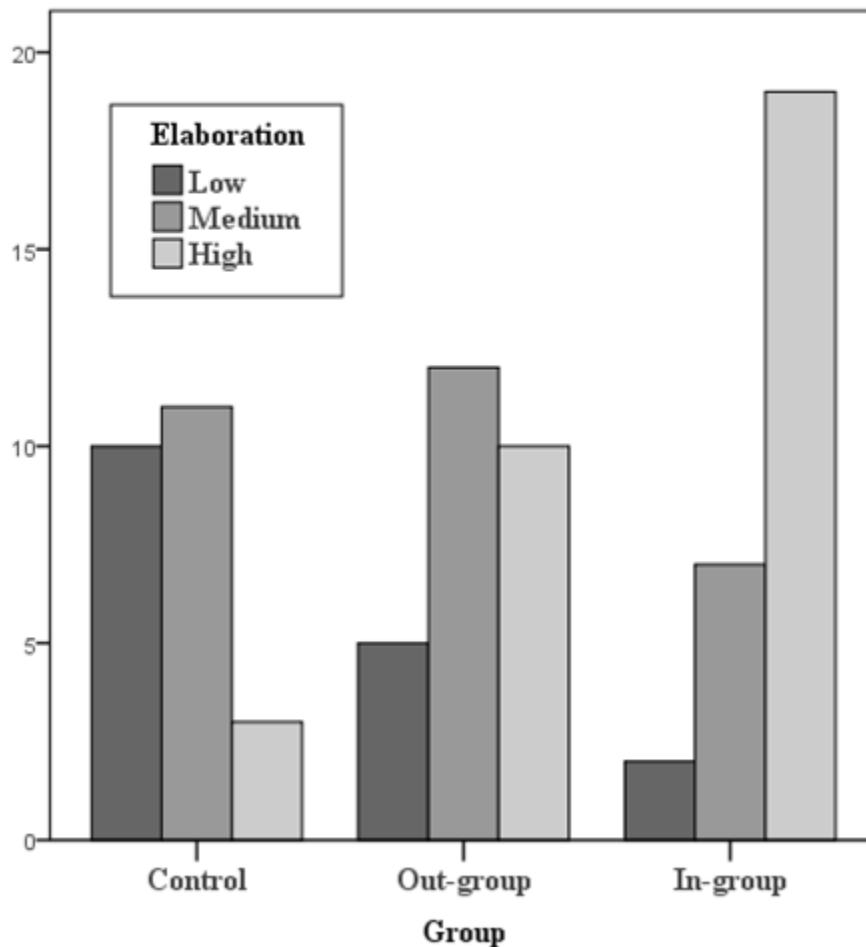
These results suggest that empathy induced for in-group members affects the depth of elaboration devoted to answering questions relating to the situational support of a distressed friend. The responses in the control condition, which functionally serve as a baseline, also suggest that in the absence of induced empathy, far less elaboration is given in responding to the same situation.

CHAPTER VIII

DISCUSSION

Every day, audiences are bombarded with messages from health advocacy and nonprofit organizations attempting to influence behaviors. The social contexts in which health communication occurs are widely varied, and messages appear in venues ranging from billboards to television commercials. With the proliferation of interactive communication media in the 21st century, websites have become a popular medium for communicating pro-social appeals and health messages to target audiences.

Past research, using psychological responses to messages as the dependent variable, has suggested that empathy is an important component of persuasion and health communication. One of the most encouraging outcomes found in prior research has been the finding that empathy leads to increased motivation to help members of stigmatized groups. However, almost no past research in this context has explored the different types of empathy and behavioral outcomes that may result from using in-group versus out-group members in these types of appeals.

The purpose of this research was to demonstrate the effectiveness and suitability of promoting empathy for members of specific audience members' social group in advocacy messages designed to improve attitudes and support for members of a stigmatized group. Throughout the discussion of the study findings, it is contended that organizations need to embrace the strategy of increasing group similarity with empathy targets used in pro-social appeals. This section will begin with discussing the study findings as they relate to empathy, attitudes and behavioral outcomes, and how these findings contribute to our understanding of the communication process. It will also discuss how these findings are valuable in guiding the construction of communication strategies used by advocacy organizations. Finally, it will conclude with a discussion of the limitations of this study, methodological contributions and conclusions.

One of the primary goals of this experiment was to investigate how taking the perspective of an in-group and out-group member relates to empathic concern for students with severe depression. The study findings provide clear evidence that in-group participants exhibited higher levels of empathic concern than the control condition. While differences between the empathy conditions were not statistically significant, the more important finding was that the out-group condition did not produce higher levels of empathic concern than the

control condition. By parsing the intervening role of group similarity with empathy targets used in pro-social appeals, this study contributes to the understanding of causal mechanisms underlying audience member decisions to engage in helping behavior in response to advocacy messages, such as those related to peer support programs.

Thus, while it has been suggested that feeling empathy for members of a stigmatized group fosters positive attitudes and leads to action, the current findings revealed that, for students in this scenario, this relationship is more complex than many might suspect. Specifically, these findings indicate that adopting the perspective of a distressed in-group member leads to superior outcomes on the primary dependent measures of attitudes toward depression, behavioral intentions and most importantly, behaviors, when compared to scores in the out-group condition. Participants in the out-group condition only differed from those in the control group on measures of attitudes toward "Heels for Progress," behavioral intentions and behaviors. These two sets of group differences paint a very different picture of the role of empathy in persuasive health communication.

Advancement in this area of study is particularly valuable for informing the efforts of advocacy organizations, since a common strategy in fundraising campaigns and volunteer initiatives is through the use of messages containing

empathy appeals. To accomplish this, the current study compared induced

empathy for in-group and out-group members with members in a control

condition to provide a more comprehensive picture of the way empathy-based

communication strategies might affect prosocial outcomes benefiting people

with severe depression. As expected, the in-group condition led to the greatest

amount of support provision among all groups, which is the most meaningful

outcome for advocacy organizations seeking to create effective communication

strategies.

Another interesting outcome found in the study was that subjects in the out-

group condition did not express more positive attitudes toward people with

severe depression than those in the control group, yet participants in the out-

group treatment did have more positive attitudes toward Heels for Progress

and were more willing to engage in support provision than subjects in the

control condition. This may indicate that empathy-based communication

strategies lacking a component of similarity may produce positive campaign-

related outcomes while failing to change the enduring underlying attitudes

toward the stigmatized group in need.

Another important finding in this study was the effect of in-group empathy

on attitudes toward the organization website. Because the empathy-attitude

connection was found to extend to participant perceptions of the website

created for this experiment, this study offers evidence of the role of empathy in shaping not only attitudes toward pro-social organizations, but also toward the organization website. Though empathy was induced for a distressed individual, the statistically significant effect of induced in-group empathy on website attitudes suggests that the positive effect of empathy generalizes not only to attitudes toward the peer support program, but also to attitudes toward the technologies used to promote organization. This finding provides a unique contribution to scholarship in the area of human-computer interaction, and offers support for the paradigm that people orient toward technologies as if they are message sources or social actors (e.g., Reeves & Nass 1996; Sundar & Nass, 2001).

Methodological Contributions and Study Limitations

Fundamentally, social science researchers face considerable challenges when exploring cause-effect relationships. In experimental research, three essential conditions must be met in order to infer that cause-effect relationships exist (e.g., Cook & Campbell, 1979; Trochim, 1982). Challenges pertaining to covariation and temporal precedence can be directly addressed through the use of appropriate design elements and measurement strategies. While several strategies exist for minimizing these threats to validity, using the basic principles of design logic to

tailor a study to fit the unique questions being researched has clear advantages

over "cookbook" approaches to research design, which may not fit the topic being

investigated. In this respect, the specialized design and materials developed for

use in the current work, like most good research designs, appropriately reflect the

settings of the investigation, making the appropriateness of this study design

defensible.

