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Effect of Mindfulness on Empathy of Student Therapists

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Effect of Mindfulness on Empathy of Student Therapists

Abstract
Mindfulness meditation has shown benefits for increasing empathy and reducing stress in health professionals. This study examined the effect of a mindfulness-based intervention course on empathy in student therapists using a quasi-experimental design. Results indicated overall empathy as measured by the Interpersonal Reactivity Index (IRI), as well as Empathic Concern, a subscale of the IRI, increased significantly after 6 weeks for participants in the mindfulness course compared to control participants. Additionally, the mindfulness class showed increased scores on the Observe and Nonjudgment subscales of the Five Factor Mindfulness Questionnaire (FFMQ) between Time 1 and Time 2. Also, the control group had increased scores on the Nonjudgment subscale of the FFMQ from Time 1 to Time 2. According to the Mindful Awareness Attention Scale (MAAS) and the Describe, Act with Awareness and Nonreactivity subscales of the FFMQ, there were no significant differences in mindfulness between the intervention and control group from Time 1 to Time 2. These findings support the hypothesis that participation in a mindfulness course increases empathy, but the relationships between mindfulness and empathy remain unclear.

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EFFECT OF MINDFULNESS ON EMPATHY OF STUDENT THERAPISTS

A THESIS

SUBMITTED TO THE FACULTY

OF

SCHOOL OF PROFESSIONAL PSYCHOLOGY

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BY

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Abstract

Mindfulness meditation has shown benefits for increasing empathy and reducing stress in health professionals. This study examined the effect of a mindfulness-based intervention course on empathy in student therapists using a quasi-experimental design. Results indicated overall empathy as measured by the Interpersonal Reactivity Index (IRI), as well as Empathic Concern, a subscale of the IRI, increased significantly after 6 weeks for participants in the mindfulness course compared to control participants. Additionally, the mindfulness class showed increased scores on the Observe and Nonjudgment subscales of the Five Factor Mindfulness Questionnaire (FFMQ) between Time 1 and Time 2. Also, the control group had increased scores on the Nonjudgment subscale of the FFMQ from Time 1 to Time 2. According to the Mindful Awareness Attention Scale (MAAS) and the Describe, Act with Awareness and Nonreactivity subscales of the FFMQ, there were no significant differences in mindfulness between the intervention and control group from Time 1 to Time 2. These findings support the hypothesis that participation in a mindfulness course increases empathy, but the relationships between mindfulness and empathy remain unclear.

Keywords: mindfulness, empathy, therapists
Dedication

To my parents, David and Lisa, and my husband, Alistair.

Thank you.
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Introduction

The National Institute of Mental Health estimates that 26.2% of Americans 18 years and older suffer from a diagnosable mental disorder in a given year (“The Numbers Count,” 2010). The National Alliance on Mental Health states that untreated mental illness has significant social repercussions such as elevated numbers for people who drop out of high school, become incarcerated, or visit emergency rooms, in addition to lower life expectancy and co-occurring medical conditions (“Facts and Numbers,” 2009). Given the consequences, mental health care providers must implement effective treatments for mental disorders.

In response to the need for evidence-based treatments, the American Psychological Association’s Division of Clinical Psychology has proposed criteria for therapy techniques that have been empirically supported. In 1995, the Task Force on Promotion and Dissemination of Psychological Procedures published a list of “well-established” and “probably efficacious” treatments based on both the quantity and quality of research in support.

Yet it may be that outcomes are more influenced by the therapist providing treatment than to the method of treatment itself (Norcross, 2002). Based on both reviews and meta-analysis of the literature, Lambert and Barley (2002) found variables unrelated to therapy technique significantly affect therapeutic outcome. Among them, empathy, warmth and acceptance were found to account for 30% of patient improvement, in comparison to 15% accounted for by technique.

Empathy is emphasized specifically in almost all theoretical orientations (Hart, 1999). Patterson (1984) concluded that the evidence that therapist qualities such as
accurate empathy significantly impact therapeutic outcome was “nothing short of amazing” (p. 437). A meta-analysis by Greenberg, Watson, Elliot, and Bohart (2001) suggests that empathy accounts for almost 10% of the variance in therapeutic outcome, a proportion that may account for more change than the specific intervention. It follows that increased therapist empathy would improve client outcome.

The challenge faced by therapists who choose to relate empathically with their clients is that they may become more vulnerable to stress, burnout or compassion fatigue (Maslach & Jackson, 1984; Shapiro, Astin, Bishop, & Cordova, 2005). Clinicians working with traumatic material, for example, may experience symptoms similar to those of their clients, thereby jeopardizing their ability to provide the relationship factors necessary for improvement (Figley, 2002). Therefore, interventions that help therapists cope with the inevitable strain of their profession and improve empathic understanding should benefit both practitioners and their clients.

In the last 40 years, mindfulness-based interventions have been demonstrated to decrease stress in both clinical and nonclinical populations (Baer, 2003; Chiesa & Serretti, 2009). A recent review of the empirical research concluded mindfulness is associated with decreased emotional distress, more positive states of mind, and better quality of life (Greeson, 2009). It should also be noted that other reviews have argued that much of the research is methodologically flawed and that many questions need to be answered (Bishop, 2002; Grossman, 2008).

The few studies that have looked at mindfulness interventions for health professionals have shown promising results. Shapiro, Schwartz, and Bonner (1998) found that empathy increased significantly in health professionals who participated in an 8-week
mindfulness-based intervention compared to a wait-list control. In a double-blind randomized study, Grepmair et al. (2007) found clients of therapists who meditated reported greater symptom reduction than a comparison group. And Shapiro, Brown, and Biegel (2007) found student therapists reported less stress and anxiety along with more positive affect and self-compassion after a 10-week mindfulness intervention course.

The present study examined the effects of a mindfulness-intervention course for graduate students working towards a doctorate in clinical psychology. The primary hypothesis of the study was that participation in the course would significantly increase empathy in comparison to a control group of student therapists not enrolled in the course. The second hypothesis was that mindfulness scores of student therapists in the intervention course would be significantly higher than students in the control group after baseline.
mindfulness

The concept of mindfulness dates back to the 6th century B.C. teachings of Sidhartha Guatama, known as the Buddha. The Buddha taught that pain and suffering were unavoidable aspects of the human experience, and that resistance to change, as well as a desire for states such as wealth and power, perpetuated this suffering. Suffering, he said, was also brought about by attachment to ideals, opinions and beliefs. Freedom from suffering would come from understanding the true nature of reality, as well as from an awareness of the body, feelings and mind, and from practicing love and compassion for oneself and all beings (Rahula, 1959).

The Buddha’s method for seeing the nature of reality was meditation. He taught Vipassana or insight meditation, which involves sitting with erect posture, drawing attention to the breath, and becoming aware of the mind's tendency to be distracted. When distracted, the practitioner may gently bring his attention back to the breath without judgment or criticism. Over time, a practitioner is increasingly able to remain with her breath rather than follow thoughts and sensations away from it, and therefore is able to experience the happiness and tranquility of being in the present moment (Rahula, 1959). Eventually, this awareness of the present moment can become a part of daily activities.

By the time Western psychology began to develop a science of the mind in the mid 1800s, Buddhist practitioners had been exploring the field for two millennia. Still, Sigmund Freud, whose theories dominated Western psychology during the early 1900s, described meditation as a primitive defense and regression to infantile narcissism (Anderson, 2005; Epstein, 1995). Perspectives held by Western scholars on Eastern thought began to change
after World War II when American psychiatrists stationed in Japan came back with an interest in Zen Buddhism. During the 1960s and 1970s, the humanist movement in psychology encouraged clients to explore and accept themselves non-judgmentally, which resembled the practice of Vipassana meditation (Dryden & Still, 2006). Still, the term “mindfulness” did not become part of the Western discourse on Buddhism until the publication of Thich Nhat Hahn’s *Miracle of Mindfulness* (1976) and Daniel Goleman’s *The Varieties of the Meditative Experience* (1977), both of which were popular in the general population (Dryden & Still, 2006).

**Definitions**

Since the term mindfulness has become part of the common lexicon, it has been defined in various ways. In psychological literature, mindfulness is referred to as both a behavior and a psychological process (Hayes & Shenk, 2004). As a behavior, mindfulness is often synonymous with Vipassana meditation. As a cognitive process discussed by Bishop et al. (2004), mindfulness carries two components: the self-regulation of attention, and an orientation towards one’s experience of curiosity, openness and acceptance. Kabat-Zinn (2003) describes mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (p.145).

This open-minded, nonjudgmental attitude practiced in meditation can help cultivate compassion toward oneself, and may be the foundation for compassion towards others (Neff, 2004). Though there is no word in the Buddhist language for empathy (Sweet & Johnson, 1990), Buddhism teaches that the truth of universal suffering fosters feelings of openness towards fellow human beings.
Empathy

Definitions

While empathy is recognized as a trait that facilitates interpersonal understanding, it has been difficult to develop a consensus definition. According to Chlopan, McCain, Carbonell, & Hagen (1985), most theorists agree that empathy involves both sensitivity to the experience of another and the ability to gain an understanding of the other person. However, some definitions add the criteria that an empathetic person is experiencing the other person's emotions, whereas others focus on the cognitive ability of an empathetic person to imagine herself in someone else's place.

