

**The Impact of Mindfulness Practice on Mental Health Service Providers-in-Training:
An Examination of Mindfulness, Self-Awareness, Empathy, and Burnout**

by

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Abstract

The current study used a true experimental design, with wait-list control, to determine if the Mindfulness Based Stress Reduction (MBSR) program would increase levels of mindfulness, self-awareness, and empathy, while decreasing levels of burnout among graduate level mental health service providers-in-training. Self-report measures were used to assess the dependent variables before the start of the MBSR program, at completion of the program, and four weeks after the MBSR program ended. Data from 16 total participants (8 in each group) were analyzed using repeated measures ANOVAs with a between-subjects factor. Results indicated that the MBSR program did not lead to an increase in levels of mindfulness, self-awareness, or empathy, or a decrease in burnout for the treatment group. Information regarding the nature of the stressors encountered by graduate level mental health service providers-in-training was obtained.

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I. Introduction

Mindfulness is somewhat of an ethereal term, as it brings to mind images of Buddha and visceral sensations of peacefulness and tranquility. This long established Eastern tradition has drawn increasing interest in the West over the past decade as researchers have uncovered the numerous mental, physical, and spiritual healing benefits that can emerge through the cultivation of mindfulness (Kabat-Zinn, 2003). In both clinical and student populations, mindfulness training has been shown to lessen clinical symptoms for a diverse set of mental and physical health problems including anxiety, depression, social anxiety disorder and fibromyalgia (Goldin & Gross, 2010; Kabat-Zinn; Kabat-Zinn, Massion, & Kristellar, 1992). Additionally, a regular mindfulness practice has been shown to foster the development of compassion, empathy, equanimity, self-awareness, insight and wisdom (Goldstein, 2002); qualities that have been hailed as particularly relevant to the therapeutic process.

The unique contribution of the person of the therapist has proven to play a critical role in the therapy process (Fauth & Williams, 2005; Luborsky, McLellen, Diguier, Woody & Seligman, 1997). Therefore, attending to the person of the therapist may be just as important as teaching clinicians the proper clinical techniques to use with clients. Given the current research and growing interest in the benefits of mindfulness training, it is important to further investigate how the practice could facilitate counselor development. Researchers have proposed that mindfulness training could be advantageous to therapists due to the reported success of mindfulness-based treatments with clients (Kabat-Zinn, 2003; Walsh & Shapiro, 2006). The steps to cultivating mindfulness are, in fact, teachable and therefore it is a reasonable goal to consider including components of mindfulness practice with mental health service providers-in-training (Brown & Ryan, 2003).

In response to the current research, the present study explored several intrapersonal effects that mindfulness practice may have on mental health service providers-in-training. Specifically, the current study examined mental health service providers-in-training who have and have not practiced formal mindfulness training. The mental health service providers-in-training's perceptions of their personal level of mindfulness, level of self-awareness, level of empathy within the therapeutic process and level of burnout while pursuing graduate training were assessed. Additionally, the current study sought to gain information about mental health service providers-in-training's perceptions of the nature of their stressors as well as the perceived benefits they experience from mindfulness training, if any.

II. Literature Review

The spiritual teacher, Buddha, first used the term mindfulness 2,500 years ago in his famous discourse, *Satipatthana Sutta*, which translates into “The Foundations of Mindfulness” (Thera, 1965). A dissection of the title reveals its essence; “Sati-Patthana” is actually two separate words, “Sati” is translated as “awareness” or “attention” and “Patthana” literally means “placing near one’s mind”, that is, “staying present” (Thera, 1965). Due to its Buddhist roots, mindfulness is often perceived as a mystical practice that leads to an altered state of mind; however the potential for perceiving the world in a mindful manner is believed to be an inherent capacity within us all (Brown & Ryan, 2003). When defined by its separate components, mindfulness is described as attending to, being aware of, and staying present with one’s experience. Thera refers to mindfulness in its most basic form as “bare attention: the clear and single-minded awareness of what actually happens *to* us and *in* us, at the successive moments of perception” (1965, p. 51). This description is devoid of any hint of reaction, evaluation, or judgment of the stimuli; there is only receptive perception.

Following Buddha’s lead, Western researchers have proposed many formal definitions for mindfulness including, “The process of bringing one’s complete attention to the present experience on a moment-to-moment basis” (Marlatt & Kristeller, 1999, p. 68), “An open or receptive attention to and awareness of ongoing events and experience” (Brown & Ryan, 2004, p. 245), and a process in which one “pays attention in a particular way, on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4). Mindfulness is usually described as an individual difference or inherent state of consciousness possessed by all humans that simply requires one to consciously attend to his or her moment-to-moment experience (Brown & Ryan, 2003). The practice of attending to one’s present experience can be cultivated through

mindfulness-based practices but does not depend on participation in them (Brown & Ryan, 2004; Kabat-Zinn, 2003). Similar formulations describe mindfulness as a mode of awareness and psychological process which is closer to a state than a trait since the process of evoking and maintaining mindfulness depends on one's ability to regulate his or her attention while maintaining an open orientation to the experience (Bishop, Lau, Shapiro, Carlson, & Anderson, 2004).

In order to de-mystify the construct of mindfulness and facilitate empirical study, researchers have suggested that fundamental components of mindfulness exist and are largely responsible for the transformations that emerge through mindfulness practice. These components include: 1) the intention to focus one's attention, 2) a non-judgmental attitude of openness and acceptance, 3) self-regulated attention in the present moment, 4) awareness of internal and external stimuli, and, 5) the ability to describe one's internal state (Baer et al., 2006; Bishop et al., 2004; Brown & Ryan, 2003; Shapiro, Carlson, Astin, & Freedman, 2006). Due to the fact that mindfulness is an activity that involves processes that are invisible to the naked eye, there is understandably much variability amongst the existing conceptualizations of mindfulness. While many conceptualizations have been proposed, the operational definition of mindfulness is still undergoing development. Self-report questionnaires used to assess mindfulness have emerged within the last several years; this advancement provides new opportunities for empirical investigation of the nature of mindfulness and how it relates to other psychological constructs (Baer et al. 2006). As suggested by Dimidjian and Linehan (2003), and Roemer and Orsillo (2003) a multi-dimensional definition of mindfulness was used for this investigation. Baer, Smith, and Allen (2004) created the Kentucky Inventory of Mindfulness Skills to assess the following dimensions of mindfulness: observing, describing, acting with awareness, and

accepting without judgment. For the purposes of this study mindfulness was operationalized by scores obtained on the KIMS.

The Cognitive Components of Mindfulness

The uniting element in each of the previously cited definitions is an attentional component considered essential for the practice of mindfulness. For this reason, researchers have suggested that cognitive mechanisms (as opposed to perceptual or affective mechanisms) may be responsible for the beneficial effects of mindfulness training that allow individuals to harness their attentional capabilities in a unique way (Shapiro, Carlson, Astin, & Freedman, 2006). The cognitive mechanisms underlying the practice of mindfulness include two main components: 1) the self-regulation of attention that it is directed to the immediate experience of the individual, and 2) the adoption of an open, curious, and accepting awareness of the present experience (Bishop et al., 2004).