The use of empathic concern related to perspective-taking tasks presents

several challenges, including some that are admittedly unique to this study. For

example, in this study, the experimental approach is unique in that it does not

attempt to vary the degree of empathic response to vignettes (high v. low) by

instructing participants to either remain objective or imagine how the individual

in the vignette feels (e.g., Batson et al., 1996, 1997, 2002). Instead, the current

work used the same instructions for both treatment conditions. By adopting this

approach, this study provides a far more applicable model for the construction of

prosocial appeals outside of the experimental setting, since it is highly

improbable that a health advocacy campaign would use empathy appeals that

ask the target audience to remain objective while viewing a message about

health-related distress.

Despite these advantages, far more research is necessary to understand

the degree of similarity necessary to achieve empathic concern at a level that

would promote pro-social action, such as the provision of support. Future studies are also needed to explore the possibility of threshold affects, which may lead audiences to reject empathy appeals – particularly when there is a strong degree of perceived similarity between the self and an empathy target associated with stigma.

In advocacy campaigns, the effects of identification may also vary based on the nature of the stigma attached to the particular empathy target. For example, empathy has been shown to have powerful effects on attitudes in prior research when the attitude target is an incarcerated drug dealer, and this has been duplicated even when the study participants were informed the individual in the vignette was fictional (Batson et al., 1996; 1997). In such cases, the in-group/out-group distinction may not be powerful enough (or even necessary) to produce significant differences in perspective taking and subsequent attitude change in response to viewing various empathy targets.

Another challenge presented by the use of empathy as a dependent measure is the influence of personal empathic dispositions on the efficacy of the perspective-taking tasks. Even when efforts are implemented to control for this effect, all scores on the empathy scales are self-reported, and inherently subject to the same inaccuracies as the self-reported responses to questionnaire items used to assess attitudes, intentions and the manipulation check. While the

results in the current study do not appear to indicate trait characteristics

exerting influence on the study outcomes, it is certainly feasible that the

observed similarities in baseline measures were a product of demographic and

gender similarities among study participants. This inherently limits the

generalizability of these findings, and replication of this procedure is necessary

in order to fully understand the effects of group identification on audience with

variance in trait-level empathy.

This is particularly important in cases where individuals are rather high

or low on trait empathy – as high empathy participants may experience a

smaller increase in perspective taking if they are, by trait, near the capacity for

empathic concern (e.g., compassion fatigue), while those that are low in trait

empathy may actually experience greater levels of aroused empathy relative to

their baseline.

As prior researchers have acknowledged, there are challenges involved

in changing resistant attitudes in a manner that is enduring over time (e.g.,

Brown & Albarracin, 2005), and while empathy may offer a promising

contribution to this cause, it is unlikely that any stand-alone psychological state

or message property will serve as a "magic bullet" in combating stigma. As

was found in the current study, empathy only partially mediated the

relationship between group assignment and behavioral intentions. Empathy-

based attitude change can be complicated by issues with overlapping subgroups in a broad stigmatized group, as well as the possibility that empathy-induced attitude change may be fleeting and eventually rejected if the act of "perspective taking" makes one's own vulnerability salient.

In health-related, prosocial persuasive appeals, additional concerns exist when promoting a particular cause, because failed campaigns may cause detriment beyond simply failing to change attitudes. The negative effect of failed persuasive appeals, also known as the boomerang effect (see: Fishbein, Hall-Jamieson, Zimmer, von Haeften, & Nabi, 2002) may include rather serious outcomes when the goal is attitude change toward at-risk individuals. Moreover, negative responses to persuasive prosocial appeals can also lead to social disapproval of a cause by potential caregivers and supporters (e.g., Cialdini, 1984). This is an important concern for advocates of mental health, who have struggled to promote relevance to a wider set of stakeholders than those in the mental health community. Because of this, the approaches in the current study, though encouraging, should be tested in various contexts.

Conclusions

In conclusion, this study contributes to the growing body of research devoted to our understanding of anti-stigma campaigns related to advocacy efforts and, most importantly, how and when humans share and respond to

communication about the suffering of others with mental illnesses such as severe depression. Because the experimental manipulations found differences in empathic responses related to group identification, this study advances an important area of study for health communication scholars and practitioners, offering evidence that differences exist in the way observers feel empathy for those depicted in messages based on perceived similarity. The results support the assertion that inclusion of others in one's self concept leads to enhanced empathy and altruistic motivation, and provides evidence that empathic responses to the suffering of a distressed other may be enhanced when that person is in the same social group.

Of utmost importance to peer support organizations, communication scholars and mental health advocates, are the observed effects of empathic responding on attitudes, behavioral intentions, and actual positive behaviors - in each of the forms measured in the current work. The positive social behaviors that were associated with induced empathy ranged from provision of support at the group level, through participation in an organized peer support program for other students, as well as helping behavior directed toward a friend exhibiting signs of depression. The most valuable takeaway for health and advocacy communicators concern the effect of message characteristics designed to promote perceived similarity with the person in

need, which was positively associated with the extent of prosocial motivation, behaviors and induced empathy. Overall, the observed relationship between empathy and the provision of support behavior was consistent with expectations according to the empathy-altruism hypothesis (Batson, 1991).

The findings offer support for the claim that empathy motivates other-regarding helping, while providing important insight into the factors influencing whether audiences viewing advocacy messages depicting a person in need will result in empathic responding. However, the findings related to the two empathy treatments in the current study also suggest we empathically respond to witnessing others in distress differently based on perceived similarity. The results indicated a link between the participants' perceived commonality with the distressed other and their subsequent willingness to engage in behaviors relating to support provision as well as general helping behaviors.

Another important aspect of this dissertation relates to the behaviors that were measured during the experiment. Rather than assessing helping and support behaviors for the person used to induce empathy, the current study assessed actions (e.g., behavioral intentions as well as behavioroid items) that generalized to others affected by severe depression, finding the empathy-helping connection extended to behaviors such as the provision of peer support

for other students dealing with depression. Thus, the mechanisms thought to underlie the transition from empathy to action, whereby an individual perceives and shares in the distress of another person, and acts to reduce his or her suffering, also appear to generalize to actions toward others experiencing this form of distress. This is particularly meaningful given the historically difficult nature of combating stigma through prosocial campaigns and mental health advocacy.

Moreover, the prevalence of mental illnesses such as severe depression within the specific population used for this experimental research means that findings in this study, even when constrained solely to the university population used for this dissertation, are quite valuable. Thus, by design, this study avoids many of the inherent limitations found in numerous experimental studies using student participants (e.g., the effects of different advertisements on automotive purchasing decisions). The importance of generating support for the numerous college students affected by severe depression makes this research highly relevant to this population of study.

While prior studies have examined how various aspects of group similarity can affect the role of empathy in promoting attitude change and helping behavior, the current work tested the effects of group similarity on empathy for someone associated with a stigmatized illness. Thus, in exploring these

relationships in the context of severe depression, the findings in the current study provide a meaningful contribution to the current body of scholarship demonstrating the role of empathy on altruistic motivation and helping behaviors (e.g., Decety, Echols, & Correll, 2010; Mathur, et al., 2010). Much like the outcomes in prior studies examining empathy on non-stigmatized empathy targets, the results in the current work indicates that our ability to identify with another person dramatically changes how much we can feel the pain of another – including those enduring pain resulting from mental illness, and affects how much we're willing to help them through the provision of support.

While the generalizability of these findings is inherently limited to the population being studied, through replication, this program of research offers a promising direction for scholars and practitioners. Advancement in this area of study is particularly valuable for informing the efforts of advocacy organizations, since a common strategy in fundraising campaigns and volunteer initiatives is the through use of messages containing empathy appeals.