The term empathy first appeared in the psychological literature in 1909 in reference to the ability of one person to project himself into another person's perspective (Wispe, 1986). Since then, empathy is occasionally synonymous with sympathy, which involves feeling another's suffering. While both involve caring about what another person is feeling, Wispe (1986) argues they are two separate constructs. The purpose of sympathy is to show concern for another individual, whereas the purpose of empathy is to understand the other person (Wispe, 1986).

In therapy, empathy is often considered a multidimensional construct involving the therapist's effort to "sense, perceive, share or conceptualize how their client is seeing the world and accurately conveying that experience back to the client (Bohart & Greenberg, 1997). According to Bohart and Greenberg, this therapeutic empathy involves cognitive understanding, affective experience, action through communication, a way of being together, and validation. Over time, these components contribute to the progression of empathy in the therapeutic relationship.
Therapy

Relationship factors are a large part of the client-centered tradition spearheaded by Carl Rogers. In 1975, Rogers defined empathy as having several components, including “entering the private perceptual world of the other” and “being sensitive, moment to moment, to the changing felt meanings which flow in this other person” (p.3). This present moment awareness is similar to what is cultivated in meditation, where a practitioner learns to both recognize experience and allow it to pass.

According to Rogers, a therapist who accurately reflects the client’s feelings allows the client to integrate previously disowned parts of his experience (Anderson, 2005). Again, Rogers’ conceptualization of empathy resonates with the Buddhist notion of generating compassion through recognizing universal suffering.

Empathy was also an important component of self-psychology as theorized by Heinz Kohut. Self-psychology considered empathy to be the process of vicarious introspection whereby the ability to imagine a patient’s experience allows for the therapist to gather more accurate clinical information and for the client to feel a greater sense of acceptance (Anderson, 2005). Kohut observed that empathy often helped clients feel more open towards the therapist, which facilitated their receptivity to therapy (Bohart & Greenberg, 1997). Clients, he believed, may have felt more friendliness and compassion because empathic understanding reminded them of their shared humanity.

Outcome

The importance of the therapeutic relationship has been supported by research. Over the years, researchers in the field of psychology have identified four common factors that account for variance in therapeutic outcomes across theoretical orientations: client
factors and extra-therapeutic events, relationship factors, expectancy and placebo effects, and technique/model factors (Asay & Lambert, 1999). Of these, 30% of improvement may be from relationship factors such as empathy, warmth, affirmation, and therapeutic alliance (Assay & Lambert, 1999).

**Stress**

If a therapist’s personal qualities significantly predict her client’s outcome, it is important that the therapist be aware of the stressors that threaten her ability to relate with her clients. Yet, determining the specific impact of therapist stress on the therapeutic relationship has been difficult.

One of the reasons stress is difficult to assess is because it can be used to describe both physical and psychological processes, both acute and chronic conditions, and both a cause and an effect. Nevertheless, researchers agree that stress can reduce the capacity for attention, concentration and decision-making skills (Epstein, 1999; Shanafelt, 2009; Shapiro et al., 2005), and that it has a negative impact on patient care overall (Kilfedder, Power & Wells, 2009; Shanafelt, 2009). Unfortunately, healthcare workers may be particularly vulnerable to stress given the challenges of their jobs (Schure, Christopher, & Christopher, 2008).

Based on a survey of licensed psychologists, Hellman, Morrison, and Abramowitz (1987) found stress associated with therapeutic work resulted in personal depletion. However, they also found that older therapists were less stressed by these factors than younger therapists. Another survey by Rodolfa, William, and Reilley (1988) found that professional staff reported their experiences to be less stressful than interns, who in comparison experienced less stress than practicum students. Therefore, age or experience
may protect therapist from the deleterious effects of their work.

**Burnout**

Eventually, stress can lead to a syndrome referred to as *burnout*, which was originally observed in healthcare professionals because their work required caring for others. Burnout is conceptualized as a state of feeling emotionally exhausted and disconnected from people, as well as lacking a sense of accomplishment from work (Deighton, Gurris, & Traue, 2007). Usually burnout occurs as a result of prolonged stress or frustration from a profession or occupation, and results in exhaustion of physical or emotional strength and motivation (Felton 1998).

Maslach (2003) conceptualized burnout as a stress response involving overwhelming exhaustion, feelings of cynicisms and detachment from the job, as well as a sense of ineffectiveness and lack of accomplishment. A review of the literature by Cordes and Dougherty (1993) noted burnout was associated with increased turnover and absenteeism, which have substantial consequences for professional health organizations and clients.

**Compassion Fatigue**

Another risk of working as a health professional is compassion fatigue, described by Figley (2002) as a syndrome resulting specifically from empathic engagement with people experiencing pain and suffering. According to Figley, “In our effort to view the world from the perspective of the suffering we suffer” (p.1434). In fact, Figley argues, empathic ability, concern and response predict compassion fatigue, because empathy is itself necessary for the development of compassion fatigue.
In a study of therapists working with trauma survivors, Killian (2008) found that a therapist's sense of powerlessness and work drain was most often associated with compassion fatigue, as was emotional exhaustion and trauma history. Social support, fewer work hours, and an internal locus of control increased the therapist's sense of reward, efficacy and competence. These results suggest that external and internal support affect a therapist’s vulnerability to the syndrome of compassion fatigue.

**Vicarious Traumatization**

A similar, and arguably overlapping, construct is *vicarious traumatization*, which results from exposure to clients’ traumatic events, empathic engagement, and a sense of responsibility for those events, resulting in cognitive, affective and relational changes (Deighton et al., 2007). Psychotherapy requires entering into the client’s experience, and often includes being present with the traumatic events in other’s lives. Vicarious traumatization is the “cumulative transformative effects upon therapists resulting from empathic engagement with clients” (Harrison & Westwood, 2009, p.203). Clinicians who work with trauma may experience changes in their cognitive schemas similar to those who are diagnosed with Posttraumatic Stress Disorder (PTSD). This may include disruptions of safety, trust, intimacy, esteem and power (Pearlman & Mac Ian, 1995).

In a study of trauma therapists, Pearlman and Mac Ian (1995) found that among clinicians working with trauma, those with less experience had greater disruptions in trust, intimacy and esteem and overall symptom distress. These findings highlight the ethical imperative to teach therapists to care for themselves early in their career.

**Ethics**

The APA Ethical Principles of Psychologists and Code of Conduct (2002) Principal A
states: “Psychologists strive to be aware of the possible effect of their own physical and
mental health on their ability to help those with whom they work.” Standard 2.06 (b)
states, “When psychologists become aware of personal problems that may interfere with
their performing work-related duties adequately, they take appropriate measures, such as
obtaining professional consultation or assistance, and determine whether they should
limit, suspend, or terminate their work-related activities” (APA, 2002, p.1063).
Consequently, psychologists have an ethical obligation to monitor their mental health.

Yet as caregivers, psychologists may be at increased risk for overlooking or ignoring
their emotional needs, and for minimizing or denying the needs they do notice (Barnett,
roughly 60% of the mental health clinicians they surveyed acknowledged working when
too distressed to be effective, yet 85% of those clinicians acknowledged that doing so was
unethical.

This may be because the issue of self-care is not given adequate attention in clinical
psychology programs (Christopher, Christopher, Dunnagan & Schure, 2006) and because
schools often reward self-neglect (Irving, Dobkin, & Park, 2009). If impaired judgment is
likely to occur as a result of distress (Epstein, 1999), graduate program have an ethical
obligation to teach clinicians to care for themselves.

Self-care

Theoretically, self-care practices increase coping skills and assist practitioners in
balancing professional and personal demands, while also helping to prevent burnout and
impairment (Shapiro et al., 2007). Traditionally, self-care has included spending time with
family and friends, pursuing a hobby, or using relaxation techniques. Research into
methods of self-care for therapists has found that various factors in the workplace, such as increased supervision and social support, may also alleviate work-related stress. However, in a review of the literature, Arvay (2001) concluded that research to date lacks agreement regarding effective methods of self-care. Therefore, an intervention that increases awareness and decreases stress is desirable.

**Mindfulness-Based Stress Reduction**

Mindfulness-Based Stress Reduction (MBSR) was developed in 1979 by Kabat-Zinn to relieve the physical and emotional pain of medical patients (Kabat-Zinn, 2003). Having been exposed to the Buddhist concept of mindfulness, Kabat-Zinn hypothesized that having patients practice awareness of painful thoughts and emotions would have the paradoxical affect of decreasing stress overall (Baer, 2003). Over the years, many studies have demonstrated that MBSR is effective at reducing both stress and mood disturbance in patients with chronic pain, cancer and heart disease (Shigaki, Glass, & Schopp, 2006), as well as in mediating anxiety and mood disorders in psychiatric patients (Grossman, Niemann, Schmidt, & Walach, 2004; MAMIG, 2006). MBSR has also been successful at reducing stress in non-clinical populations such as college students (Chang et al., 2004; Murphy, 2006; Oman, Hedberg, & Thoresen, 2008) and couples (Carson, Carton, Gil, & Baucom, 2004).