The first cognitive mechanism underlying mindfulness, the self-regulation of attention, involves the ability to maintain a state of vigilance over prolonged periods of time (Posner & Rothbart, 1992) while also possessing the flexibility to be able to switch the focus of attention back to the intended stimulus when distractions occur (Bishop et al., 2004). The second cognitive mechanism underlying mindfulness, the adoption of an open, curious, and accepting awareness of the present, requires one to commit to maintaining an open presence while observing one's immediate experience. Specific exercises in concentration, collectively called "meditation", are recommended as a powerful vehicle for increasing an individual's ability to evoke and maintain a mindful state. The mindfulness literature primarily focuses on two types of meditation: concentration-based meditation, which teaches individuals to focus their attention on a specified stimulus, and awareness meditation, which teaches individuals to ready their

attention in the present moment without selecting one stimulus to attend to, remaining open to whatever arises internally or externally (Bishop et al.; Kabat-Zinn, 1990, 1994).

Concentration-based meditation. Concentration-based forms of meditation train the individual to focus his or her attention on a single stimulus, such as a specific sensation, word, or visual image (Brown, 1977). For example, one might observe the breath while mentally repeating the words *inhale* and *exhale*, as the breath flows in and out of the body. If attention shifts to another stimulus, such as the sound of cars passing outside, the individual would shift the focus of his or her attention back to the breath. This type of practice is used to develop the ability to attend for long periods of time (sustained attention). For this reason, concentration-based meditation is often referred to as focused attention meditation in which the goal is to sustain one's selective attention moment by moment on a specific object or sensation (Lutz, Slagter, Dunne, & Davidson, 2008). In the example above, the cars would be viewed as distracting extraneous stimuli not to be attended.

It is suggested that concentrative attention is possible due to the presence of the bilateral dorsal frontoparietal system, responsible for voluntary orienting (top-down; Corbetta & Shulman, 2002). The dorsal system is used for *orienting* and *conflict monitoring*. Orienting consists of directing and limiting one's attention to a small range of possible inputs, like the breath, for example. Conflict monitoring prioritizes these competing tasks and responses so that an individual can attend to the stimulus of their choice (like the sound of one's breath; Posner & Petersen, 1990). In other words, there are physiological structures that allow for the intentional focus upon a single object (orienting) and lack of responding to distraction (conflict monitoring). Though not entirely understood at the neurochemical level, the benefits from mindfulness are theorized to operate through changes in the same structures that make mindfulness (sustained

attention and avoidance of distraction) possible.

To maintain this concentrated focus, one must continually monitor the quality of his or her attention. This practice is said to develop three skills associated with the regulation of attention: 1) monitoring distractions without destabilizing the intended focus, 2) disengaging from a distracting object without further involvement, and 3) redirecting one's focus promptly to the chosen object (Posner & Petersen, 1990).

Awareness meditation. Awareness meditation (also referred to as mindfulness meditation, open meditation, and open monitoring) involves the observation of one's present moment experience, including physical sensations, thoughts, and feelings (Brown, 1977). This type of meditation requires the use of receptive attention in which there is no object to place one's focus on; instead, one's goal is to simply keep attention readied in the present moment without orienting, directing, or limiting it in any way (Brown). Therefore, no stimulus is considered extraneous because attention is open to the entire field of present experience and the goal is to effortlessly sustain awareness without explicit selection of an object on which to focus (Lutz et al., 2008).

Behavioral, neuroimaging, lesion, and electrophysiological studies have examined the underpinnings of awareness meditation resulting in the proposition that the right-lateralized ventral frontoparietal system is used (Corbetta & Shulman, 2002). The ventral system is involved in bottom-up attention, which is driven by stimuli. It is activated when there are abrupt, unexpected, changes in sensory stimuli that are outside the focus of one's attention. The ventral system is described as an "alerting" one that is responsible for maintaining a vigilant state of preparedness (Posner & Petersen, 1990). In other words, current understanding of the

physiology behind awareness meditation is that the same brain structures that allow us to be alert, in general, are used when we seek to keep our attention readied in the present without focusing it in any way.

While the goal of awareness meditation may sound simplistic, maintaining awareness of one's surroundings or attending receptively requires training. Novice meditators might begin by first labeling their experiences, visceral sensations, and self-talk and may quickly realize the challenging nature of developing these skills because attention becomes lost in thoughts or emotions (Jha et al. 2007). In the Zen meditative tradition, individuals begin with concentration-based meditation in order to train the attentional capacities before moving to awareness meditation, which encourages insight into one's conscious experience.

The Benefits of Mindfulness

Clinical populations. In the last decade, a growing number of clinicians have emerged who desire to integrate mindfulness techniques into their therapeutic work (Kabat-Zinn, 2003). Formal mindfulness-based programs such as Mindfulness-Based Stress Reduction (MBSR), developed over the course of 30 years, emphasize techniques of awareness meditation as a self-regulatory approach to facilitate adaption to medical illness, stress reduction, and emotion management (Kabat-Zinn, 1982). MBSR is an 8-week program that teaches Mindfulness through the practice of awareness meditation, hatha yoga, and body scan (an exercise in which attention is directed to one's body from head to toe to increase awareness of visceral sensations; Kabat-Zinn, 1990). MBSR is effective for patients with mixed anxiety disorders, obsessive neuroses, borderline personality disorder, eating, social anxiety disorder, and affective disorders (Goldin & Gross, 2010; Kabat- Zinn et al., 1992). Research suggests that MBSR results in reductions in ruminative tendencies such as brooding and reflection, binge-eating episodes, and levels of

anxiety and panic (Kabat-Zinn et al., 1992). Additionally, MBSR is a central component of dialectical behavior therapy (Linehan, 1993), as well as acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 1999). Clearly, mindfulness meditation and the adaptations born from it have therapeutic value in ameliorating a host of mental health illnesses.

Professionals. For those who practice mindfulness meditation, there are numerous benefits including greater cognitive, emotional, and behavioral flexibility, recognition of unconscious conflicts, ability to detach and observe fears and worries in a relaxed manner, loosening of defenses, increased self-awareness, increased emotional stability, and improved self-regulation (Shapiro et al., 2006). These individual benefits would be expected to extend to therapists, enhancing their private lives and positively impacting their therapeutic skills. In fact, some researchers propose that there are benefits of mindfulness that specifically relate to the treatment provider role. For example, Walsh and Shapiro suggest “meditation may enhance essential therapist qualities such as Rogers’s *accurate empathy*, as well as attentional qualities such as Bugental’s *presence*, Freud’s *evenly hovering attention*, and Horney’s *whole-hearted attention*”(Walsh & Shapiro, 2006, p. 235). Additionally, several cognitive, emotional, and relational qualities inherent in Master Therapists, who are considered to be the best among mental health practitioners, are believed to be cultivated through Mindfulness practice (Jennings & Skovholt, 1999; Kabat-Zinn, 2003). These include the desire to learn more about oneself, the ability to tolerate ambiguity, self-awareness about how emotional health and reactivity impacts one’s work, and the ability to exude warmth and empathy (Kabat-Zinn; Lutz et al., 2008).