Appendix A: Prestimulus Questionnaire

Before we begin the experiment please complete this brief introductory questionnaire which contains questions relating to food and entertainment. For each item, indicate how well the statement describes you by choosing the appropriate number on the scale at the top of the page. When you have decided on your answer, circle the number on the answer sheet below to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE

	Does NOT						Describes Me
	Describe Me						Very Well
	Very Well						
	1	2	3	4	5	6	7

1. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

       1   2   3   4   5   6   7

2. I really get involved with the feelings of the characters in a novel.

       1   2   3   4   5   6   7

3. I am usually objective when I watch a movie or play, and I don't often get completely
caught up in it.

       1   2   3   4   5   6   7

4. After seeing a play or movie, I have felt as though I were one of the characters.

       1   2   3   4   5   6   7

5. I daydream and fantasize, with some regularity, about things that might happen to me.

       1   2   3   4   5   6   7

6. Becoming extremely involved in a good book or movie is somewhat rare for me.

           1   2   3   4   5   6   7

7. When I watch a good movie, I can very easily put myself in the place of a leading
character.

           1   2   3   4   5   6   7

8. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

           1   2   3   4   5   6   7

9. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

           1   2   3   4   5   6   7

10. I sometimes try to understand my friends better by imagining how things look from their perspective.

           1   2   3   4   5   6   7

11. I believe that there are two sides to every question and try to look at them both.

           1   2   3   4   5   6   7

12. I sometimes find it difficult to see things from the "other guy's" point of view.

           1   2   3   4   5   6   7

13. I try to look at everybody's side of a disagreement before I make a decision.

           1   2   3   4   5   6   7

14. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

<div align="center">

1   **2**   **3**   **4**   **5**   **6**   **7**

</div>

For the next series of statements, please respond by indicating your level of agreement using the following scale

ANSWER SCALE

<div align="center">

Not at all   Extremely
1   **2**   **3**   **4**   **5**   **6**   **7**

</div>

15. I like foods that are sweet

<div align="center">

1   2   3   4   5   6   7

</div>

16. I enjoy foods that have a "crisp" texture

<div align="center">

1   2   3   4   5   6   7

</div>

17. I like foods that have a creamy texture

<div align="center">

1   2   3   4   5   6   7

</div>

18. Salty foods taste good to me

<div align="center">

1   2   3   4   5   6   7

</div>

19. I enjoy spicy foods

<div align="center">

1   2   3   4   5   6   7

</div>

Please rate your agreement with the following statement:

"I consider myself to be similar to the character in the story"

- ○ Strongly Disagree
- ○ Disagree
- ○ Somewhat Disagree
- ○ Neither Agree nor Disagree
- ○ Somewhat Agree
- ○ Agree
- ○ Strongly Agree

Appendix B. Post-Stimulus Questionnaire

Instructions: Please answer the following questions to the best of your ability.

1. I support what the Heels for Progress organization is trying to accomplish

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

2. I agree with the position advocated by the Heels for Progress peer support organization

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

3. I am favorable toward the main point of Heels for Progress's message

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

4. People who are important to me would participate in peer support programs like Heels for Progress.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

5. People who are important to me think I should participate in peer support programs like Heels for Progress.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

6. Most people who are important to me have negative attitudes toward Heels for Progress.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

7. Most people probably think it is good to participate in Heels for Progress.

○ Strongly Disagree

○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

8. Generally, I like doing things with people in my life who are important to me.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

9. Generally, I do what people who are important to me think I should do.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

10. I intend to participate in the Heels for Progress program in the near future.

○ Strongly Disagree
○ Disagree
○ Somewhat Disagree
○ Neither Agree nor Disagree
○ Somewhat Agree
○ Agree
○ Strongly Agree

11. How likely is it that you will participate in Heels for Progress programs in the near future?

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided

○ Somewhat Likely
○ Likely
○ Very Likely

12. How likely are you to share information about Heels for Progress with others on Campus?

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided
○ Somewhat Likely
○ Likely
○ Very Likely

13. If you see or hear information about Heels for Progress, how likely are you to pay attention to it?

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided
○ Somewhat Likely
○ Likely
○ Very Likely

14. How likely are you to communicate about Heels for Progress through a social media site, such as Facebook or Twitter?

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided
○ Somewhat Likely
○ Likely
○ Very Likely

15. How likely are you to seek information about Heels for Progress?

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided
○ Somewhat Likely
○ Likely
○ Very Likely

For this section, please rate well the adjectives listed below describe your emotional responses to witnessing someone with severe depression. For this set of items, please circle your response using the following answer scale.

Not at all						Extremely	
1	2	3	4	5	6	7	

	1	2	3	4	5	6	7
16. Sympathetic	1	2	3	4	5	6	7
17. Moved	1	2	3	4	5	6	7
18. Compassionate		1	2	3	4	5	6	7
19. Tender		1	2	3	4	5	6	7
20. Warm	1	2	3	4	5	6	7
21. Softhearted	1	2	3	4	5	6	7

For the next set of items, please use the following answer scale.

Strongly Disagree						Strongly Agree
1 2	3	4	5	6	7	

22. For most people with severe depression, it is their own fault that they have severe depression.

1 2	3	4	5	6	7

23. Most people with severe depression could have avoided becoming that way.

1 2 3 4 5 6 7

24. Our society does not do enough to help people with severe depression.

1 2 3 4 5 6 7

25. Our society should do more to protect the welfare of people with severe depression.

1 2 3 4 5 6 7

26. When I saw the information shown on the website, I thought they were relevant to societal needs.

1 2 3 4 5 6 7

Instructions: Please answer the following questions to the best of your ability.

27. In general, what are your feelings toward people with severe depression?

Extremely Negative   Extremely Positive
            1 2 3 4 5 6 7

28. Compared with other social problems we face today (e.g., crime, education, drugs, homelessness, environmental protection, energy conservation), how would you rate the importance of helping people with severe depression?

Not at all Important   Extremely Important
            1 2 3 4 5 6 7

29. How much do you personally care about the plight of people with severe depression?

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

For the next set of items, please rate how well the following adjectives describe the website (layout, design) you viewed during this study.

Not at all   Extremely
    1   2   3   4   5   6   7

---

30. Appealing   1   2   3   4   5   6   7

31. Useful	1	2	3	4	5	6	7
32. Positive	1	2	3	4	5	6	7
33. Good	1	2	3	4	5	6	7
34. Favorable	1	2	3	4	5	6	7
35. Attractive	1	2	3	4	5	6	7
36. Exciting	1	2	3	4	5	6	7
37. Pleasant	1	2	3	4	5	6	7
38. Likeable	1	2	3	4	5	6	7
39. High Quality	1	2	3	4	5	6	7
40. Interesting	1	2	3	4	5	6	7
41. Sophisticated	1	2	3	4	5	6	7

Please indicate the likelihood that you will engage in the following activities:

42. Donate money to support research on severe depression

○ Very Unlikely
○ Unlikely
○ Somewhat Unlikely
○ Undecided
○ Somewhat Likely
○ Likely
○ Very Likely

43. Volunteer to work for an organization that helps those suffering from the severe depression

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- ○ Very Unlikely
- ○ Unlikely
- ○ Somewhat Unlikely
- ○ Undecided
- ○ Somewhat Likely
- ○ Likely
- ○ Very Likely

44. Vote for a bill to increase government funding for research on the severe depression

- ○ Very Unlikely
- ○ Unlikely
- ○ Somewhat Unlikely
- ○ Undecided
- ○ Somewhat Likely
- ○ Likely
- ○ Very Likely

45. Not donate money to support research on severe depression

- ○ Very Unlikely
- ○ Unlikely
- ○ Somewhat Unlikely
- ○ Undecided
- ○ Somewhat Likely
- ○ Likely
- ○ Very Likely

For the next item, after reading the short passage and question, please type your response in the text box below (maximum 250 characters).