A meta-analysis concluded that the mean effect sizes for MBSR in mental and physical health were .50 and .42 respectively (Grossman et al., 2004). A recent review of the literature concluded MBSR was an effective treatment for reducing stress and anxiety associated with both chronic illness and everyday life (Praissman, 2008). A review of MBSR in healthy populations found it reduced stress, enhanced spiritual values, reduced
ruminative thinking and trait anxiety, and increased empathy and compassion (Chiesa & Serretti, 2009).

**Mindfulness-Based Cognitive Therapy**

In 1995, Teasdale, Segal and Williams suggested mindfulness training could be used as an adjunct to cognitive therapy for depression. Both mindfulness training and cognitive therapy, they argued, “share the same basic underlying rational – emotional disturbance is caused by thoughts and cognitions that are ‘mental events’, not ‘realities’” (p. 38). And mindfulness in particular may be effective in preventing relapse of depression, because it would increase awareness of negative affect as well as allow for the implementation of cognitive and behavior change learned in therapy.

This theory became the foundation for what Teasdale et al. (2000) called Mindfulness-Based Cognitive Therapy (MBCT), which combined cognitive behavioral therapy (CBT) with MBSR. During MBCT, participants are taught various mindfulness techniques from MBSR including body scans, mindful stretching and mindfulness towards breath and body sensations. Additionally, there is a focus on becoming aware of negative thoughts then shifting attention to the present moment. Over time, participants learn to acknowledge thoughts and feelings and then let them pass without judgment (Lau & McMain, 2005).

In two randomized controlled trials, relapse rates were compared between two groups of people who had experienced previous depressive episodes. One group was assigned to a MBCT intervention and the other to treatment as usual (TAU). One year after the first randomized trial, Teasdale et al. (2000) found only 37% of those who participated
in the MBCT sessions had a recurrent episode, compared to 66% of those who were given TAU. Four years later, these results were replicated (Ma & Teasdale, 2004).

Recently, Kuyken et al. (2008) found MBCT was more effective than maintenance treatment with antidepressants for depressed individuals and that rates of antidepressants decreased in those who participated in MBCT. Foley, Baillie, Huxter, Price, and Sinclair (2010) randomized individuals with a cancer diagnosis to either a modified MBCT or wait-list control group and found those in the MBCT group had significantly lower depression, anxiety and distress compared to wait-list control.

**Mindfulness and Empathy Research**

The majority of psychological studies of the effects of mindfulness on empathy and stress have used MBSR or a variation. However, one of the first studies to integrate empathy and mindfulness was conducted in 1970 before MBSR was developed. This doctoral dissertation, conducted by Lesh, compared two groups of students from a Masters level counseling psychology program – one group that meditated for 30 minuets a day for four weeks, and a comparison group. He found those who meditated showed increased accurate empathy compared with the comparison group. However, Lesh reported that the students in his Masters psychology program who expressed “fear and anxiety” about participating in meditation were assigned to the control group, and those who meditated were higher in empathy before the experiment. Therefore, the results of this study should be interpreted with caution.

Shapiro et al. (1998) used a matched randomized experiment to assign medical and premedical students to either an 8-week MBSR intervention or wait-list control. Compared to the control group, the intervention group reported less depression and anxiety as well as
significantly increased empathy scores. Additionally, multiple regression analysis suggested compliance with treatment had a significant direct negative effect on anxiety, indicating that as compliance increased, trait anxiety decreased. Trait anxiety also had a significant negative impact on empathy. Therefore, a decrease in trait anxiety led to decreased depression, state anxiety and increased empathy. These results were then replicated with the wait-list control group.

Beddoe and Murphy (2004) did not find significant increases in empathy among nursing students who participated in an 8-week MBSR course, however they noted that participants’ pretest empathy scores were 40%–50% higher than scores earned by female college students of the same age in two other studies. They did find significant decreases in stress as measured by responses to environmental events, personality characteristics and emotional responses. And, when data from participants’ homework questionnaires were analyzed, researchers found high levels of self-reported changes in relationships to thoughts and feelings, increased self-confidence, greater hope, and more assertiveness.

Galantino, Baime, Maguire, Szapary, and Farrar (2005) also looked at mindfulness meditation among healthcare professionals, and included a physiological measure of stress in addition to self-report assessment. Participants took part in a modified MBSR intervention adapted to address issues such as balancing home and work life. Before and after the intervention, measures of salivary cortisol were taken along with self-report measures of mood, burnout, and empathy. Though the researchers did not find significant decreases in salivary cortisol levels, participants reported a significant improvement in mood and decline in emotional exhaustion.
Beitel, Ferrer, and Cecero (2005) studied a population of college students to assess the relationship between psychological mindedness and three related constructs – mindfulness, self-consciousness and empathy. Psychological mindedness was conceptualized as a general attentiveness in addition to an interest in psychological conceptualization. The researcher’s found both empathy and mindfulness were significantly correlated with psychological mindedness. They also found psychological mindedness was inversely related to personal distress and unrelated to self-consciousness.

A survey analysis of medical residents by Shanafelt et al. (2005) assessed wellbeing, empathy, wellness-promotion strategies, and work-life balance. Results indicated that residents with high mental wellbeing had higher cognitive empathy. Additionally, those residents with high mental wellbeing reported giving greater importance to a life philosophy that balanced their lives with their personal and professional roles and that nurtured religious and spiritual aspects of the self.

Schure et al. (2008) reported on the effects of a 15-week course based on the MBSR program with first and second year Masters-level graduate students studying psychology. Results from qualitative analysis showed students who completed the course reported an increased ability to deal with difficult emotions and were less attached to their emotional responses and therefore less defensive and reactive. Students also reported feeling more open to experience, greater self-acceptance, and an increased ability to feel empathy and compassion towards others. They also felt they were more attentive and responsive to their clients in therapy, and more likely to recognize the importance of exploring their clients’ spirituality.

One of the most recent studies, and one that relied more on qualitative as opposed
to quantitative measures, is by Harrison and Westwood (2009), who interviewed six peer-nominated “exemplary clinicians” who had between 10- and 30-years experience working with traumatized clients. Harrison and Westwood found nine major themes of protective practices, including developing mindful self-awareness and empathy. These clinicians reported that the practice of mindfulness helped them stay calmly focused and grounded, and that this allowed them to be less reactive and to engage with greater equanimity. The clinicians also reported that mindfulness contributed to an increased ability to embrace complexity and tolerate ambiguity, while helping them with some of the additional protective practices such as maintaining boundaries, developing empathy, and keeping their personal and professional realms separate.

The clinicians interviewed by Harrison and Westwood (2002) described how empathic engagement sustained rather than burdened them. The increased clarity afforded by mindful awareness enabled them to feel close to their client without “fusing” with them. They described the connection with their clients as an important reason for their professional satisfaction. Harrison and Westwood chose to refer to this type of empathy as “exquisite empathy”.

**Mindfulness and Stress**

There is also a body of research into the relationship between mindfulness and caregiver stress. A study by Shapiro et al. (2005) randomized healthcare professionals — a group that included physicians, nurses, social workers, physical therapists and psychologists — into either an 8-week MBSR group or wait-list control. Participants in the MBSR group reported less stress, greater self-compassion and satisfaction with life,
decreased job burnout, and decreased distress. Also, changes in self-compassion were found to significantly predict positive changes in perceived stress.

Staples and Gordon (2005) reported on a one-week training program for mental healthcare professionals designed to educate participants about mind-body approaches. They found a significant increase in measurements of life satisfaction and spiritual well being when comparing pre-training levels to those taken at a one-year follow-up.

Oman et al. (2006) randomized physicians, nurses and chaplains to eight weeks of either meditation or wait-list control and followed up after four weeks. Outcome measures included a scale of perceived stress, burnout, life satisfaction and job satisfaction. Researchers found stress had strong and significant reductions for the treatment group, both immediately after the intervention and at the four-week follow up. Mental health was also shown to improve for this group over time, with treatment adherence moderating this effect.

Minor, Carlson, Mackenzie, Zernicke, and Jones (2006) collected data on seven cohorts of staff members at a children’s hospital as well as on parents whose children had chronic mental illness and were being treated there. All subjects took part in an 8-week MBSR program. Researchers found total stress and mood disturbance showed statistically significant reductions after the intervention.

Schenström, Rönnberg, and Bodlund (2006) implemented an intervention for doctors, nurses, physical therapists, occupational therapists and social workers based on MBSR, and found increases in mindfulness and subjective well being along with decreases in perception of stress in the workplace. Researchers also found that increases in the level of mindfulness after the intervention and at a follow-up three months later was only
significant for those who reported practicing mindfulness three to six times per week compared with zero to two.