Self-Awareness

Self-awareness has been described as both the ability to be conscious of oneself as an object as well as a capacity for feeling, understanding, and communicating one’s own self-

representation (Carver, 2003; Mannarini, 2009). One's self-representation includes the contents of internal experiences such as thoughts, feelings, and reflections as well as external experiences such as behaviors and appearance (Fenigstein, Scheier, & Buss, 1975). Clinical definitions of self-awareness typically include an emphasis on insight (Fenigstein, et al., 1975; Mannarini, 2009). For the purposes of this study, Fenigstein's two-dimensional conceptualization of self-consciousness will be used which is defined as "the enduring tendency of persons to direct attention toward themselves" (Fenigsten, 1979. p. 76). This conceptualization captures both the public and private dimensions of self-awareness. Self-awareness will be operationalized as scores on both the private self-consciousness and public self-consciousness subscales of the Self Consciousness Scale (Fenigstein, 1979).

A wealth of research has highlighted self-awareness as one critical component of skilled therapists (Coster & Schwebel, 1997; Fauth & Williams, 2005; Guise, Kelly, Romanowski, Vogeley, Platek, Murray, & Keenan, 2007; Jennings & Skovholt, 1999; May, 1967; Silvia & O'Brien, 2004; Williams, Judge, Hill, & Hoffman, 1997). However, self-awareness can also pose additional challenges to the therapist if it distracts from the therapy session (Silvia & O'Brien, 2004).

Facilitating aspects. Research with both expert and novice therapists indicates that greater self-awareness contributes to better overall functioning within the therapist as an individual (Coster & Schwebel, 1997), as well as better therapy within the session (Fauth & Williams, 2005; Williams et al., 1997). In fact, in a study conducted by Coster and Schwebel (1997) in which therapists themselves ranked the variables they considered most important to their ability to function well over time and in the face of professional and personal stressors, "self-awareness" was the variable with the highest ranking mean. Other variables included:

personal values, relationship with spouse/partner/family/friends, preserving a balance between personal and professional lives, and personal therapy.

Novice therapists appear to use self-awareness of their own feelings and reactions to their client as a way to manage their anxiety within session; and this is associated with clients' perceptions that the therapist is more insightful and lacks negative behaviors such as being annoyed with the client and attempting to problem-solve (Williams et al., 1997). Further, "the more self-awareness therapists report, the more helpful they experience that self-awareness to be" (Fauth & Williams, 2005, p. 445) and as therapists experience their own self-awareness as more helpful they become more involved in session (Fauth & Williams, 2005). This supports May's (1967) belief that self-awareness is necessary for taking another's perspective and encourages empathic responses to another's plight. It is clear that therapist self-awareness is important for the well being of the therapist as well as for fostering a productive therapeutic relationship.

Hindering aspects. Whereas the above-mentioned research highlights self-awareness as an important component of therapy, there is also reason to believe that self-awareness can prove to be a hindrance to the therapeutic process. It is possible to become so attuned to one's internal experience that it distracts from accurately experiencing the other. Novice therapists have reported feeling distracted by various stimuli, including personal issues, self-awareness of their reactions to clients, intervention planning, or perceived pressure to follow an agenda (Williams et al., 1997). Being flooded with strong emotions could also pose a hindrance as it creates neural static in the prefrontal cortex that interferes with the executive functioning of the brain such as focusing attention in the present moment (Day & Leitch, 2001). Emotional flooding or distracting self-awareness interferes with the therapist's ability to be maximally effective,

particularly if the therapist is compelled to expend energy suppressing and controlling their reactions to the therapeutic process. Therapists' difficulty managing their feelings has been linked to the display of negative and incongruent behaviors (acting like a peer, becoming visibly annoyed, and offering their opinions in excess), becoming overly involved with the client thereby losing objectivity (taking client's side against parents, becoming too attached to client), and avoiding the client's affective material altogether while in session (Williams et al., 1997). Other pitfalls of awareness emerge when the trainee engages in frequent negative self-talk; the heightened awareness of this negative stimulus has been linked to the trainee feeling less competent and the client perceiving the therapist as less helpful (Fauth & Williams, 2005). Clearly some degree of self-awareness is vital for the therapeutic process, but self-awareness can also serve as a distracter from therapy, particularly when the therapist evaluates his or her performance negatively.

Reconciling the helpful and hindering aspects of self-awareness. When considering both the helpful and hindering aspects of therapists' self-awareness, the question arises as to how one can maximize the benefits of awareness without succumbing to the hindrances inherent in self-focused attention. Fauth and Williams (2005) have conceptualized self-awareness as existing on a continuum, positing that a moderate level of self-awareness within session that is focused on one's reaction to the therapeutic process may be helpful; however, a high level of awareness focused on outside, personal issues or managing anxiety may be hindering to the therapeutic process. It is as if an "awareness threshold" exists and once it is crossed the self-awareness requires too much energy to manage; this energy is withdrawn from the interaction with the client.

May (1967) referred to the attempt at reconciling our capacity for self-awareness, both the positive and negative aspects, as “the human dilemma.” The mindfulness literature addresses this paradox of self-consciousness and offers a new way of examining one’s awareness through mindfulness meditation by bringing an attitude of acceptance into the examination of one’s experience (Brown & Ryan, 2004; McIntosh, 1997). When practicing mindfulness, individuals do not merely try to change the way they think about themselves; rather, the individual’s effort is expended in the commitment to maintaining an open, curious stance to whatever emerges, with no call to *do* anything differently as a result of the awareness (Brown & Ryan, 2004). When examining one’s experience mindfully, agendas are abandoned in order to allow reflection on current sensations, thoughts, and feelings. Through the continued practice of mindfulness, one is permitted to stop seeing him/herself as merely an object that is manipulatable and therefore “fixable.” Instead, he or she can simply attend to his or her affectively rich subjective experience (Silvia & O’Brien, 2004). This is precisely what May (1967) prescribes in order to minimize suffering and maximize the benefits of self-awareness: achieve a synthesis of the objective and subjective states.

How does one synthesize the states of self-awareness? This question must be answered in order to apply May’s (1967) guidelines. In an attempt to further explore this human dilemma, researchers have classified instances of self-awareness as either ruminative or reflective (Hayes & Strauss, 1998; Trapnell & Campbell, 1999). When ruminating, one evaluates and summarizes his or her self-attentiveness as “motivated by perceived threats, losses, or injustices to the self” (Trapnell & Campbell, 1999, p. 297). A counselor-in-training employing ruminative awareness may have thoughts such as, “Following the client’s response, I should have taken the conversation in a different direction; my supervisor is going to doubt my abilities as a clinician.”

This example illustrates how self-awareness coupled with negative evaluation can distract the trainee from his or her awareness of the client's experience.

When employing reflective awareness, one evaluates and summarizes self-attentiveness as "motivated by curiosity or epistemic interest in the self" (Trapnell & Campbell, 1999, p. 297). A trainee's reflective awareness may result in thoughts such as, "I'm noticing a visceral sense of anxiety as the client talks about her illegal substance use, perhaps it is because the use of substances conflicts with my values; I'll try to remain curious about this feeling."