46. Imagine you are at a party and notice a friend standing across the room all alone. They are not acting social and are noticeably sad. What would you do in this situation?

Please rate how well the following adjectives describe the National Alliance on Mental Illness (NAMI) on Campus organization

	Not at all						Extremely
	1	2	3	4	5	6	7
Believable	1	2	3	4	5	6	7
Trustworthy	1	2	3	4	5	6	7
Accurate	1	2	3	4	5	6	7
Complete	1	2	3	4	5	6	7
Biased	1	2	3	4	5	6	7

Please indicate your gender.

○ Male
○ Female

What is your age?

_____

What do you consider to be your race or ethnicity?

○ White or Caucasian
○ Black or African-American
○ Asian or Pacific Islander
○ Native American or American Indian
○ Latino or Hispanic
○ Two or more race/ethnicities
○ Other; Please Specify: _____

What is your current status at UNC?

○ Freshman
○ Sophomore
○ Junior
○ Senior
○ Graduate Student
○ Faculty Member
○ Other; Please Specify: _____

Appendix C.

Letter Preceding Peer Support Behavioroid Questionnaire

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Dear UNC Student,

In a given year, one in four adults – more than 57 million Americans -- experience a mental health disorder. Though many students conceal their experiences, when they do reach out for help, it is common for them to turn to their peers on campus. This is why support groups are common method of serving the needs of college students who are experiencing problems in their lives.

We are writing today to let you know that Heels for Progress offers free support, education, and advocacy programs, and we are seeking student volunteers to improve the quality of life of students affected by mental illness.

If you are interested in learning how you can become a peer supporter, or how you can provide other forms of volunteer services, we would like to meet with you. That meeting can be as brief or as long as you choose.

We look forward to hearing from you!

Appendix D. Peer Support Behavioroid Questionnaire

If you would like to attend an informational session and learn more about becoming a member in the next few weeks, we are still in the process of finalizing our meetings calendar. Please indicate your interest in attending the meeting below, as well as the days and times when you are typically free. That way we can try to plan our upcoming meeting times to work for any students interested in becoming a Heel for Progress.

Are you interested in more information about Heels for Progress?
- ⭕ Yes
- ⭕ No

Preferred Days (check all that apply)
Mon _____ Tue _____ Wed _____ Thurs _____ Fri _____ Sat _____ Sun _____

Time(s) of the day _____

Estimated Hours (per month) you would like to commit _____

Email/phone number _____

Are you interested in learning more about opportunities to lead one of our Student to Student Mental Health Discussion Groups?

- ⭕ Yes
- ⭕ No

Also, if you are interested in leading discussion groups as a peer supporter please also give us an estimate of the number of minutes per month you would like to contribute. Remember, these estimates are not binding, and are only for the purpose of helping us estimate our areas of need and help us distribute our volunteers to meet our goals.

Estimated Hours (per month) you would like to commit _____

Appendix E. In-group Manipulation

dailytarheel.com
Serving UNC students and the community since 1893 | The Daily Tar Heel

HOME NEWS DTH TOPICS BLOGS SPORTS DIVERSIONS MULTIMEDIA OPINION INTERACT ABOUT EVENTS BUY PHOTOS SEARCH VOTE CAROLINA'S FINEST!

RSS

Jesse is a sophomore at UNC. For the past year, Jesse has been feeling really down. He wakes up in the morning with a flat, heavy feeling that sticks with him all day long. He isn't enjoying things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make Jesse happy.

He pushes on through his days, but it is really hard. He finds it hard to concentrate on anything in class. And even though Jesse feels tired, when night comes, he can't go to sleep. Jesse feels pretty worthless, and very discouraged. Jesse's friends have noticed that he hasn't been himself for about the last year and that he has pulled away from them. Jesse just doesn't feel like talking.

Appendix F. Out-group Manipulation

RSS

Jesse is a middle aged man living in Alaska. For the past year, Jesse has been feeling really down. He wakes up in the morning with a flat, heavy feeling that sticks with him all day long. He isn't enjoying things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make Jesse happy.

He pushes on through his days, but it is really hard. He finds it hard to concentrate on anything at work. And even though Jesse feels tired, when night comes, he can't go to sleep. Jesse feels pretty worthless, and very discouraged. Jesse's family has noticed that he hasn't been himself for about the last year and that he has pulled away from them. Jesse just doesn't feel like talking.

Appendix G. Screen Capture of Stimulus Site

Appendix H: LIST OF TABLES

Table 1: Correlation Matrix for Empathy Measures

Item	A	B	C	D	E	F
E1:	1.00	-	-	-	-	-
E2:	.344**	1.00	-	-	-	-
E3:	.542**	.567**	1.00	-	-	-
E4:	.458**	.599**	.548**	1.00	-	-
E5:	.429**	.658**	.597**	.779**	1.00	-
E6:	.434**	.612**	.645**	.711**	.769**	1.00

Note. *Correlation is significant at p < .05. All items measured on 1-7 scales where 1=strongly disagree and 7=strongly agree, except where noted.

Table 2. Correlations of Items in Website Attitudes Scale

	Appealing	Useful	Positive	Good	Favorable	Attractive	Exciting	Pleasant	Likeable	H-Quality	Interesting
Appealing											
Useful	.416**										
Positive	.458**	.426**									
Good	.564**	.469**	.745**								
Favorable	.576**	.498**	.631**	.856**							
Attractive	.856**	.360**	.444**	.597**	.609**						
Exciting	.726**	.354**	.268*	.470**	.434**	.777**					
Pleasant	.517**	.368**	.501**	.679**	.603**	.581**	.459**				
Likeable	.621**	.346**	.431**	.610**	.574**	.685**	.519**	.765**			
H-Quality	.749**	.391**	.369**	.548**	.587**	.791**	.743**	.540**	.646**		
Interesting	.503**	.502**	.420**	.545**	.532**	.554**	.614**	.551**	.445**	.535**	
Sophisticated	.648**	.386**	.275*	.473**	.566**	.705**	.629**	.415**	.564**	.821**	.516**

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

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

Table 3: Descriptive Statistics of Participants Compared to UNC Undergraduate Population

Key Categorical Variables	Respondents % (f) [a]	UNC % [b]
1. Gender: Female	80.0 (64)	59.2
Male	20.0 (16)	40.8
2. Race/Ethnicity: White	79.7 (63)	66
Asian or Pacific Islander	7.6 (6)	7
Black or African American	7.6 (6)	9
Latino or Hispanic	3.8 (3)	11
Other	2.5 (2)	14

Note. [a]Total N=80. [b]UNC population proportions do not add to 100% for race/ethnicity because of differences between university statistics and categories offered to participants in the experiment.

Table 4: Summary of Demographic Statistics as a Function of Condition.

Key Categorical Variables	Control Group	Out-group	In-
	% (N)	% (N)	% (N)
1. Gender: Male	16.0 (4)	33.3 (9)	10.7(3)
Female	84.0(21)	66.7 (18)	89.3(25)
2. Race/Ethnicity: White	95.8(23)a	63.0(17)a	82.1(23)b
Asian or Pacific	0.0(0)	14.8(4)	7.1(2)
Islander	0.0(0)	14.8(4)	7.1(2)
Black or African	4.2(1)	7.4(2)	0.0(0)
American	4.2(1)	0.0(0)	3.6(1)
Latino or Hispanic			
Other			

Note: Each common subscript letter denotes a subset of group categories whose column proportions differ significantly from each other based on the Bonferroni-adjusted significance criteria: $p<.016$.