A study by Shapiro et al. (2007) of therapists in training found counseling students in an MBSR group showed significant decreases in perceived stress, negative affect, state and trait anxiety, and rumination compared with other counseling students. Those in the MBSR group also showed increases in positive affect and self-compassion. Although the researchers did not measure empathy specifically, they found increased mindfulness mediated changes in self-compassion, from which interpersonal empathy may emerge (Anderson, 2005).

A study by Jain et al. (2007) implemented a mindfulness intervention modeled on MBSR with medical students, graduate nursing students and undergraduate nursing students majoring in premedical or prehealth studies. Results were compared with two other groups — a relaxation training group and a control group. Both interventions lasted for four weeks and were designed to parallel each other in terms of activities and time allotted for lecture and practice. Prior to the intervention, participants were given a brief symptom inventory, a positive-states-of-mind scale, and a practice log. Before and after the intervention, practitioners were given an assessment of distractive and ruminative thoughts and behaviors associated with depression and an assessment of spirituality. Researchers found no group differences in the spirituality measure post-intervention, but did find the meditation group had significantly less distractive thoughts and behaviors than the control and relaxation groups at post-intervention. The meditation group also had significantly less ruminative thoughts post-intervention compared to the control group but not compared to the relaxation group. Researchers found both relaxation and meditation
alleviated overall psychological distress and increased positive states of mind, however the effect size for positive emotional states of mind was considerably larger for the meditation group.

Collard, Avny, and Boniwell (2008) conducted an 8-week mindfulness-based course for counseling students and measured mindfulness, satisfaction with life, and positive and negative affect. They found that mindfulness significantly increased by the end of the course and that negative affect significantly decreased. However, positive affect and satisfaction with life did not change significantly.

**Mindfulness and Therapy Outcome**

To date, only one study has used a randomized, double-blind control method to look at therapist mindfulness and psychotherapy outcome. Grepmair et al. (2007) randomly assigned therapists in training to a meditation or control group, and randomly assigned participants to these therapists. After nine weeks, patients of therapists in the meditation group had higher evaluations of therapy and greater symptom reduction compared to patients of therapists in the control group.

**Mechanisms of Mindfulness**

The evidence presented above suggests that mindfulness is a promising intervention to increase empathy and decrease stress in caregivers. Therefore the question must be asked about how or why it works.

**Attention**

The particular type of attention practiced during mindfulness training may be an underlying mechanism. Simply being inattentive is likely to convey a lack of presence from the therapist. However, attention may also aid therapist in focusing on what their client is
saying and be able to avoid distraction (Epstein, 2003). A study by Jha, Krompinger & Baime (2007) found participants who received mindfulness training improved orienting ability and attention relative to control participants. However, Anderson, Lau, Segal, and Bishop (2007) did not find improvements in attention control among those assigned to an 8-week MBSR group when compared with a control group.

**Decentering**

Bohart and Greenberg (1997) describe empathy in therapy as trying to sense, perceive, share or conceptualize how a client is seeing the world and accurately convey that experience back to the client. Therefore, too much attention on the therapist’s own mental thought processes would have a negative effect on a therapist’s ability to be empathetic. In mindfulness training, a practitioner not only learns how to pay attention, but also how to disengage from thoughts by bringing that attention back to the present moment.

A mindful therapist must be able to detach herself from distracting mental experiences and make contact with the present. According to Trungpa (2005) “we experience the meditative state and it is momentarily tangible, but in the same moment it is also dissolving. Going along with this process means developing a sense of letting go of awareness as well as contacting it” (p. 30).

**Openness to Experience**

In addition to attention, an important component of mindfulness is cultivating openness to experience (Shapiro, Carlson, Astin, & Freedman, 2006). According to Epstein (1995), mindfulness can be understood as **bare attention**, which he describes as impartial, open, nonjudgmental, interested, patient, fearless and impersonal. “There is no emotional experience, no mental event, no disavowed or estranged aspect of ourselves that cannot be
worked with through the strategy of bare attention” (Epstein, 2005, p. 127). A therapist who relates openly to thoughts and experience may be more likely to accurately attune and accept a client’s experience when it is difficult or painful.

**Exposure**

In fact, it has been hypothesized that part of the effectiveness of mindfulness is similar to the technique of exposure, which works to alleviate anxiety by learning to tolerate unpleasant and previously avoided experiences (Baer, 2003). Epstein (1995) writes “when we refuse to acknowledge the presence of unwanted feelings, we are as bound to them as when we give ourselves over to them indignantly and self-righteously” (p. 24). As Baer (2003) points out, MBSR was developed to help individuals with chronic pain learn to respond to the sensations in a different way. Similarly, individuals with panic symptoms learn through exposure to tolerate physiological experiences without responding in a catastrophic way. Fulton (2003) says, “when we renounce…the easy escape…we actually empower ourselves to redirect our attention to look at our relationship to this thing we would normally habitually avoid” (p. 2).

**Acceptance**

While Western psychology has emphasized the need for changing thoughts, mindfulness emphasizes noticing the thoughts that already exist. As discussed by Morgan and Morgan (2005):

Our relationship with present experience is defined by either wanting things to be different or wanting them to continue as they are. Because neither of these positions is tenable in an ever-changing field of experience, mental suffering becomes an integral part of our existential and psychological landscape. In this context, mental suffering can be
understood as the low-grade, chronic stress and insecurity associated with futilely resisting our current experience, or attempting to make the impermanent permanent. It is the opposite of mindful awareness of the present moment with acceptance. (p. 74)

**Nonjudgmental Awareness**

In addition to openness and acceptance, holding a nonjudgmental attitude is a particularly important quality in both meditation and therapy. Bohart and Greenberg (1997) define empathy as having an emotional response similar to the response the other person is having, while holding a nonjudgmental understanding of the client’s immediate frame of reference. Therefore, the understanding component to empathy must coexist with non-judgment in order for the client to foster self-acceptance.

**Equanimity**

A facet of mindfulness that may be particularly important for a therapist is equanimity when facing the limits of helpfulness. Morgan and Morgan (2005) define equanimity as the “attentional rudder that keeps mindfulness smooth and steady” (p. 78). Despite a therapist’s best efforts, there is a limit to what he can do. For trainee therapists in particular, it may be helpful to accept the limitations of helpfulness and balance empathic concern with equanimity, and this may assist in developing the ideal of detached concern (Sweet & Johnson, 1990). Fulton (2003) suggests that knowing nothing stays the same allows therapist to better tolerate what is happening for their client and allows for greater openness and acceptance of intense affect.

**Insight**

As a result of such qualities as openness and equanimity, a therapist is likely to gain insight into their own self (Fulton, 2005). As described by Trungpa (2005) “we must know
the style of our own mind before we see how that style works with others” (p. 7). With increased insight, a therapist is more likely recognize habitual thought patterns that impede a clinician’s ability to comprehend her client’s experience (Ekman, Davidson, Ricard, & Wallace, 2005).

**Metacognition**

In addition to a state or trait, mindfulness has been described as a metacognitive state that allows for greater flexibility and the ability to “observe the observer” (Epstein, 1999). Research suggests trait mindfulness is associated with greater cognitive flexibility, which may be related to an increased capacity to let go of negative thinking (Frewen, Evans, Maraj, Dozois, & Partridge, 2007). For healthcare providers, this awareness of cognitive and emotional states may improve their ability to empathically relate to their clients and to recognize when to step back and care for themselves.

**Reperceiving**

Shapiro et al. (2006) proposed a theory that involves three mechanisms of mindfulness: intention, attention and attitude. These factors, which have been discussed previously, include the attention to the present moment, suspending judgment, and openness. In addition, Shapiro et al. suggest reperceiving is a meta-mechanism because it involves shifting from being “immersed” in one’s perspective to being able to observe it. They suggest this ability to reperceive may lead to an increased ability to self-regulate because one is no longer tied to automatic behavior patterns.

**Research Limitations**

Overall, research into the intersections of mindfulness, empathy and stress in health professionals has been promising. However, important questions remain about how to
work with mindfulness in a Western scientific arena. For example, even the definitions of mindfulness vary, making it difficult to compare data generated by various studies. Some argue mindfulness is a multifaceted construct, some define it as more of a trait or disposition, whereas others conceptualize it as a state (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Further, it may be true that there are naturally occurring individual differences in dispositional mindfulness (Brown & Ryan, 2004). Even labeling an experience, as “meditation” is difficult given that sessions can vary so drastically (Caspi & Burleson, 2005). Consequently, researchers have argued that until a greater understanding of the construct exists, development and uses of mindfulness may be limited and even counterproductive (Grossman, 2008).