In the above examples, the ruminative statement contains an inherent expectancy regarding changes that need to occur in the therapist's behavior whereas the reflective statement emerges from curiosity, with no call for immediate action. This distinction reflects Silvia and O'Brien's (2004) finding that expectancy plays a role in determining whether self-awareness is adaptive or maladaptive. It also further supports May's suggestion that one sets reasonable self-standards, or expectations for behavior, in order to maximize gain and minimize suffering from self-awareness (1967). If a reflective stance is preferable when applied to self-awareness, how then does one adopt this approach? Bishop and colleagues (2004) address the role of expectancy in therapy, noting that repeated mindfulness practice and a new conception of emotion is needed to begin to approach one's experience with curiosity and acceptance (reflecting) without succumbing to the urge to fix or alter the experience (ruminating). Since an increase in mindfulness has been correlated with a decrease in rumination (Hayes & Strauss, 1998), it appears that one way in which therapists' mindfulness can positively influence the therapeutic process is by shifting therapists' approach to self-awareness from a ruminative perspective to a more reflective one.

Empathy

Definitions and clinical implications. Empathy is a multidimensional construct that has been classified as a dimension of personality, an experienced emotion, and also a behavior (Reynolds, Scott, & Jessiman, 1999). When described from a clinical perspective, empathy is typically classified as the necessary ability to communicate an understanding of the client’s perspective in order to establish the holding environment of the therapeutic relationship (Reynolds, Scott, & Jessiman; Turner, 2009). Rogers explains that the effective counselor assumes the client’s specific internal reference (1951). He states that a clinician operates by “getting under the skin of the client and trying to get within and live the attitudes expressed”; thereby enabling the clinician to “perceive as sensitively and accurately as possible all of the perceptual field as it is being experienced by the client” (Rogers, 1951, p. 29).

While the above definitions describe the centrality of empathy to the therapeutic relationship, Davis dissects the term into four domains (1983). Perspective-Taking (PT) is the cognitive domain and focuses on being able to understand another person’s point of view, Empathic Concern (EC), the affective domain, is “other-oriented” and involves the experience of concern for unfortunate others, Personal Distress (PD), the third domain, is “self-oriented” and concerns the experience of personal discomfort and anxiety during tense interpersonal situations, and the last domain, Fantasy, describes the ability to imagine the thoughts and feelings of fictional characters. The ability to understand another’s perspective (PT) while feeling concern for them (EC), implies an understanding and orientation toward one’s own thoughts and feelings and it is these domains that are most closely presumed to be nurtured through mindfulness-based practice (Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007). For the purposes of this study, the multidimensional definition of empathy, proposed by Davis (1983) will be used. Scores on the Interpersonal Reactivity Index (IRI) will operationalize empathy. The IRI assesses

4 dimensions of empathy: perspective taking, empathic concern, fantasy, and personal distress and all 4 subscales were used for this study.

Ties to mindfulness practice. A growing number of studies provide preliminary support for the efficacy of mindfulness-based interventions in the cultivation of empathy. Health care providers and nursing students who participated in an 8-week MBSR program had higher scores on overall empathy measures than control groups (Beddoe and Murphy, 2004; Shapiro, Schwartz, & Bonner, 1998). Similar results were obtained with a brief MBSR program as well (Mackenzie, Poulin, & Seidman-Carlson, 2006). While the specific mechanisms through which mindfulness practice influences the development of empathy remains unclear, it has been suggested that mindfulness practice fosters greater insight into the specific experiences of others, and on humankind more generally (Turner, 2009). This nonjudgmental present-moment awareness of one's own emotions coupled with the attitude of acceptance inherent in mindfulness practice is believed to result in more compassion, concern, and acceptance of others (Brown, Ryan, & Creswell, 2007).

Burnout

Definitions and clinical implications. The process of physical and emotional depletion resulting from one's working conditions is referred to as burnout (Osborn, 2004). Those who have experienced burnout report negative evaluations of their work, feeling that they can no longer give of themselves, psychologically, due to depleted emotional resources and the development of a dehumanized perception of others leading to cynical attitudes (Maslach & Jackson, 1986). The current study intends to utilize the following definition which is specific to those in the helping profession: "A syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "people work" of

some kind” (Maslach & Jackson, 1986, p. 1). Burnout will be operationalized by scores on the Maslach Burnout Inventory, 3rd edition (MBI; Maslach, Jackson, & Leiter, 1996). With regard to mental health providers in training, the process of burnout is believed to start during graduate training when stressful course loads are coupled with practicum assignments. The practicum experience is made more difficult by working with distressed patients under evaluative circumstances while maintaining a vested interest in “getting it right” (Irving, Dobkin, & Park, 2009). The frantic pace of graduate school seems to serve as the catalyst for a continued demanding schedule which later results in a perpetual cycle of an imbalanced professional life (Valente & Marotta, 2005). Graduate clinicians report placing less emphasis on their own needs while considering professional accomplishments as most urgent, leading to task-oriented coping styles with little time devoted to spending time with supportive others (Irving et al., 2009). It is no surprise then, that mental health professionals have been shown to be plagued with high levels of anxiety, depression, substance abuse, and suicide (Irving et al., 2009). In fact, 4 out of 10 psychologists experience clinically significant levels of psychological distress (Hannigan, Edwards, & Burnard, 2004).

This information is unlikely to surprise mental health professionals who, by the nature of their occupation, are required to provide constant empathy in “one-way” relationships. These relationships are characterized by cycles of attachment and inevitable detachment when treatment is terminated (Skovhalt, 2001). Therapists experiencing burnout report losses in energy, purpose, and idealism, and experience depersonalization and feelings of low personal accomplishment (Valente & Marotta, 2005) as well as gastrointestinal disturbances, depression, and insomnia (Lee, Lim, Yang, & Lee, 2011). Most of the research related to burnout identifies the “self” rather than the “environment” as the primary source of burnout, indicating that the

environment, by itself, is not to blame, because the clinician (i.e., the “tool” in psychotherapy) interacts with the environment in a way that causes symptoms (Maslach & Goldberg, 1998). A recent meta-analysis of burnout in psychotherapists shows that burnout correlates with absenteeism, high turnover, and poor job performance (Lee et al., 2011). Among psychotherapists, over involvement with clients appears to be a unique factor in both burnout and job satisfaction, as it is strongly correlated with emotional exhaustion and depersonalization (facets of burnout) as well as personal accomplishment (a buffer against burnout, Leet et al., 2011). Therefore it appears that mental health providers walk a fine line that requires careful monitoring and regulation of the amount of involvement they have with clients so that they reap the rewards of personal accomplishment without suffering the costs of emotional exhaustion and depersonalization.

Despite this host of toxic effects experienced by a great number of clinicians, few training programs incorporate strategies that encourage graduate clinicians to engage in self-care, other than requiring students to engage in psychotherapy. More commonly, it is considered the students’ responsibility to address this area on their own (Christopher, Christopher, Dunnagan, & Schure, 2006; Irving, Dobkin, & Park, 2009; Newsome, Christopher, Dahlen, & Christopher, 2006). It is speculated that the quality of a training program is compromised when students are taught to communicate the necessity of self-care, growth, and development to their clients but are not encouraged to practice it personally (Newsome et al., 2006). Lee and colleagues (2011) urge training directors and supervisors to be aware of trainee’s and employee’s emotional exhaustion and adjust job demands by limiting the number of clients, making case management procedures more simple, and strengthening the pool of resources available to therapists and graduate trainees (e.g., peer consultation and professional development opportunities).