Table 5: Correlation Matrix for Empathic Concern (EC)

Item	EC1	EC2	EC3	EC4	EC5	EC6
EC1:	1.00	-	-	-	-	-
EC2:	.344**	1.00	-	-	-	-
EC3:	.542**	.567**	1.00	-	-	-
EC4:	.458**	.599**	.548**	1.00	-	-
EC5:	.429**	.658**	.597**	.779**	1.00	-
EC6:	.434**	.612**	.645**	.711**	.769**	1.00

Note. *Correlation is significant at $p < .05$. All items measured on 1-7 scales where 1=strongly disagree and 7=strongly agree, except where noted. [a] Item was reverse-scored.

Table 6: Summary of Means (with standard deviations in parentheses) and F values for Empathy as a Function of Condition.

Variable	Condition			F	η^2
	Control	Out-Group	In-Group		
Empathic Concern	3.12 (.611) a	3.53 (.867) b	3.89 (.799)a	7.124***	.156

Note: Higher scores indicate more positive perceptions. Comparisons between means, specified by lowercase subscripts, are horizontal only. Cell means that share a letter in their subscripts differ at $p < .05$ according to Tukey HSD test. * $p < .05$. ** $p < .01$. *** $p < .005$.

Table 7: Summary of Means (with standard deviations in parentheses) and *F* values for Attitude Variables as a Function of Condition.

Measure	Condition			*F*	η^2
	Control	Out-Group	In-Group		
A heels for progress	5.80 (.585) a,b	6.34 (.602) a	6.53 (.428) b	12.914***	.251
A depression	5.09 (.891) a	4.80 (.839) b	5.42 (.547) b	4.396*	.102
A website	4.43 (.797) a	4.86 (.834) b	4.99 (.835) a	3.192*	.077
A support	4.16 (1.29) a	4.02 (1.28)b	4.31 (.922) c	00.43	

Note: Higher scores indicate more positive perceptions. Comparisons between means, specified by lowercase subscripts, are horizontal only. Cell means that share a letter in their subscripts differ at *p* < .05 according to Tukey HSD test. Effect sizes were only indicated when statistically significant differences were found among the three groups. * *p* < .05. ** *p* < .01. *** *p* < .005.

Table 8. Behavioral Intentions as a Function of Condition.

Variable	Condition			F	η^2
	Control	Out-Group	In-Group		
Behavioral Intentions	3.40a (.935)	3.87a (1.29)	4.57a (.807)	8.643***	.183

Note: Comparisons between means, specified by lowercase superscripts, are horizontal only. Cell means that share a letter in their subscripts differ at $p < .05$ according to Games-Howell test. * $p < .05$. ** $p < .01$. *** $p < .005$.

Table 9: Summary of Behavioroid Variables as a Function of Condition

Dependent Variables	Condition		
	Control	Out-Group	In-Grou
N of Volunteers	2 (8.00%) [a]	5 (18.52%) [a]	12 (42.86%
Days/Month (all volunteers)	5	14	34
Avg. Days/Volunteer	2.5	2.8	2.834
Total Time Commitment (min)	180	900	2260
Avg. Minutes/Volunteer	90 (42.43)	180 (73.48)	188.33 (67

Note: Comparisons between values, specified by lowercase subscripts, are horizontal only. Proportions that share a letter in their superscripts differ at $p < .05$ (Bonferroni Method).

* $p < .05$.

Table 10: Open-Ended Questions as a Function of Condition.

Dependent Variables	Condition		
	Control	Out-Group	In-Group
Characters	2296/8750	3105/9450	5295/9800
	(26.24%)[a]	(32.86%)[a]	(53.92%)[a]
Total Words	474	620	1040
M Word Count	18.96	22.96	37.14

Note. Comparisons between proportions, specified by lowercase subscripts, are horizontal only. Each common subscript letter denotes a subset of group categories whose column proportions differ significantly from each other based on the Bonferroni-adjusted significance criteria: $p<.016$.

Table 11. Descriptive Statistics of Responses

Elaboration	Frequency	Percent	Valid Percent	Cumulative Percent
Low	17	21.5	21.5	21.5
Medium	30	38.0	38.0	59.5
High	32	40.5	40.5	100.0
Total	79	100.0	100.0	

Table 12: Depth of Elaboration as a Function of Condition.

		Elaboration			
		Low	Medium	High	Total
Control	Count	10$_a$	11$_b$	3$_e$	24
	% within Group	41.7%	45.8%	12.5%	100.0%
Out-group	Count	5$_a$	12$_c$	10$_e$	27
	% within Group	18.5%	44.4%	37.0%	100.0%
In-group	Count	2$_a$	7$_d$	19$_e$	28
	% within Group	7.1%	25.0%	67.9%	100.0%
Total	Count	17	30	32	79
	% within Group	21.5%	38.0%	40.5%	100.0%

Note. Comparisons between groups, specified by lowercase superscripts, are vertical only. Each common subscript letter denotes differences in proportions based on the Bonferroni-adjusted significance criteria: $p<.016$.

REFERENCES

Albarracín, D., Cohen, J. B., & Kumkale, G. T. (2003). When communications collide with recipients' actions: Effects of the post-message behavior on intentions to follow the message recommendation. *Personality and Social Psychology Bulletin, 29*(7), 834-845. doi:10.1177/0146167203029007003

Alexander, L. A., & Link, B. G. (2003). The impact of contact on stigmatizing attitudes toward people with mental illness. *Journal of Mental Health, 12*(3), 271-289.

Alonso, J., Vilagut, G., Chatterji, S., Heeringa, S., Schoenbaum, M., Üstün, T. B., . . . Kessle, R. C. (2011). Including information about co-morbidity in estimates of disease burden: Results from the world health organization world mental health surveys. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 41*(4), 873-886. doi:10.1017/S0033291710001212

Ames, D. L., Jenkins, A. C., Banaji, M. R., & Mitchell, J. P. (2008). Taking another person's perspective increases self-referential neural processing. *Psychological Science, 19*(7), 642-644. doi:10.1111/j.1467-9280.2008.02135.x

Angermeyer, M. C., Holzinger, A., & Matschinger, H. (2010). Emotional reactions to people with mental illness. *Epidemiology and Psychiatric Sciences, 19*(1), 26-32.

Bae, H. (2008). Entertainment-education and recruitment of cornea donors: The role of emotion and issue involvement. *Journal of Health Communication, 13*(1), 20-36. doi:10.1080/10810730701806953

Batson, A., & Ainsworth, M. (2001). Private investment in AIDS vaccine development: Obstacles and solutions. *Bulletin of the World Health Organization, 79*(8), 721-727.

Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes and action: Can feeling for a member of a stigmatized group motivate one to help the group. *Personality and Social Psychology Bulletin, 28*(12), 1656-1666. doi:10.1177/014616702237647

Batson, C. D., Duncan, B. D., Ackerman, P., Buckley, T., & Birch, K. (1981). Is empathic emotion a source of altruistic motivation? *Journal of Personality and Social Psychology, 40*(2), 290-302. doi:10.1037/0022-3514.40.2.290

Batson, C. D., Fultz, J., Schoenrade, P. A., Levy, S. R., Freitas, A. L., & Salovey, P. (2002). Empathic emotions measure. *Journal of Personality and Social Psychology, 83*, 1224-1238.

Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., . . . Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology, 72*(1), 105-118. doi:10.1037/0022-3514.72.1.105

Bennett, K. M., Vaslef, S. N., Shapiro, M. L., Brooks, K. R., & Scarborough, J. E. (2009). Does intent matter? the medical and societal burden of self-inflicted injury. *Journal of Trauma, 67*(4), 841-847. doi:10.1097/TA.0b013e3181b24cd3

Birnbaum, H. G., Kessler, R. C., Kelley, D., Ben-Hamadi, R., Joish, V. N., & Greenberg, P. E. (2010). Employer burden of mild, moderate, and severe major depressive disorder: Mental health services utilization and costs, and work performance. *Depression & Anxiety (1091-4269), 27*(1), 78-89. doi:10.1002/da.20580

Blakemore, S., & Decety, J. (2001). From the perception of action to the understanding of intention. *Nature Reviews Neuroscience, 2*(8), 561-567. doi:10.1038/35086023

Bonett, D. G., (2002). Sample Size Requirements for Testing and Estimating Coefficient Alpha. *Journal of Educational and Behavioral Statistics,* 27, 335-340

Boothroyd, R. I., & Fisher, E. B. (2010). Peers for progress: Promoting peer support for health around the world. *Family Practice, 27*, i62-i68. doi:10.1093/fampra/cmq017

Braithwaite, D. O., Waldron, V. R., & Finn, J. (1999). Communication of social support in computer-mediated groups for people with disabilities. *Health Communication, 11*(2), 123.

Brown, R. D., & Albarracín, D. (2005). Attitudes over time: Attitude judgment and change. In A. Strathman, J. Joireman, A. Strathman & J. Joireman (Eds.), *Understanding behavior in the context of time: Theory, research, and application.* (pp. 187-204). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Cacioppo, J. T., Berntson, G. G., & Decety, J. (2010). Social neuroscience and its relationship to social psychology. *Social Cognition, 28*(6), 675-685. doi:10.1521/soco.2010.28.6.675

Campbell, R. G., & Babrow, A. S. (2004). The role of empathy in responses to persuasive risk communication: Overcoming resistance to HIV prevention messages. *Health Communication, 16*(2), 159-182.

Chory-Assad, R., & Cicchirillo, V. (2005). Empathy and affective orientation as predictors of identification with television characters. *Communication Research Reports, 22*(2), 151-156. doi:10.1080/00036810500130786

Cialdini,, R, B, Eisenberg, , N, Shell, , R, & McCreath, , H. (1987). Commitments to help by children: Effects on subsequent prosocial self-attributions. *British Journal of Social Psychology, 26 (Pt 3)*, 237-245.

Cohen, J. (2006). Audience identification with media characters. In J. Bryant, P. Vorderer, J. Bryant & P. Vorderer (Eds.), *Psychology of entertainment.* (pp. 183-197). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Cohen, T. R. (2008). *The effects of empathy on intergroup conflict and aggression: Examining the dual roles of empathy in fostering positive and negative intergroup relations.* ProQuest Information & Learning). *Dissertation Abstracts International: Section B: The Sciences and Engineering, 69*(4-)

Grand challenges in global mental health. (2011). *Nature, 475*(7354), 27. doi:10.1038/475027a

Cook, T.D. and Campbell, D.T. (1979). *Quasi-Experimentation: Design and Analysis for Field Settings*. Rand McNally, Chicago, Illinois.

Corrigan, P. W., Edwards, A. B., Green, A., Diwan, S. L., & Penn, D. L. (2001). Prejudice, social distance, and familiarity with mental illness. *Schizophrenia Bulletin, 27*(2), 219-225.

Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatisation of people with mental illnesses. *British Journal of Psychiatry, 177*, 4-7. doi:10.1192/bjp.177.1.4

Davidson, L., Potter, L., Ross, V., & Public, H. S. (1999). *Surgeon general's call to action to prevent suicide.*

Davis, M. H. (1983). The effects of dispositional empathy on emotional reactions and helping: A multidimensional approach. *Journal of Personality, 51*(2), 167. doi:10.1111/1467-6494.ep7383133

Davis, M. H. (2004). Empathy: Negotiating the border between self and other. In L. Z. Tiedens, C. W. Leach, L. Z. Tiedens & C. W. Leach (Eds.), *The social life of emotions.* (pp. 19-42). New York, NY US: Cambridge University Press.

Davis, M. H., McGinley, M., Carlo, G., Crockett, L. J., Raffaelli, M., Stone, R. A. T., & Iturbide, M. I. (2010). Interpersonal reactivity index. *The Journal of Social Psychology, 150*(1), 34-56.

Davis, M. H., Mitchell, K. V., Hall, J. A., Lothert, J., Snapp, T., & Meyer, M. (1999). Empathy, expectations, and situational preferences: Personality influences on the decision to participate in volunteer helping behaviors. *Journal of Personality, 67*(3), 469-503.

Decety, J., Echols, S., & Correll, J. (2010). The blame game: The effect of responsibility and social stigma on empathy for pain. *Journal of Cognitive Neuroscience, 22*(5), 985-997.

Decety, J., & Jackson, P. L. (2006). A social-neuroscience perspective on empathy. *Current Directions in Psychological Science (Wiley-Blackwell), 15*(2), 54-58. doi:10.1111/j.0963-7214.2006.00406.x

Decety, J., & Lamm, C. (2007). The role of the right temporoparietal junction in social interaction: How low-level computational processes contribute to meta-cognition. *Neuroscientist, 13*(6), 580-593. doi:10.1177/1073858407304654

Dennis, C. (2003). Peer support within a health care context: A concept analysis. *International Journal of Nursing Studies, 40*(3), 321-332. doi:10.1016/S0020-7489(02)00092-5

Devoldre, I., Davis, M. H., Verhofstadt, L. L., Buysse, A. (2010). Empathy and social support provision in couples: Social support and the need to study the underlying processes. *Journal of Psychology, 144*(3), 259.

Dillard, J. P., & Shen, L. (2005). On the nature of reactance and its role in persuasive health communication. *Communication Monographs, 72*(2), 144-168. doi:10.1080/03637750500111815

Doshi, A., Boudreaux, E. D., Wang, N., Pelletier, A. J., & Camargo, C., J. (2005). National study of US emergency department visits for attempted suicide and self-inflicted injury, 1997-2001. *Annals of Emergency Medicine, 46*(4), 369-375.

Douan, E., Kulka, R. A., & Veroff, J. (1981). *Mental health in america: Patterns of help-seeking from 1957 to 1976* Basic Bks.

Drug-related suicide attempts spike for male teens in december. (2011). *Alcoholism & Drug Abuse Weekly, 23*(7), 4-4.

Duhachek, A., & Iacobucci, D. (2004). Alpha's Standard Error (ASE): An Accurate and Precise Confidence Interval Estimate. *Journal of Applied Psychology, 89*(5), 792–808.

Dumesnil, H., & Verger, P. (2009). Public awareness campaigns about depression and suicide: A review. *Psychiatric Services, 60*(9), 1203-1213. doi:10.1176/appi.ps.60.9.1203

Eagly, A., H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100*(3), 283-308.

Edwards, S. M., & La Ferle, C. (2003). Role-taking: Enhancing the online experience. *Journal of Current Issues & Research in Advertising, 25*(2), 45-56.

Egbert, N., & Parrot, R. (2003). Empathy and social support for the terminally ill: Implications for recruiting and retaining hospice and hospital volunteers. *Communication Studies, 54*(1), 18.

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin, 101*(1), 91-119. doi:10.1037/0033-2909.101.1.91

Escalas, J. E., & Stern, B. B. (2003). Sympathy and empathy: Emotional responses to advertising dramas. *Journal of Consumer Research, 29*(4), 566-578.

Fico, F. G., Lacy, S., & Riffe, D. (2008). A Content Analysis Guide for Media Economics Scholars. *Journal Of Media Economics, 21*(2), 114-130. doi:10.1080/08997760802069994

Fishbein, M., Hall-Jamieson, K., Zimmer, E., Von Haeften, I., & Nabi, R. (2002). Avoiding the boomerang: Testing the relative effectiveness of antidrug public service announcements before a national campaign. *American Journal of Public Health, 92*(2), 238.