In addition it is still unclear whether or not the meaning of mindfulness shifts when it is separated from its spiritual context (Dimidjian & Linehan, 2003). Kristeller and Johnson (2005) point out that most studies conducted so far have focused on reducing anxiety, depression and stress as opposed to the more traditional goals of cultivating spiritual wellbeing, love, and compassion. Fulton (2003) points out that the Western notion of self as independent from other selves differs from the goal of meditation, which is for individuals to learn that they are ultimately not separate from anyone else. Indeed, all research findings are inevitably interpreted through a Western psychological framework (Walsh & Shapiro, 2006).

Conclusion

Thousands of years after the Buddha’s teachings, the Western world is beginning to recognize the potential of mindfulness practice. Qualities such as increased awareness, openness and acceptance appear to improve overall wellbeing, and research thus far
indicates that mindfulness helps caregivers better care for themselves and others. Therefore, studying mindfulness interventions in various contexts and with different populations will further understanding of its potential and limitations.

Both the context and population of the present study contribute to the body of literature on the relationship between mindfulness and empathy. For the present study, measures of mindfulness and empathy were administered to student therapists before and after participation in a mindfulness-based interventions course. These results were compared with measures administered concurrently to a control group of student therapists not enrolled in the course.

**Method**

**Participants**

Participants were recruited from a doctoral level clinical psychology program and a master’s level clinical psychology program at a small private university. The students who were invited to participate were enrolled in one of three graduate courses during the fall 2009 semester — Mindfulness-based Interventions, Theory of Evidence-Based Counseling: Adult, and Research Methods. On the first day of each class, participants were given a brief introduction to the study procedures, and informed consent was obtained from those who chose to participate. No course credit was offered for participation; however, students were enrolled in a drawing for three $25 gift certificates to a local bookstore. There were no restrictions based on demographic variables, and all students were eligible to participate.

A total of 56 students were enrolled in the three courses. Of the 15 students enrolled in the Mindfulness-based Interventions course, 13 (87%) completed both baseline
and midcourse measures. Of the 41 enrolled in the Theory of Evidence-Based Counseling: Adult and Research Methods courses, 12 (29%) completed baseline and midcourse measures. Data for the 25 participants who completed measures at both assessment points were retained for analyses.

Demographic and psychological measures were collected in the first week of the academic term (Time 1); all psychological measures were again collected during the middle of the term eight weeks later, (Time 2). The scales in the questionnaires were reverse ordered to counterbalance any effect possibly created by the order in which they were filled out.

In order to maintain anonymity, the consent forms were collected separately from the questionnaires. For statistical purposes, a number was assigned to each participant that corresponded with their consent form and questionnaire.

Participants were asked for their gender, age, ethnic group, religious affiliation and previous meditation experience. Twenty-two (88%) of the participants in the sample identified as female and three identified as male. The average age of the 25 retained participants was 28.2 years ($SD = 7.00$). Nineteen identified as White (76%), three participants identified as Asian (12%), three as Mixed (12%) and one as Latino (4.0%). Eleven of the participants reported their religion as None (44%), four as Christian (16%), four as Other (16%), three as Catholic (12%), two as Jewish (2%) and one as Protestant (4%). At Time 1, 5 of the 25 participants (20%) reported they meditated. At Time 2, 15 (60%) of 25 reported they meditated.

**Intervention**
The intervention group were enrolled in a course titled “Mindfulness-Based Interventions” that occurred during the fall semester of 2009. The course was open to all students who wanted to learn about “Buddhist psychological principles relevant to mindfulness practice,” (syllabus) and its guidelines related to using mindfulness-based interventions in a group setting.

During the course, students completed the 8-week curriculum for MBCT, and were asked to meditate 45 minutes six days per week. As part of the evaluation, students were asked to reflect on their experiences in brief journal entries. The instructions according to the course syllabus were to write:

… a short journal entry that reflects the impact of these exercises and experiences on your daily life and/or your framework for professional practice. You can feel free to be positive and/or negative in your description of your experience. You may also be creative, such as sending or writing a poem that speaks to your experience. You will not be graded on the content of your journal entries, except in the unlikely event that comments are unprofessional (e.g., flippant or disrespectful of authors, instructors, classmates, or clients, real or hypothetical).

Participants were also evaluated in a midterm and final exam, and in a student-led presentation on mindfulness approaches in therapy.

The 8-week MBCT intervention was modeled after the manualized treatment program developed by Segal, Williams and Teasdale (2002). MBCT includes both didactic and experimental elements that focus on the training of mindfulness-meditative practices. Participants learn mindfulness skills through meditative awareness of breath and body
scans, nonjudgmental awareness of thoughts and emotions, and a continual practice of shifting attention to the present moment. These skills are designed to cultivate an open nonjudgmental attitude towards thoughts and feelings.

Students in the Theory of Evidence-Based Counseling: Adult and Research Methods courses were used as control subjects because the course material was unrelated to mindfulness. Those enrolled were first- and second-year students in a counseling psychology Masters degree program (CPSY).

**Hypotheses**

The first research question asked whether exposure to mindfulness enhanced empathy in therapists. The primary hypothesis predicted that students in the MBCT course would show significant increases in empathy according to the total Interpersonal Reactivity Index (IRI) score when compared to the CPSY course.

A secondary hypothesis to this research question predicted that participation in the MBCT course would significantly increase scores on the EC, PT, FS and PT subscales of the IRI.

The second research question asked whether mindfulness changed as a result of involvement in the MBCT course. Specifically it was predicted that mindfulness would significantly increase for participants in the MBCT course compared to those in the CPSY group according to the total score of the Mindful Awareness Attention Scale (MAAS).

A third research question asked whether mindfulness changed as a result of involvement in the MBCT course when compared to the CPSY group according to the five factors Five-Factor Mindfulness Questionnaire (FFMQ): Observe, Describe, Act with Awareness, Nonjudgement and Nonreactivity.
Measures

Interpersonal Reactivity Index

Empathy was measured using the Interpersonal Reactivity Index (IRI; Davis, 1981), which conceptualizes empathy as a multidimensional construct with four related yet distinct factors (Davis, 1980, 1983). The IRI is a 28-item self-report measure with four 7-item subscales: Perspective Taking (PT), which involves the perspective of others, Fantasy (FS), which is the tendency to imagine feelings and actions of fictitious characters, Emotional Concern (EC), which measures feelings of sympathy for others, and Personal Distress (PD), which covers feelings of unease in interpersonal settings (Davis 1983). Items are measured using a 5-point Likert scale with 0 (does not describe me well) to 4 (describes me very well). The IRI is reproduced in Appendix A.

According to Davis (1983), PT is related to measures of interpersonal functioning and self-esteem. FS was unrelated to both self-esteem and interpersonal functioning and modestly associated with verbal intelligence, emotional reactivity and sensitively to others. EC was positively correlated with some shyness and anxiety measures but negatively correlated undesirable interpersonal styles. It was also related to emotionality and a non-selfish concern for other people. Finally, PD scores were associated with lower self-esteem, poor interpersonal functioning, vulnerability, uncertainty and fearfulness. PT and EC were significantly and positively related, and PT and PD were significantly and negatively related. EC and FS were also positively correlated.

Davis (1980) reported internal reliabilities for the four subscales ranges from .70 to .78 and test-retest reliability over two months ranges from .61 to .81. Significant
differences between men and women were found. Davis reports this is consistent with research on other empathy measures.

Since its publication, the IRI has become the most widely used instrument to assess empathy (Pulos, Elison, & Lennon, 2004) and has been used with a variety of populations from high school students (Hatcher, Nadeau, Walsh, Reynolds, & Galea, 1994) to physicians (Yarnold, Bryant, Nightingale, & Martin, 1996) to prisoners (Lauterbach & Hosser, 2007).

For the purpose of this study, Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo (2007) suggest the EC and PT subscales of the IRI in particular are consistent with mindfulness meditation because both require an awareness of how another person is reacting to their experience. In a study comparing the IRI to the Cognitive and Affective Mindfulness Scale-Revised (CMAS-R), mindfulness was significantly related to both EC and PT but not to the FS and PD subscales.

However, previous research on mindfulness and empathy suggest the IRI may not be sensitive enough to detect changes over a short period of time. For example, Galantino et al. (2005) did not find changes in empathy according to the IRI after an 8-week mindfulness meditation program for healthcare professionals. Beddoe and Murphy (2004) found “favorable trends” but not significant changes in empathy for nursing students after eight weeks.

**Mindful Awareness Attention Scale**

Mindfulness was measured using the Mindful Awareness Attention Scale (MAAS; Brown & Ryan, 2003). The MAAS is a 15-item inventory assessing an individual’s openness and awareness to present events and experience using a 6-point Likert scale. The scale assesses internal states such as emotions, and overt behaviors such as attention and social
interactions, and is based on a single factor.