Ties to mindfulness practice. Recent literature indicates that counseling students who participated in MBSR training were less reactive to anxiety-provoking events such as client crises, showed increased ability to deal with negative emotions related to their clients' experience (Schure et al., 2008), and were better able to deal with negative self-evaluations of their perceived professional competence (Robins, 2002). Similarly, health care professionals who participated in MBSR training reported fewer experiences of burnout than control group participants (Shapiro, Astin, Bishop, & Cordova, 2005). Not only have mindfulness practitioners experienced fewer negative effects of burnout, physicians who have engaged in mindfulness practice have reported increased levels of global well being (Weiner, Swain, Wolf, & Gottlieb, 2001). This finding suggests that mindfulness practice enables professionals to cope with difficulties in a more adaptive manner, and also promotes thriving in their personal lives. At the time this research proposal was written this author was unable to locate a university in the United States in which mindfulness training is implemented with mental health service providers -in- training. There are a number of MBSR training centers that offer continuing education credits and tailor their programs for mental health service providers-in-training; however these appear to be unrelated to universities.

Purpose

There is a growing body of literature that supports the use of mindfulness training in increasing self-awareness, increasing empathy, and reducing burnout among various types of health care providers (Kabat-Zinn, 2003; Schure et al., 2008). However, there is a paucity of research incorporating mindfulness training with mental health service providers-in-training. The purpose of this study was to examine the potential differences between mental health service providers-in-training who participate in mindfulness training and those who do not. This study

examined the extent to which mindfulness training is associated with levels of mindfulness for mental health service providers-in-training (facets include: self-regulated attention in the present moment; a non-judgmental attitude of openness and acceptance; awareness of internal and external stimuli; and, the ability to describe one's internal state). The current study also examined the extent to which mindfulness training is associated with levels of self-awareness (facets include: contents of internal experience, and contents of external experience) levels of empathy (including the cognitive facet; the affective facet; the self-oriented facet; and the imaginative facet) and finally, levels of burnout (including negative evaluations of one's work; emotional depletion; and dehumanized perceptions of others) of mental health service providers- in-training. Additionally, this study inquired about the specific nature of the stressors experienced by mental health service providers-in-training, as well as the perceived benefits of participating in mindfulness training, if any.

Hypotheses

Hypotheses Related to Mindfulness

Hypothesis 1(a)(1): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

Hypothesis 1(a)(2): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

Hypothesis 1(a)(3): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

Hypothesis 1(b)(1): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

Hypothesis 1(b)(2): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

Hypothesis 1(b)(3): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

Hypothesis 1(c)(1): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

Hypothesis 1(c)(2): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

Hypothesis 1(c)(3): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from pretest to follow up compared to a waiting list control.

Hypothesis 1(d)(1): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

Hypothesis 1(d)(2): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

Hypothesis 1(d)(3): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

Hypotheses Related to Self-Awareness

Hypothesis 2 (a)(1): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from pretest to posttest, compared to a waiting list control.

Hypothesis 2 (a)(2): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from posttest to follow up, compared to a waiting list control.

Hypothesis 2 (a)(3): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from pretest to follow up, compared to a waiting list control.

Hypothesis 2 (b)(1): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from pretest to posttest, compared to a waiting list control.

Hypothesis 2 (b)(2): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from posttest to follow up, compared to a waiting list control.

Hypothesis 2 (b)(3): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from pretest to follow up, compared to a waiting list control.

Hypotheses Related to Empathy

Hypothesis 3 (a)(1): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

Hypothesis 3 (a)(2): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

Hypothesis 3 (a)(3): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

Hypothesis 3 (b)(1): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

Hypothesis 3 (b)(2): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

Hypothesis 3 (b)(3): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

Hypothesis 3 (c)(1): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

Hypothesis 3 (c)(2): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

Hypothesis 3 (c)(3): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

Hypothesis 3 (d)(1): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

Hypothesis 3 (d)(2): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

Hypothesis 3 (d)(3): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

Hypotheses Related to Burnout

Hypothesis 4 (a)(1): MBSR Treatment will cause a greater decrease in the *emotional depletion* facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

Hypothesis 4 (a)(2): MBSR Treatment will cause a greater decrease in the *emotional depletion* facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

Hypothesis 4 (a)(3): MBSR Treatment will cause a greater decrease in the *emotional depletion* facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

Hypothesis 4 (b)(1): MBSR Treatment will cause a greater decrease in the *dehumanized perception of others* facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

Hypothesis 4 (b)(2): MBSR Treatment will cause a greater decrease in the *dehumanized perception of others* facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

Hypothesis 4 (b)(3): MBSR Treatment will cause a greater decrease in the *dehumanized perception of others* facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

Hypothesis 4 (c)(1): MBSR Treatment will cause a greater decrease in the *negative evaluation of one's work* facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

Hypothesis 4 (c)(2): MBSR Treatment will cause a greater decrease in the *negative evaluation of one's work* facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

Hypothesis 4 (c)(3): MBSR Treatment will cause a greater decrease in the *negative evaluation of one's work* facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

III. Method

Design

The current study used a true experimental, pretest-posttest-follow-up, with control group, design to examine the effects of mindfulness training on levels of mindfulness, self-consciousness, empathy, and burnout among graduate-student mental health service providers-in-training who participated in the Mindfulness Based Stress Reduction training (Kabat-Zinn, 1990) and those who did not. The following variables were assessed for each participant: level of mindfulness, level of self-consciousness, level of empathy, and level of burnout. The following parameters were set in order to determine a statistically significant interaction: a significance level of .05, an effect size of .8, and a desired power of .8. A “large” effect size was utilized because of the substantial time investment of the treatment.

Participants

Thirty graduate student mental health service providers-in-training from a large public university in the Southeastern United States were initially recruited to participate in the study. After the participants were randomly assigned to a group, but before the Time 1, pre-test, questionnaire packets were completed, 1 participant from each group dropped out of the study, leaving 28 participants, 14 in each group. At Time 1 (completion of pre-test questionnaire packets) all participants (14/14) from the treatment group completed the pre-test packets while 8/14 of the control group participants completed Time 1 packets. At Time 2 (completion of post-test questionnaire packets), 8/14 of the treatment group and 9/14 of the control group participants completed Time 2 packets. At Time 3 (completion of follow-up questionnaire packets), 10/14 of the treatment group and 8/14 of the control group participants completed Time 3 packets. At completion of the study, a total of 16 participants (8 members from each group) had completed

all instruments at pre-test, post-test, and follow-up and this data was analyzed. The attrition rate for the study was 53.3%. The participants were mental health service providers-in-training at the graduate level and were actively providing counseling services to clients at the time of questionnaire completion (see procedure below for a description of how participants were recruited). Participants were enrolled in one of the following doctoral programs: Clinical Psychology or Counseling Psychology, or one of the following Masters-level programs: School Psychology, Community Agency Counseling, or Marriage and Family Therapy. At the beginning of the study, all participants were providing some type of counseling service in one of the following venues: university counseling center (7), inpatient facility (2) community mental health center (3), forensic unit (2), and other (2). The ages of the participants ranged from 23-33 (mean age 25.5). Fifteen of the participants self-identified as female and one participant self-identified as male. Self-identified ethnic groups represented among the participants included Caucasian/White (10), African American/Black (4), Bi-Racial (1), Other (1). Participants identified the United States (14) and Other (2) as their country of origin. The number of semesters completed by the participants in their current program ranged from 3 to 12 (Mean=5.13). At the beginning of the study, participants had been providing therapy to clients for a range of 1-24 months (mean of 7.94). At the beginning of the study 6 of the treatment group and 4 of the control group participants reported that they had some experience with an activity involving mindfulness practice, while 2 of the treatment group and 4 of the control group participants had no experience with activities involving mindfulness practice¹. The types of

¹ A 2x2 chi square calculation was performed to determine whether the disparity between the treatment and control groups regarding prior experience with activities involving mindfulness was significant. The chi square value was 1.06, which is lower than the specified limit of 3.841 at the .05 significance level. Therefore, the null hypothesis that the groups are the same was not rejected.

activities involving mindfulness practice were: religious meditation or prayer (2), Yoga (7), other (2). Participants were randomly assigned to either the treatment group or the waiting-list control group. Those participants initially assigned to the waiting-list control group were offered the opportunity to participate in the Mindfulness Based Stress Reduction training following final data collection.