Fisher, E. B. (2008). The importance of context in understanding behavior and promoting health. *Annals of Behavioral Medicine, 35*(1), 3-18. doi:10.1007/s12160-007-9001-z

Fisher, E. B., Earp, J. A., Maman, S., & Zolotor, A. (2010). Cross-cultural and international adaptation of peer support for diabetes management. *Family Practice, 27*, i6-i16. doi:10.1093/fampra/cmp013

Foubert, J. D., & Newberry, J. T. (2006). Effects of two versions of an empathy-based rape prevention program on fraternity men's survivor empathy, attitudes, and behavioral intent to commit rape or sexual assault. *Journal of College Student Development, 47*(2), 133-148. doi:10.1353/csd.2006.0016

Gabriele, J. M., Carpenter, B. D., Tate, D. F., & Fisher, E. B. (2011). Directive and nondirective E-coach support for weight loss in overweight adults. *Annals of Behavioral Medicine, 41*(2), 252-263. doi:10.1007/s12160-010-9240-2

Goubert, L., Craig, K. D., & Buysse, A. (2009). Perceiving others in pain: Experimental and clinical evidence on the role of empathy. In J. Decety, W. Ickes, J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy.* (pp. 153-165). Cambridge, MA US: MIT Press.

Grandpre, J., Alvaro, E. M., Burgoon, M., Miller, C. H., & Hall, J. R. (2003). Adolescent reactance and anti-smoking campaigns: A theoretical approach. *Health Communication, 15*(3), 349-366. doi:10.1207/S15327027HC1503_6

Graziano, W. G., Habashi, M. M., Sheese, B. E., & Tobin, R. M. (2007). Agreeableness, empathy, and helping: A person × situation perspective.

Journal of Personality and Social Psychology, 93(4), 583-599. doi:10.1037/0022-3514.93.4.583

Greenberg, P. E., Kessler, R. C., Birnbaum, H. G., Leong, S. A., Lowe, S. W., Berglund, P. A., & Corey-Lisle, P. (2003). The economic burden of depression in the united states: How did it change between 1990 and 2000? *Journal of Clinical Psychiatry, 64*(12), 1465-1475.

Greenberg, P. E., Kessler, R., & Birnbaum, H. G. (2004). Depression's costly toll. *Behavioral Health Management, 24*(2), 9-10.

Hayes, A. F., & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding data. Communication Methods and Measures, 1, 77-89

Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion*. New York, NY Paris USFrance: Cambridge University Press; Editions de la Maison des Sciences de l'Homme.

Hein, G., & Singer, T. (2008). I feel how you feel but not always: The empathic brain and its modulation. *Current Opinion in Neurobiology, 18*(2), 153-158. doi:10.1016/j.conb.2008.07.012

Hewstone, M., Cairns, E., Voci, A., Hamberger, J., & Niens, U. (2006). Intergroup contact, forgiveness, and experience of 'the troubles' in northern Ireland. *Journal of Social Issues, 62*(1), 99-120. doi:10.1111/j.1540-4560.2006.00441.x

Hoffman, M. L. (1981). Is altruism part of human nature? *Journal of Personality and Social Psychology, 40*(1), 121-137. doi:10.1037/0022-3514.40.1.121

Jackson, P. L., Brunet, E., Meltzoff, A. N., & Decety, J. (2006). Empathy examined through the neural mechanisms involved in imagining how I feel versus how you feel pain. *Neuropsychologia, 44*(5), 752-761. doi:10.1016/j.neuropsychologia.2005.07.015

Jackson, P. L., Rainville, P., & Decety, J. (2006). To what extent do we share the pain of others? insight from the neural bases of pain empathy. *Pain, 125*(1-2), 5-9. doi:10.1016/j.pain.2006.09.013

Johnson, J. A., Cheek, J. M., & Smither, R. (1983). The structure of empathy. *Journal of Personality and Social Psychology, 45*(6), 1299-1312. doi:10.1037/0022-3514.45.6.1299

Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-6.

Kalisch, R., Wiech, K., Herrmann, K., & Dolan, R. J. (2006). Neural correlates of self-distraction from anxiety and a process model of cognitive emotion regulation. *Journal of Cognitive Neuroscience, 18*(8), 1266-1276.

Kelman (H. C.). (1961). Processes of opinion change. *Public Opinion Quarterly, 25*(1), 57-78.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 593-602. doi:10.1001/archpsyc.62.6.593

Lamm, C., Batson, C. D., & Decety, J. (2007). The neural substrate of human empathy: Effects of perspective-taking and cognitive appraisal. *Journal of Cognitive Neuroscience, 19*(1), 42-58.

Lawrence, E. J., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. S. (2004). Measuring empathy: Reliability and validity of the empathy quotient. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 34*(5), 911-919. doi:10.1017/S0033291703001624

Lieberman, J. D., Solomon, S., Greenberg, J., & McGregor, H. A. (1999). A hot new way to measure aggression: Hot sauce allocation. *Aggressive Behavior, 25*(5), 331-348. doi:10.1002/(SICI)1098-2337(1999)25:5<331::AID-AB2>3.0.CO;2-1

Lindsey, M. A., Korr, W. S., Broitman, M., Bone, L., Green, A., & Leaf, P. J. (2006). Help-seeking behaviors and depression among African American adolescent boys. *Social Work, 51*(1), 49-58.

Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A., & Pescosolido, B. A. (1999). Public conceptions of mental illness: Labels, causes, dangerousness, and social distance. *American Journal of Public Health, 89*(9), 1328-1333.

Link, B. G., & Phelan, J. C. (1999). The labeling theory of mental disorder (II): The consequences of labeling. In A. V. Horwitz, T. L. Scheid, A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems.* (pp. 361-376). New York, NY US: Cambridge University Press.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*(1), 363.

Link, B. G., & Phelan, J. C. (2002). McKeown and the idea that social conditions are fundamental causes of disease. *American Journal of Public Health, 92*(5), 730-732.

Lipps,T. (1979). Einfühlung, inner Nachahmung, und Organaempfindaungen [Empathy, inner imitation and sense-feelings]. In M. Rader (Ed.), *A modern book of aesthetics* (5th ed., pp. 374-382). New York: Harcourt College. (Original work published 1903).

Lord, F. M. (1967). A paradox in the interpretation of group comparisons. *Psychological Bulletin*, 72, 304–305.

Malhotra, D., & Liyanage, S. (2005). Long-term effects of peace workshops in protracted conflicts. *Journal of Conflict Resolution, 49*(6), 908-924. doi:10.1177/0022002705281153

Mathur, V. A., Harada, T., Lipke, T., & Chiao, J. Y. (2010). Neural basis of extraordinary empathy and altruistic motivation. *NeuroImage, 51*(4), 1468-1475. doi:10.1016/j.neuroimage.2010.03.025

Moriguchi, Y., Decety, J., Ohnishi, T., Maeda, M., Mori, T., Nemoto, K., . . . Komaki, G. (2007). Empathy and judging other's pain: An fMRI study of alexithymia. *Cerebral Cortex, 17*(9), 2223-2234. doi:10.1093/cercor/bhl130

Murray, C. J. L., & Lopez, A. D. (1997). Regional patterns of disability-free life expectancy and disability-adjusted life expectancy: Global. *Lancet, 349*(9062), 1347.