In research, the MAAS has demonstrated strong convergent and discriminative validity and incremental validity in addition to internal consistency and reliability found by the scale authors (Brown & Ryan, 2003). In five empirical studies, Brown and Ryan (2003) found the MAAS was related to higher levels of positive affect and lower levels of negative affect as measured by the Positive and Negative Affect Schedule (PANAS). Higher scores were also found to be related to higher levels of life satisfaction, as measured by the Satisfaction with Life Scale (SWLS). Number of years of mindfulness practice was positively correlated with scores on the MAAS. However, according to Block-Lerner et al. (2007), the MAAS has been found not to be sensitive to the association between mindfulness and empathy in previous research. The MAAS is reproduced in Appendix (A).

Five-Factor Mindfulness Questionnaire

Mindfulness was also measured using the Five Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemery, & Toney 2006). These five factors are Observe, Describe, Act with Awareness, Nonjudgment and Nonreactivity. According to Baer et al. the factors have strong internal consistency, ranging from .75 to .91 The FFMQ is reproduced in Appendix (A).

Using factor analysis and hierarchical confirmatory factor analysis, Baer et al. (2006) determined the Observe factor was positively correlated with openness and emotional intelligence; the Describe facet was most correlated with emotional intelligence and alexithymia; Act with Awareness was most closely correlated with dissociation and absent-mindedness; the Nonjudgment factor was most correlated with thought suppression and neuroticism; and Nonreactivity was correlated with self-compassion.
Results

All data for the two control classes were combined into a single control group for analyses. Independent samples t-tests showed that the MBCT group and CPSY group did not differ significantly on any of the dependent measures at Time 1.

In order to test whether differences between groups were significant, a two-way factorial analysis of variance (ANOVA) was conducted for each dependent variable.

Pre-analysis Data Screening

Data were screened to ensure that the assumptions of factorial ANOVA were fulfilled.

To assess for outliers, raw scores of the dependent variable were transformed into z-scores. Scores outside of +2.50 and -2.50 were considered outliers. Using this criterion, four scores between 2.52 to -3.30 were considered outliers. Additionally, outliers were analyzed through the use of box plots, and any cases with values between 1.5 and 3 box lengths were considered outliers. Using this analysis, 19 cases were considered outliers. According to stem-and-leaf plots there were also 19 cases considered outliers. After considering the severity of each outlier, no cases were removed from the analysis.

The assumption of independence requires that the observations within the sample are independent of one another. Neither random sampling nor random assignment were used in this study, therefore it is unknown whether this assumption has been violated.

Normality was tested to determine whether the dependent variables were normally distributed for each level of the independent variable. Histograms examined for each variable indicated a normal distribution. In addition, normal probability plots showed that
the variables observed values corresponded with predicted values from a standard normal distribution and resembled a straight line.

The homogeneity of variance assumption requires that the variance of the dependent variable is the same for the study populations as defined by each level of the independent variable. This was assessed statistically using Levene's test, which tested the null hypothesis that the variances are equal. The null hypothesis was not rejected for any of the dependent variables with the exception of the IRI FS scale at Time 2.

**Data analysis**

To examine whether participation in the MBCT group (vs. participation in the control courses) impacted levels of empathy, a 2 (group) X 2 (time) mixed factorial analyses of variance (ANOVA) was conducted on each outcome variance using an alpha level of .05 as the criterion for statistical significance. The first independent variable included two levels: Time 1 and Time 2. The second independent variable, group, included two levels: MBCT and CPSY. The dependent variables were total scores on the Interpersonal Reactivity Index (IRI) and each of the four subscales: Empathic Concern (EC), Perspective Taking (PT), Fantasy (FS) and Personal Distress (PD). Means and standard deviations of the IRI and four subscales as a function of group and time are represented in Table 1.

Box's test was not significant at the .025 level, therefore equality of covariance was concluded and Wilks’ Lambda was used to interpret the following results.

**Empathy**

For the total IRI score, the main effect for both group and time were not significant, $F(1,23)=.57$, $p>.05$, $\eta^2=.02$ and $F(1,23)=.20$, $p>.05$, $\eta^2=.01$ respectively. However, there
was a significant interaction for the total IRI score. Specifically, participants in the MBSR group had significant increases in empathy relative to participants in the control group after participation in the study, according to the total IRI score, $F(1,23)=5.78, p<.05, \eta^2=.20$.

For the EC subscale, the main effects for group and time were not significant, $F(1,23)=.51, p>.05, \eta^2=.02$ and $F(1,23)=.01, p>.05, \eta^2=.01$ respectively. However, the interaction between group and time was significant; specifically, participants in the MBSR group had significant increases in empathic concern relative to participants in the control group after participation in the MBCT class, $F(1,23)=5.77, p<.05, \eta^2=.20$.

For the PT subscale of the IRI, neither the time or group main effect was significant, $F(1,23)=.62, p>.05, \eta^2=.03$ and $F(1,23)=.69, p>.05, \eta^2=.03$ respectively. Additionally, the interaction effect was not significant, $F(1,23)=.62, p>.05, \eta^2=.03$.

For the FS of the IRI, neither the time or group main effect was significant, $F(1,23)=.70, p>.05, \eta^2=.03$ and $F(1,23)=.66, p>.05, \eta^2=.03$ respectively. Additionally, the interaction effect was not significant, $F(1,23)=.68, p>.05, \eta^2=.01$.

For the PD subscale of the IRI, neither the time or group main effect was significant, $F(1,23)=2.63, p>.05, \eta^2=.10$ and $F(1,23)=.33, p>.05, \eta^2=.01$ respectively. Additionally, the interaction effect was not significant, $F(1,23)=.10, p>.05, \eta^2=.01$.

**Mindfulness**

The second purpose of the study was to determine whether participation in the mindfulness course was associated with greater mindfulness. To examine whether participation in the mindfulness group (vs. participation in the control courses) impacted levels of mindfulness, a 2 (group) X 2 (time) mixed factorial analyses of variance (ANOVA) was conducted on each outcome variance using an alpha level of .05 as the criterion for
statistical significance. The first independent variable, group, included two levels: MBCT and CPSY. The second independent variable, time, included two levels: Time 1 and Time 2. The dependent variables were total scores on the Mindful Awareness Attention Scale (MAAS) and the five subscales of the Five Factor Mindfulness Questionnaire (FFMQ): Observe, Describe, Act with Awareness, Nonjudgement, Nonreactivity. Means and standard deviations for each group on the MAAS and five subscales of the FFMQ are represented in Table 2.

For the MAAS, neither the main effects of group or time were significant, $F(1,23)=.77$ $p>.05$, $η^2=.03$ and $F(1,23)=.05$ $p>.05$, $η^2=.01$ respectively. The intervention was also not significant $F(1,23)=.77$ $p>.05$, $η^2=.03$.

For the Observe subscale of the FFMQ, the main effect for time was significant, $F(1,23)=4.56$ $p<.05$, $η^2=.17$, indicating that the increase this facet between Time 1 and Time 2 was significant for participants in the mindfulness class. However, neither the main effect for group or the interaction between group and time were significant, $F(1,23)=0.1$ $p>.05$, $η^2=.01$ and $F(1,23)=3.69$ $p>.05$, $η^2=.14$ respectively.

For the Describe subscale of the FFMQ, neither the main effect for time or group was significant, $F(1,23)=.71$ $p<.05$, $η^2=.03$ and $F(1,23)=.37$ $p<.05$, $η^2=.02$ respectively. The interaction effect was also not significant, $F(1,23)=.04$ $p>.05$, $η^2=.01$.

For the Act with Awareness subscale of the FFMQ, neither the main effect for time or group was significant, $F(1,23)=.05$ $p<.05$, $η^2=.01$ and $F(1,23)=.01$ $p>.05$, $η^2=.01$ respectively. The interaction effect was also not significant, $F(1,23)=.40$ $p>.05$, $η^2=.02$.

The main effect of time for the FFMQ Nonjudgment subscale was significant, $F(1,23)=7.55$ $p<.05$, $η^2=.25$, indicating that the increase this facet between Time 1 and
Time 2 was significant for both the MBCT and CPSY participants. However, neither the main effect for group or interaction effect were significant, \( F(1,23)=.01 \ p>.05, \eta^2=.01 \) and \( F(1,23)=.77 \ p>.05, \eta^2=.03 \) respectively.

For the Nonreactivity subscale of the FFMQ, neither the main effect for time or group was significant, \( F(1,23)= 1.04 \ p<.05, \eta^2=.04 \) and \( F(1,23)=.40 \ p>.05, \eta^2=.02 \) respectively. The interaction effect was also not significant, \( F(1,23) = 1.75 \ p>.05, \eta^2=.07 \).

**Discussion**

**Overview of the Study**

The purpose of the study was to evaluate whether participation in a mindfulness-based intervention course increased students empathy when compared with a control group not enrolled in the course. An empathy scale, the Interpersonal Reactivity Index (IRI), was administered to students in both the intervention and control group at two data points: on the first day of class and seven weeks in to the semester. Additionally, students in both groups were given two measures of mindfulness at both time points: the Mindful Awareness Attention Scale (MAAS) and the Five-factor Mindful Awareness Scale (FFMQ).