A large portion (53.3%) of the sample was lost to attrition. Two participants (one from each group) withdrew participation before the first questionnaire packets were distributed, resulting in no demographic data collection for these participants. At Time 1, while all participants in the treatment group completed the questionnaire packets, 6/14 of the control participants did not complete questionnaire packets, resulting in no demographic data collection for these participants. At Time 2, one individual who did not complete the Time 1 questionnaire packet, completed a Time 2 packet, however, there is no demographic data for this participant as the demographic questionnaire was only included in the Time 1 questionnaire packet. The same participants from the control group who did not complete Time 1 packets were the same participants that did not complete Time 2 and Time 3 questionnaire packets; therefore, there is no demographic data for the control group participants that withdrew. All participants from the treatment group completed Time 1 questionnaire packets; therefore demographic information was collected for those, six, treatment group participants that withdrew from the study. At the beginning of the study, all participants, who eventually withdrew from the study, were providing some type of counseling service in one of the following venues: university counseling center (2), community mental health center (2), Veteran's Affairs hospital (1), and other (1). The ages of the participants ranged from 23-31 (mean age 26.8). Two of the participants self-identified as female and four participants self-identified as male. Self-identified ethnic groups represented

among the participants included Caucasian/White (5), and Other (1). Participants identified the United States (6) as their country of origin. The number of semesters completed by the participants in their current program ranged from 3-12 ($M = 5.83$). At the beginning of the study, participants had been providing therapy to clients for a range of 1-39 months (mean of 16.8). At the beginning of the study, one of the participants reported that they had some experience with an activity involving mindfulness practice (yoga), while five had no experience with activities involving mindfulness practice.

Instruments

The Kentucky Inventory of Mindfulness Skills. The Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004) was used to assess level of mindfulness. The KIMS is based on Linehan's (1993) conceptualization of mindfulness skills, which are used in Dialectical Behavioral Therapy. The instrument was developed to fulfill the need to have an instrument that measures multiple facets of mindfulness as opposed to measuring only one dimension, as do instruments like the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003). Additionally, whereas previous measures of mindfulness, like the Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001) have been designed for use with experienced meditators, the KIMS is appropriate for use with populations without prior meditation experience (Baer et al, 2004).

The KIMS has four subscales of Mindfulness: Acting With Awareness, Accepting Without Judgment, Observing, and Describing; for this study the subscale scores were used as suggested by Baer and colleagues (2004). The *Acting With Awareness* subscale measures one's ability to undividedly focus attention on the current activity (Baer et al., 2004) and includes items such as "I tend to do several things at once rather than focusing on one thing at a time."

Accepting Without Judgment requires that individuals resist applying value judgments to their experience, labeling it as *good* or *bad*, and instead just observe the experience without attempting to alter or avoid it in any way (Baer et al., 2004); items include, “I tell myself that I shouldn’t be thinking the way I’m thinking.” *Observing* captures the facet of mindfulness devoted to noticing the many internal and external sensory stimuli present at any given moment (Baer et al., 2004); items include, “I notice changes in my body, such as whether my breathing slows down or speeds up.” Finally, *Describing* involves simply noting or tagging one’s experience by applying a value-free label in order to explicitly notice one’s present experience (Baer et al., 2004); items include, “I can easily put my beliefs, opinions, and expectations into words.”

The four scales have shared variance but assess unique dimensions of mindfulness as evidenced by the small to moderate correlations with each other. There was a non-significant correlation between Observe and Act With Awareness ($r = .09$). Additionally, the correlation between Observe and Accept Without Judgment was negative ($r = -.14$), suggesting that in samples where participants have limited meditation experience, attending to experiences may be associated with judgment of the experience. Positive correlations range from a low of .22 between Observe and Describe and a high of .34 between Describe and Accept Without Judgment (Baer et al., 2004).

The KIMS contains 39 items designed to measure mindfulness in daily experience and is not solely reserved for the assessment of those who practice a formal meditation practice. Items are rated on a 5-point Likert-type scale (never or very rarely true to always or almost always true). Content validity of the 39 items was assessed using expert ratings, which resulted in 86% mean interrater agreement on assignment of items to skill categories. The four scales show good convergent validity and each of the subscales is negatively correlated with neuroticism,

psychopathology, experiential avoidance, and interpersonal reactivity. Observing is positively correlated with openness to experiences and absorption (Baer et al., 2004). In addition, the Describing Scale is positively associated with life satisfaction and extraversion and the Act With Awareness Scale is negatively correlated with dissociation (Baer et al., 2004).

Internal consistencies range from .76 to .91 and the four-factor structure has been clearly supported through both exploratory and confirmatory factor analyses (Baer et al., 2004). Test-retest correlations for each scale (Observe, Describe, Act with Awareness, and Accept Without Judgment) indicated poor to good reliability (.65, .81, .86, and .83, respectively; Baer et al., 2004). All KIMS scales indicate good sensitivity to changes through mindfulness-based interventions and “is therefore a good candidate for clinical research examining processes and outcomes in mindfulness-based interventions” (Baum et. al., 2009, p.8). No differences in scores on the KIMS have been detected between males and females, differing races, age, or year in school (Baer et al., 2004). In the current study, the Cronbach alpha coefficients for each scale were as follows: Observe, .86; Describe, .72; Act With Awareness, .67; and Accept Without Judgment, .85. For the purposes of this study, the subscale scores were utilized, as suggested by Baer and colleagues (2004).

The Self-Consciousness Scale. The Self-Consciousness Scale (SCS; Fenigstein, 1975) was used to assess participants’ awareness of the self, described in this study as self-consciousness. The trait of self-consciousness is defined as “the enduring tendency of persons to direct attention toward themselves” (Fenigsten, 1979, p. 76). Factor analysis of the SCS consistently yields two stable dimensions of self-consciousness: public and private (Fenigstein, 1979). The public factor involves an awareness of the self as a social object. For example, individuals are aware that other people are aware of them and as a result may feel

concerned about what others think of them (Fenigstein, 1979). Private Self-Consciousness refers to the awareness of one's inner thoughts and feelings. For example, individuals may feel that they are always trying to figure themselves out or reflect about themselves a great deal (Fenigstein, 1979). The SCS contains a "social anxiety" factor as well but for the purposes of this study this factor will not be examined. For the purposes of this study, only the 17 items designed to assess Public and Private Self-Consciousness were administered. Raw scores are calculated for each scale with a possibility of scores ranging from 0 to 40 for the Private Self-Consciousness scale and from 0 to 28 for the Public Self-Consciousness scale.