National Alliance on Mental Illness (NAMI) on Campus (2007). "Mental Illness on Campus ~ What You Can Do to Help,"

Nock, M. K., Hwang, I., Sampson, N., Kessler, R. C., Angermeyer, M., Beautrais, A., . . . Levinson, D. (2009). Cross-national analysis of the associations among mental disorders and suicidal behavior: Findings from the WHO world mental health surveys. *PLoS Medicine, 6*(8), 1-17. doi:10.1371/journal.pmed.1000123

Ochsner, K. N., Ray, R. R., Hughes, B., McRae, K., Cooper, J. C., Weber, J., . . . Gross, J. J. (2009). Bottom-up and top-down processes in emotion generation: Common and distinct neural mechanisms. *Psychological Science (Wiley-Blackwell), 20*(11), 1322-1331. doi:10.1111/j.1467-9280.2009.02459.x

Ogino, Y., Nemoto, H., Inui, K., Saito, S., Kakigi, R., & Goto, F. (2007). Inner experience of pain: Imagination of pain while viewing images showing painful events forms subjective pain representation in human brain. *Cerebral Cortex, 17*(5), 1139-1146. doi:10.1093/cercor/bhl023

Ozmen, E., Ogel, K., Aker, T., Sagduyu, A., Tamar, D., & Boratav, C. (2004). Public attitudes to depression in urban turkey: The influence of perceptions and causal attributions on social distance towards individuals suffering from depression. *Social Psychiatry and Psychiatric Epidemiology, 39*(12), 1010-1016. doi:10.1007/s00127-004-0843-4

Parrott, R. (2004). Emphasizing "communication" in health communication. *Journal of Communication, 54*(4), 751-787.

Pescosolido, B. A., Martin, J. K., Long, J. S., Medina, T. R., Phelan, J. C., & Link, B. G. (2010). "A disease like any other"? A decade of change in public reactions to schizophrenia, depression, and alcohol dependence. *American Journal of Psychiatry, 167*(11), 1321-1330. doi:10.1176/appi.ajp.2010.09121743

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology, 49*(1), 65.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*(5), 751-783. doi:10.1037/0022-3514.90.5.751

Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology, 41*(5), 847-855. doi:10.1037/0022-3514.41.5.847

Pfeiffer, P., N., Heisler, M., Piette, J., D., Rogers, M., A.M., & Valenstein, M. (2011). Efficacy of peer support interventions for depression: A meta-analysis. *General Hospital Psychiatry, 33*(1), 29-36. doi:10.1016/j.genhosppsych.2010.10.002

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. doi:10.1111/j.1559-1816.2007.00286.x

Preston, S. D., & de Waal, Frans B. M. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences, 25*(1), 1-20. doi:10.1017/S0140525X02000018

Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *Lancet, 370*(9590), 859-877.

Rains, S. A., & Karmikel, C. D. (2009). Health information-seeking and perceptions of website credibility: Examining web-use orientation, message characteristics, and structural features of websites. *Computers in Human Behavior, 25*(2), 544-553. doi:10.1016/j.chb.2008.11.005

Ranahan, P. (2010). Mental health literacy: A conceptual framework for future inquiry into child and youth care professionals' practice with suicidal adolescents. *Child & Youth Care Forum, 39*(1), 11-25.

Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. New York: Cambridge University Press.

Results from the 2009 national survey on drug use and health: Mental health findings. (2011). *Medical Benefits, 28*(4), 4-4.

Riffe, D., Lacy, S., & Fico, F. G. (2005). *Analyzing media messages: Using quantitative content analysis in research (2nd ed.).* Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Ritsher, J. B., & Phelan, J. C. (2004). Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research, 129*(3), 257-265. doi:10.1016/j.psychres.2004.08.003

Rothman, A. J., & Schwarz, N. (1998). Constructing perceptions of vulnerability: Personal relevance and the use of experiential information in health

judgments. *Personality and Social Psychology Bulletin, 24*(10), 1053-1064. doi:10.1177/01461672982410003

Saxena, S., Lora, A., Morris, J., Berrino, A., Esparza, P., Barrett, T., . . . Saraceno, B. (2011). Focus on global mental health: Mental health services in 42 low- and middle-income countries: A WHO-AIMS cross-national analysis. *Psychiatric Services, 62*(2), 123-125.

Saxena, S., Thornicroft, G., Knapp, M., & Whiteford, H. (2007). Resources for mental health: Scarcity, inequity, and inefficiency. *Lancet, 370*(9590), 878-889.

Sergo, P. (2008). Mental illness in america. *Scientific American Mind, 19*(1), 15.

Shechtman, Z., & Basheer, O. (2005). Normative beliefs supporting aggression of Arab children in an intergroup conflict. *Aggressive Behavior, 31*(4), 324-335. doi:10.1002/ab.20069

Shen, L. (2011). The effectiveness of empathy- versus fear-arousing antismoking PSAs. *Health Communication, 26*(5), 404-415. doi:10.1080/10410236.2011.552480

Steensma, H., & Erkel, D. (1999). Reactance to perceived external pressure to introduce quality assurance standards in organizations. *Psychological Reports, 85*(3), 1077-1080. doi:10.2466/PR0.85.7.1077-1080

Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues, 55*(4), 729-743.

Stephan, W. G., & Finlay, K. (2003). The role of empathy in improving intergroup relations. In S. Plous, & S. Plous (Eds.), *Understanding prejudice and discrimination.* (pp. 481-490). New York, NY US: McGraw-Hill.

Sundar, S. S., & Nass, C. (2001). Conceptualizing sources in online news. *Journal of Communication*, 51: 52–72. doi: 10.1111/j.1460-2466.2001.tb02872.x

Titchener, E. (1909). *Elementary Psychology of the Thought Processes*. New York: Macmillan.

Tomlinson, M., Rudan, I., Saxena, S., Swartz, L., Tsai, A. C., & Patel, V. (2009). Setting priorities for global mental health research. *Bulletin of the World Health Organization, 87*(6), 438-446.

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Trochim, W. (1982). Methodologically-based discrepancies in compensatory education evaluations. *Evaluation Review, 6*(4), 443-480

Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology, 33*(4), 455-472. doi:10.1002/ejsp.163

Wahl, O. F. (1999). *Telling is risky business : Mental health consumers confront stigma.* Retrieved

Wahl, O. F. (2003). News media portrayal of mental illness. *American Behavioral Scientist, 46*(12), 1594.

Wang, J., Adair, C., Fick, G., Lai, D., Evans, B., Perry, B. W., . . . Addington, D. (2007). Depression literacy in Alberta: Findings from a general population sample. *Canadian Journal of Psychiatry, 52*(7), 442-449.

Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction (7th ed.).* Belmont, CA: Wadsworth/Thomson Learning.

Wolkenstein, L., & Meyer, T. D. (2008). Attitudes of young people towards depression and mania. *Psychology & Psychotherapy: Theory, Research & Practice, 81*(1), 15-31. doi:10.1348/147608307X218274

Wood, A. L., & Wahl, O. F. (2006). Evaluating the effectiveness of a consumer-provided mental health recovery education presentation. *Psychiatric Rehabilitation Journal, 30*(1), 46-52. doi:10.2975/30.2006.46.53

Wright, D. B. (2006). Comparing groups in a before--after design: When t test and ANCOVA produce different results. *British Journal of Educational Psychology, 76*(3), 663-675. doi:10.1348/000709905X52210

Yalom, I. D., & Leszcz, M. (. (2005). *The theory and practice of group psychotherapy (5th ed.).* New York, NY US: Basic Books.

Zaki, J., Ochsner, K. N., Hanelin, J., Wager, T. D., & Mackey, S. C. (2007). Different circuits for different pain: Patterns of functional connectivity reveal distinct

networks for processing pain in self and others. *Social Neuroscience, 2*(3-4), 276-291. doi:10.1080/17470910701401973

Zillmann, D. (2006). Empathy: Affective reactivity to others' emotional experiences. In J. Bryant, P. Vorderer, J. Bryant & P. Vorderer (Eds.), *Psychology of entertainment.* (pp. 151-181). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.