**Discussion of the Results**

The intervention and control group were compared from Time 1 and Time 2 using a mixed factorial analysis of variance (ANOVA). ANOVAs were run for each dependent variable separately, with the independent variables of time and group. Results indicated that both the total IRI score and Empathic Concern (EC) subscale of the IRI significantly increased for the mindfulness group when compared with the control group. Additionally, the main effect for time of the FFMQ Observe subscale was significant, indicating that this facet of mindfulness increased significantly for the MBCT group between the two time
points. Also, the main effect for the Nonjudgment subscale of the FFMQ was significant, although in this case both the MBCT and CPSY scores increased from Time 1 to Time 2.

**Empathy**

The data support the primary hypothesis that empathy scores would increase for the MBCT and not the CPSY group. It also supports the secondary hypothesis that increases on the EC subscale would increase for the MBCT group compared with the CPSY group. The data did not support the secondary hypothesis that scores on the Perspective Taking (PT), Fantasy (FS) and Personal Distress (PD) subscales of the IRI would increase as well. This may be because the relationship between fantasy, personal distress and empathy remains unclear (Lawrence, Shaw, Baker, Baron-Cohen and David, 2004).

The difference between the EC and PT scales may explain why one was significant and not the other. According to Davis (1983) PT is related to social functioning and social self-esteem, whereas EC is related to global emotionality. The MBCT intervention focuses more on noticing one’s own mental states rather than that of others, therefore social considerations may not be impacted significantly.

The finding that total empathy scores increased for the intervention compared to control group is similar to findings by both Lesh (1970), Shapiro et al. (1998) and Schure et al. (2008) that observed and self-reported empathy scores increased after a mindfulness intervention. Interestingly, these findings are different from those of Beddoe and Murphy (2004) and Galantino et al. (2005) who did not find changes in empathy, yet also used the IRI.

**Mindfulness**
The data did not support the primary hypothesis that mindfulness scores would increase for the MBCT group compared to the CPSY group according to the MAAS. It is possible that the MAAS was not sensitive enough to changes in mindfulness over the short duration of the study because it measures the trait, rather than state, of mindfulness (Nyklicek & Kuijpers, 2008).

Additionally, the data did not support the primary hypothesis that scores on the Describe, Act with Awareness and Nonreactivity subscales of the FFMQ would increase for the MBCT compared to the CPSY group. Nyklicek and Kuijpers (2008) argue the Act with Awareness and the MAAS are overlapping constructs, therefore it is consistent that both were not significant. Nyklicek and Kuijpers also suggest the Describe subscale is not a focus of MBSR, and therefore may not be enough of a focus in MBCT to change significantly over time.

The Observe and Nonjudgment subscales significantly increased between Time 1 and Time 2, which supported the primary hypothesis. However, a significant increase on the Nonjudgment subscale between Time 1 and Time 2 was also found for participants in CPSY group, which does not support the primary hypothesis. At this time it is unclear why this change occurred, and may suggest that the MBCT group increase in Nonjudgment was not a result of mindfulness.

Limitations

These results may have been influenced by potential biases or threats to internal validity within the study design. One of the difficulties with a repeated-measures design is that participants may respond differently during Time 2 if they intuited the purpose of the study when completing the measures at Time 1. As stated by Brown & Ryan (2004), social
desirability and demand characteristics may influence participant responses. However, mindfulness scores according to the MAAS did not increase significantly, which suggests participants were not responding based on these expectations.

Another threat to internal validity is the difficulty in accurately measuring the constructs of empathy and mindfulness. Several definitions of empathy exist and most scales have significant weaknesses (Lawrence et al. 2004). Various definitions of mindfulness exist as well, and challenges include differing conceptualizations, lack of knowledge about Buddhism, differences in interpretation and discrepancies between self-report and ‘real’ mindfulness (Grossman, 2008).

An important limitation of the study was the small sample size. It is possible that with a larger sample changes in mindfulness would have been detected. A consequence of the small sample size and participant attrition in the CPSY group was that analyses planned for the end of the semester were not conducted. Therefore, the length of time between the two measurement points was shorter than had been planned by the researchers and may not have allowed for enough time for noticeable changes to take place.

Another limitation was that participant’s meditation practice could not be verified. Currently, it is unknown whether a dose-response relationship exists between time and increase in mindfulness (Caspi & Burleson, 2005). However, Nyklicek and Kuijpers (2008) did not find an association between home practice, session attendance and outcome.

Differences between the MBCT and CPSY groups added unaccounted variance. Participant attrition in the CPSY courses may suggest students in the MBCT course felt greater pressure to participate than those in the CPSY courses. Also, researchers recruiting for the study were members of the Doctoral psychology program, as were students in the
MBCT class, whereas students in the CPSY group were members of the Masters level program. It is unknown to what degree the participant drop-off was influenced by program affiliation. However, Shapiro et al. (2007) did not find any effect of year of study on outcome measures.

There are limits to the generalizability of this study given the particular subset of the population. The characteristics of the sample may be less applicable to the population of healthcare professionals, therapists or therapists in training as a whole, given all were self-selected from a private school in the Pacific Northwest of the United States. Therefore, geographical and personality factors that lead people to attend this school may have influenced the findings. Additionally, participants who elected to take part in the MBCT course may have been more open and amenable to the influence of mindfulness than their peers.

It is possible that there are alternative explanations for the change in participant empathy. Participants in the control group were first and second year Masters students, compared with Doctoral students in their second, third or fourth year. Therefore experience or level of training may have contributed to the increase in empathy.

Alternative mechanisms between empathy and mindfulness should also be considered. Fulton (2003) suggests that meditation contributes to a sense of equanimity, humility, seeing hidden possibilities, revealing one’s own narcissism, gaining wider wisdom, as well as acceptance of self and non-self, all of which may influence empathy in addition to mindfulness.

Implications
Despite these limitations, the present study contributes to the body of research involving empathy and mindfulness in healthcare professionals. Previous research shows that therapists with greater empathy have greater therapeutic outcomes (Asay & Lamber, 1999). Research also shows that stress can significantly decrease the quality of patient care (Kilfedder, Power, & Wells, 2009; Shanafelt, 2009). Therefore it is important to determine whether mindfulness practice can increase empathy and decrease stress.

These issues are important for healthcare workers as well as non-professionals. Decreasing stress can have significant benefits for people both mentally and physically (Praissman, 2008). And, increasing empathy may improve interpersonal relationships.

**Further Research**

Further research into this topic would benefit from including more specific measures of therapist empathy, particularly to determine whether the client’s experience of their therapist’s empathy changes as a result of the therapist's mindfulness practice. Ideally, empathy measurements would include naturalistic observations or reactions to presented stimuli in addition to self-report. This would also raise the issue of differences between intellectual and emotional empathy (Duan & Hill, 1996).

Additionally, determining to what degree empathy and mindfulness predict client outcome would strengthen evidence supporting the causal relationships between these variables.

Future work might consider whether therapist self-compassion may play a role in mediating the relationship between mindfulness and empathy. Fulton (2003) argued that a therapist must generate compassion towards him or her self before they can be empathic with their clients. Epstein (2003) suggests therapists who are present-focused are better
able to listen and have compassion for their clients. Investigation into these factors would illuminate these relationships.

It may be useful to study other facets of mindfulness as they relate to therapist empathy. For example, to what degree do other therapist attitudes or self-perceptions play a role in mediating the impact of mindfulness? It may be that those therapists who are less attached to ego or less judgmental of their clients benefit from mindfulness training more than others. Epstein (2003) suggests that curiosity, attentiveness and critical thinking are issues of professional competence; “awareness of the tacit ethics of the moment allows the clinician to make those decisions more consciously, and conscientiously” (p.4). He suggests observing oneself as well as the patient and problem in a nonjudgmental way allows for recognition and accommodation to biases.

Finally, the conceptualization of ‘self’ in Buddhism is very different from that in Western psychology, and it may be difficult for Westerners to accept this significant discrepancy (Fulton 2003). As noted by Anderson (2005), traditional psychotherapy values a strong ego, whereas meditation works towards transcending the ego. Further assessment of these personality characteristics or beliefs would help clarify for who these interventions are best suited for.

**Conclusion**

Currently there are more questions than answers, including how to define and measure the constructs of empathy and mindfulness. Nevertheless, the evidence thus far indicates that mindfulness interventions are helpful for clinical and nonclinical populations. Further, research suggests that healthcare professionals specifically benefit
from mindfulness training. Given the importance of the therapeutic relationship, it is important to determine the potential of mindfulness to foster empathy and decrease stress.
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Appendix A: Instruments

Demographic Questionnaire

To help ensure your confidentiality, please DO NOT write your name anywhere on this survey.