The SCS contains 23 items that are rated using a 5-point Likert-type scale (0=extremely uncharacteristic to 4=extremely characteristic). Factor analysis yielded three factors: Public Self-Consciousness (7 items; $\alpha = .76$), Private Self-Consciousness (10 items; $\alpha = .74$), and social anxiety (6 items) (Goukens, Dewitte, & Warlop, 2009). All items loaded above .40 with their appropriate factor (Fenigstein, Scheier, & Buss, 1975). Correlations were computed to determine the relationship among the three factors: Public Self-Consciousness correlated moderately with Private Self-Consciousness (.23) and social anxiety (.21). The correlation of Private Self-Consciousness with social anxiety fluctuated around zero (.11 to -.06). Test-retest correlations (with a 2-week interval between administrations) established that the scale and subscales are reasonably reliable. The following test-retest reliability coefficients were reported: Public Self-Consciousness (.84); Private Self-Consciousness (.79); social anxiety (.73); and total score (.80; Fenigstein, Scheier, & Buss, 1975). In the current study, the Cronbach alpha coefficient was .75 for the Private Self-Consciousness scale and .77 for the Public Self-Consciousness scale.

To establish construct validity, the SCS scales have been related to criteria thought to be relevant; sociability has been shown to correlate positively with Public Self-Consciousness ($r =$

.22; Carver & Glass, 1976). Self-monitoring has been shown to correlate positively with Public (r = .30) and Private Self-Consciousness (r = .27; Turner, Scheier, Carver, & Ickes, 1978).

Divergent validity of the SCS has been established as the Private and Public Self-Consciousness subscales prove to be relatively free from associations with Intelligence, Test Anxiety, Activity level, or Impulsivity (Carver & Glass, 1976).

The Interpersonal Reactivity Index. The Interpersonal Reactivity Index (IRI; Davis, 1980) was used to measure the participants' overall level of empathy. The IRI is a multidimensional scale designed to measure both cognitive and emotional components of empathy. The IRI was constructed on the basis of an extensive review of the literature, followed by three separate pilot studies with groups of students from introductory psychology classes (Davis, 1980). Some of the items were borrowed or adapted from other measures (e.g., Mehrabian & Epstein emotional empathy scale, 1972; Stotland's Fantasy-Empathy scale, 1978), but the majority of the items were written for the new instrument (Davis, 1980). Separate factor analyses were conducted on the data collected from male and female respondents and the factors emerging from these analyses were nearly identical in both sexes. Although the same factor structure is found for both sexes, women score significantly higher than men on all four subscales, a finding consistent with most other measures of empathic tendencies (e.g., Dymond, 1949; 1950; Mehrabian & Epstein, 1972). Clear factors resulted which consisted of Fantasy, Perspective-Taking, Empathic Concern, and Distress items, respectively, providing strong support for the multidimensional approach taken in the development of the questionnaire. For the purposes of this study, the subscale scores were utilized, as suggested by Davis (1980).

The subscales of the IRI were arrived at by factor analysis and consist of four subscales of seven items each: Perspective Taking (PT), Fantasy scale (FS), Empathic Concern (EC), and

Personal Distress (PD). The subscale scores range from 0 to 28. The Fantasy scale (FS) assesses the tendency to imaginatively transpose oneself into fictional situations including books, movies, and daydreams. Items include, “When I watch a good movie, I can very easily put myself in the place of a leading character” (Davis, 1980). The perspective-taking scale (PT) reflects an ability to shift perspectives and “stand in another’s shoes.” Items include “I try to look at everybody's side of a disagreement before I make a decision” (Davis, 1980). Both the FS and the PT scales reflect the cognitive aspects of empathy whereas the other two subscales (EC and PD) assess individual differences in emotional responses to observed emotionality in others. The Empathic Concern scale (EC) assesses the degree to which respondents experience feelings of warmth, compassion and concern for another. Items include, “I would describe myself as a pretty soft-hearted person” (Davis, 1980). The Personal Distress scale (PD) measures the individual's own feelings of fear, apprehension and discomfort at witnessing the negative experiences of others. Items include, “I sometimes feel helpless when I am in the middle of a very emotional situation” (Davis, 1980).

The IRI is composed of 28 self-report items answered on a five-point Likert scale (0 = does not describe me well to 4 = describes me very well). The internal reliability coefficients (standardized alpha) were computed for the four subscales separately for each sex: Fantasy scale (Males, .78; Females, .79), perspective-taking scale (Males, .71; Females, .75), Empathic Concern scale (Males, .68; Females, .73), and the Personal Distress scale (Males, .77; Females, .75). Test-retest reliabilities with administrations ranging from 60 to 75 days range from .61 to .79 for males, and from .62 to .81 for females, indicating satisfactory temporal stability. In the current study, the Cronbach’s alpha coefficients were as follows: Perspective Taking, .53; Fantasy, .74; Empathic Concern, .69; Personal Distress, .89. The alpha for the Perspective

Taking scale was lower than previous studies have reported. Further analysis of data reveals that item # 15: "If I'm sure I'm right about something, I don't waste much time listening to other people's arguments" reduces the alpha from .67 to .53. However, the item was not deleted so that the results of this study could remain comparable to prior studies incorporating the instrument. The intercorrelations of the subscales are as follows: the Fantasy and Perspective Taking subscales are essentially unrelated ($r = .10$ for males; $r = .12$ for females); the two "emotional" subscales (Empathic Concern and Personal Distress) are also nearly orthogonal ($r = .11$ for males; $r = .01$ for females; Davis, 1980).

Convergent validity of the IRI was supported by significant correlations between the "cognitive" Perspective Taking scale of the IRI and Hogan's Empathy Scale which is considered to be cognitively oriented (.37 for males and .42 for females; Davis, 1983; Hogan, 1969). Additionally, the PT scale is least correlated with the Emotional Empathy Scale (.17 to .22; Davis, 1980). Also as expected, the Fantasy scale (.15 for both sexes) and Empathic Concern scales (.11 to .25) displayed low correlations with the Hogan scale and high correlations with the Mehrabian and Epstein Emotional Empathy Scale (1972; FS= .48 to .56; EC= .63 to .56 Davis, 1980). Discriminant validity of the IRI was supported by a lack of significant correlations between the IRI subscales and measures of intelligence, namely the Scholastic Aptitude Test (SAT) Quantitative and Verbal scales as well as the Wechsler Adult Intelligence Scale (Davis, 1983; Wechsler, 1955). The EC and PD scales displayed consistently negative and negligible relationships with all intelligence indexes (mean r s of $-.11$ and $-.08$, respectively). Conversely, the PT and FS scales displayed small positive correlations (r s of $.07$ and $.14$, respectively). The only correlation of a modest size was between scores on the Fantasy scale and the two measures of verbal intelligence (WAIS Vocabulary and SAT Verbal); the overall correlation of $.19$

indicates a small but reliable tendency for those prone to fantasizing to possess higher verbal facility and vocabulary (Davis, 1980).