1. What is your gender?
   ____ Male
   ____ Female

2. How old are you? ______

3. Do you consider yourself Hispanic or Latino? Yes____  No____

4. Which group best describes your race?
   ____ African American or Black
   ____ Asian or Pacific Islander
   ____ Native American or Alaska Native
   ____ White or of European origin
   ____ Mixed; parents are from two or more different groups
   ____ Other (write in) ________________

5. What is your religious affiliation?
   ____ Buddhist
   ____ Catholic
   ____ Christian
   ____ Jewish
   ____ Lutheran
   ____ Muslim
   ____ Protestant
   ____ None
   ____ Other

6. Do you currently meditate? _____ (if NO skip the next 3 questions)

7. For how long have you been meditating? ______

8. For how long do you meditate each day? ______

9. To what extent do you carry your meditation practice into your daily life? (circle below)

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<td>Somewhat Frequently</td>
<td>Very Frequently</td>
<td>Almost Always</td>
<td>Always</td>
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Interpersonal Reactivity Index

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page: 1, 2, 3, 4 or 5. When you have decided on your answer, circle the number on the answer sheet next to the item. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can.

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<td></td>
<td></td>
<td></td>
<td>Describes Me Very Well</td>
</tr>
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</table>

1. I daydream and fantasize, with some regularity, about things that might happen to me. 0 1 2 3 4
2. I often have tender, concerned feelings for people less fortunate than me. 0 1 2 3 4
3. I sometimes find it difficult to see things from the “other guy’s” point of view. 0 1 2 3 4
4. Sometimes I don’t feel very sorry for other people when they are having problems. 0 1 2 3 4
5. I really get involved with the feelings of the characters in a novel. 0 1 2 3 4
6. In emergency situations, I feel apprehensive and ill-at-ease. 0 1 2 3 4
7. I am usually objective when I watch a movie or play, and I don’t often get completely caught up in it. 0 1 2 3 4
8. I try to look at everybody’s side of a disagreement before I make a decision. 0 1 2 3 4
9. When I see someone being taken advantage of, I feel kind of protective towards them. 0 1 2 3 4
10. I sometimes feel helpless when I am in the middle of a very emotional situation. 0 1 2 3 4
11. I sometimes try to understand my friends better by imagining how things look from their perspective. 0 1 2 3 4
12. Becoming extremely involved in a good book or movie is somewhat rare for me. 0 1 2 3 4
13. When I see someone get hurt, I tend to remain calm. 0 1 2 3 4
14. Other people’s misfortunes do not usually disturb me a great deal. 0 1 2 3 4
15. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments. 0 1 2 3 4
16. After seeing a play or movie, I have felt as though I were one of the characters. 0 1 2 3 4
17. Being in a tense emotional situation scares me. 0 1 2 3 4
18. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them. 0 1 2 3 4
19. I am usually pretty effective in dealing with emergencies. 0 1 2 3 4
20. I am often quite touched by things that I see happen. 0 1 2 3 4
21. I believe there are two sides to every question and try to look at them both. 0 1 2 3 4
22. I would describe myself as a pretty soft-hearted person. 0 1 2 3 4
23. When I watch a good movie, I can very easily put myself in the place of a leading character. 0 1 2 3 4
24. I tend to lose control during emergencies. 0 1 2 3 4
25. When I’m upset at someone, I usually try to “put myself in his shoes” for a while. 0 1 2 3 4
26. 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. 0 1 2 3 4
27. When I see someone who badly needs help in an emergency, I go to pieces. 0 1 2 3 4
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. 0 1 2 3 4
Mindful Awareness Attention Scale

Below is a collection of statements about your everyday experience. Using the 1–6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

<table>
<thead>
<tr>
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<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>Almost Always</td>
<td>Very Frequently</td>
<td>Somewhat Frequently</td>
<td>Somewhat Infrequently</td>
<td>Very Infrequently</td>
<td>Almost Never</td>
</tr>
</tbody>
</table>

1. I could be experiencing some emotion and not be conscious of it until some time later. 1 2 3 4 5 6
2. I break or spill things because of carelessness, not paying attention, or thinking of something else. 1 2 3 4 5 6
3. I find it difficult to stay focused on what’s happening in the present. 1 2 3 4 5 6
4. I tend to walk quickly to get where I’m going without paying attention to what I experience along the way. 1 2 3 4 5 6
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention. 1 2 3 4 5 6
6. I forget a person’s name almost as soon as I’ve been told it for the first time. 1 2 3 4 5 6
7. It seems I am “running on automatic” without much awareness of what I’m doing. 1 2 3 4 5 6
8. I rush through activities without being really attentive to them. 1 2 3 4 5 6
9. I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there. 1 2 3 4 5 6
10. I do jobs or tasks automatically, without being aware of what I’m doing. 1 2 3 4 5 6
11. I find myself listening to someone with one ear, doing something else at the same time. 1 2 3 4 5 6
12. I drive places on “automatic pilot” and then wonder why I went there. 1 2 3 4 5 6
13. I find myself preoccupied with the future or the past. 1 2 3 4 5 6
14. I find myself doing things without paying attention. 1 2 3 4 5 6
15. I snack without being aware that I’m eating. 1 2 3 4 5 6
Five Factor Mindfulness Questionnaire

Please rate each of the following statements using the scale provided. Circle the number that best describes your own opinion of what is generally true for you.

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<td>never or very rarely true</td>
<td>rarely true</td>
<td>sometimes true</td>
<td>often true</td>
<td>very often or always true</td>
</tr>
</tbody>
</table>

1. When I’m walking, I deliberately notice the sensations of my body moving. 1 2 3 4 5
2. I’m good at finding words to describe my feelings. 1 2 3 4 5
3. I criticize myself for having irrational or inappropriate emotions. 1 2 3 4 5
4. I perceive my feelings and emotions without having to react to them. 1 2 3 4 5
5. When I do things, my mind wanders off and I’m easily distracted. 1 2 3 4 5
6. When I take a shower or bath, I stay alert to the sensation of water on my body. 1 2 3 4 5
7. I can easily put my beliefs, opinions, and expectations into words. 1 2 3 4 5
8. I don’t pay attention to what I’m doing because I’m daydreaming, worrying, or otherwise distracted. 1 2 3 4 5
9. I watch my feelings without getting lost in them. 1 2 3 4 5
10. I tell myself I shouldn’t be feeling the way I’m feeling. 1 2 3 4 5
11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions. 1 2 3 4 5
12. It’s hard for me to find the words to describe what I’m thinking. 1 2 3 4 5
13. I am easily distracted. 1 2 3 4 5
14. I believe some of my thoughts are abnormal or bad and I shouldn’t think that way. 1 2 3 4 5
15. I pay attention to sensations, such as the wind in my hair or sun on my face. 1 2 3 4 5
16. I have trouble thinking of the right words to express how I feel about things. 1 2 3 4 5
17. I make judgments about whether my thoughts are good or bad. 1 2 3 4 5
18. I find it difficult to stay focused on what’s happening in the present. 1 2 3 4 5
19. When I have distressing thoughts or images, I “step back” and am aware of the thought or image without getting taken over by it. 1 2 3 4 5
20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing. 1 2 3 4 5
21. In difficult situations, I can pause without immediately reacting. 1 2 3 4 5
22. When I have a sensation in my body, it’s difficult for me to describe it because I can’t find the right words. 1 2 3 4 5
23. It seems I am “running on automatic” without much awareness of what I’m doing. 1 2 3 4 5
24. When I have distressing thoughts or images, I feel calm soon after. 1 2 3 4 5
25. I tell myself that I shouldn’t be thinking the way I’m thinking. 1 2 3 4 5
26. I notice the smells and aromas of things. 1 2 3 4 5
27. Even when I’m feeling terribly upset, I can find a way to put it into words. 1 2 3 4 5
28. I rush through activities without being really attentive to them. 1 2 3 4 5
29. When I have distressing thoughts or images, I am able to just notice them without reacting. 1 2 3 4 5
30. I think some of my emotions are bad or inappropriate and I shouldn’t feel them. 1 2 3 4 5
31. I notice visual elements in nature or art, such as colors, shapes, textures, or patterns of light and shadow. 1 2 3 4 5
32. My natural tendency is to put my experiences into words. 1 2 3 4 5
33. When I have distressing thoughts or images, I just notice them and let them go. 1 2 3 4 5
34. I do jobs or tasks automatically without being aware of what I’m doing. 1 2 3 4 5
35. When I have distressing thoughts or images, I judge myself as good or bad, depending on what the thought/image is about. 1 2 3 4 5
36. I pay attention to how my emotions affect my thoughts and behavior. 1 2 3 4 5
37. I can usually describe how I feel at the moment in considerable detail. 1 2 3 4 5
38. I find myself doing things without paying attention. 1 2 3 4 5
39. I disapprove of myself when I have irrational ideas. 1 2 3 4 5
Appendix B: Results

Table 1

*Factor Group Means and Standard Deviations for IRI and 4 subscales (N = 25)*

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*Note. MBCT = Mindfulness-based Interventions group; CPSY = control group.*
Table 2
Factor Group Means and Standard Deviations for MAAS and FFMQ subscales (N = 25)

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*Note. MBCT = Mindfulness-based Interventions group; CPSY = control group.*