The Maslach Burnout Inventory. The Maslach Burnout Inventory (MBI, 3rd Ed) developed by Maslach, Jackson, and Leiter (1996) was used to measure the participant's level of burnout. The MBI is the most widely used burnout questionnaire and was developed to assess professionals who work with patients in some capacity (Schaufeli, Enzmann, & Girault, 1993). The MBI consists of 22 items measuring three subscales of burnout, which emerged through factor analysis: Emotional Exhaustion, Personal Achievement, and Depersonalization. Scores on each of the MBI subscales are considered separately, therefore three scores emerge for each participant. The range of scores for each subscale is as follows: Personal Accomplishment (0 to >39), Emotional Exhaustion (0 to > 27) and Depersonalization (0 to > 13). The MBI utilizes a 7-point Likert-type scale (ranging from 0= Never to 6= Every day) to assess the frequency with which the respondent experiences feelings about each subscale. Sample items include: "I feel exhilarated after working closely with my recipients, I feel used up at the end of the workday, and I feel recipients blame me for some of their problems" (Maslach, Jackson, & Leiter, 1996). The reliability coefficients for the subscales are as follows: Emotional Exhaustion, .90, Depersonalization, .79, Personal Accomplishment, .71 (Maslach, Jackson, & Leiter, 1996). In the current study, the Cronbach alpha coefficients were as follows: Emotional Exhaustion, .89; Depersonalization, .78; Personal Accomplishment, .80. Test-retest coefficients during periods up to one month range from .60 to .80 (Maslach & Jackson, 1986) and from .34 to .62 after one year in a sample of human service professionals (Wade, Cooley, & Savicki, 1986). Factorial validity of the MBI, and the three-factor structure, has been established through confirmatory factor analysis by Golembiewski and Munzenrider (1988). Convergent validity has been established

through correlations with behavioral ratings, correlations with job characteristics expected to contribute to burnout, and through correlations with measures hypothesized to be related to burnout including: the Burnout Measure, the Staff Burnout Scale for Health Professionals, and the Psychologist's Burnout Inventory (Maslach, Jackson, & Leiter, 1996). Discriminant validity has been established as moderate negative correlations have been shown to exist between the MBI and the Job Diagnostic Survey (JDS; Hackman & Oldham, 1974, 1975) measure of General Job Satisfaction. The correlations are as follows: Emotional Exhaustion, -.23, Depersonalization, -.22, and Personal Achievement, .17.

The demographic questionnaire. The demographic questionnaire (Appendix A) was used to obtain information regarding the participants' status as a student in a graduate-level mental health service provider training program and current involvement in providing direct therapy to clients. Participants also provided their age, gender, ethnicity, country of origin, year in graduate school, number of total months that they have provided therapy to clients, whether or not they have a history of participation in a formal program involving Mindfulness training, and whether or not (and if so, how much time per week) they are participating in various activities frequently used to foster mindfulness (yoga, meditation, qigong, etc.).

The open-ended questions document. The open-ended questions document (Appendix E) was used to obtain narrative information from all participants about the nature of potential stressful events/circumstances present during the course of the current study and the methods used to manage the stress. Participants also indicated whether or not the act of providing therapy to clients was stressful and provided specific details about the nature of the stress. Participants in the treatment group were also asked whether or not the MBSR program was helpful, and to name the helpful/unhelpful components as well as suggestions for improvement of the MBSR program.

Procedure

The researcher sought faculty members' permission to visit the following classes in which mental health service providers-in-training (from the following programs: Clinical Psychology, Counseling Psychology, Community Agency Counseling, School Counseling, and Marriage and Family Therapy) were enrolled: History of Ideas in Psychology, Social Psychology, Clinical Ethics/Methods, Assessment of Cognitive Ability and Achievement, and Forensic Psychology. During the visit, the researcher informed the students about the offering of the Mindfulness Based Stress Reduction course and provided them the option to participate in the course that was to be held in the fall semester of 2010. Permission from faculty members was sought prior to applying for approval from the Institutional Research Review Board (IRB) and letters or emails from faculty members granting permission were included in the IRB Research Protocol Review Packet. Individuals from the specified programs who were interested in participating in the MBSR course were provided with an informed consent document and if they desired to participate they completed the informed consent document and returned it to the researcher.

Each participant who completed an informed consent document created a code number using the following instructions from the researcher: "Use the 4 digit year in which you graduated from high school, followed by the last 4 digits of your social security number, followed by the 2 digit day of the month of your own birthday." This code number was used for the duration of the study to label the participant's questionnaire packets. Each individual who completed an informed consent document provided his or her email address to the researcher so that the researcher was able to contact participants during the study, informing them as to whether or not they were chosen to participate in the study, which group they were assigned to (treatment or waiting-list control group), and when they needed to complete questionnaire packets.

In order to protect participants' confidentiality, all e-mail addresses were written on one document with the participants' associated code number and the document was kept in a secure locked box under the care of the researcher. The e-mail list was consulted before each administration of the questionnaire packets in order to ensure that each participant's data was associated with the correct code number each time. The participants' informed consent documents and demographic information sheets were kept in a separate locked box in a separate confidential location under the care of the researcher.

Thirty participants initially elected to participate in the study. The study involved a limited number of participants because MBSR training is ideally conducted in a small group. Random assignment, using a random numbers table and the participants' code numbers was used to randomly divide participants into two separate groups: a treatment group and a waiting-list control group. The treatment group consisted of 15 participants and the remaining 15 participants were assigned to the waiting-list control group. Prior to distributing the pre-test questionnaire packets, one participant from each group dropped out of the study, leaving 14 participants in each group. At the time pre-test questionnaires were completed all 14 participants, from each group, completed questionnaire packets. At the time of post-test questionnaire packet completion, 8 participants from the treatment group and 9 participants from the control group, completed packets. At the time of follow-up questionnaire packet completion, 10 participants from the treatment group and 8 participants from the control group completed packets. Due to the repeated measure procedure used, only data from those participants who completed all, three questionnaire packets (at Time 1, Time 2, and Time 3) were analyzed.

As previously noted, members of the control group were later offered the opportunity to participate in the MBSR course following the completion of the study. In order to assess mental

health service providers-in-training in-vivo (i.e., in their natural setting as life unfolds for the typical graduate student without any formal relaxation, stress management, or mindfulness training) the waiting-list control group did not receive an alternative treatment during the time in which the treatment group was participating in the MBSR course. Responses from the open-ended question document confirmed that participants in the control group had not engaged in mindfulness training on their own during the waves of data collection. Questionnaire packets were completed three weeks before the start of the fall 2010 MBSR course, at completion of the course, and finally, four weeks after the completion of the course to assess post-treatment effects.

The order in which participants completed the various instruments was partially counterbalanced using the following two orders: (1) Demographic information sheet, KIMS, MBI (3rd Ed.), IRI, & SCS (2) Demographic information sheet, MBI (3rd Ed.), SCS, KIMS, & IRI. In order to gain narrative information about the participants' perceived stressors and opinions about the MBSR program an additional document entitled "open-ended questions" was included at the end of the packet during the second administration of questionnaires (at the completion of the MBSR course).

In order to complete the questionnaire packets at each time point, participants were notified by e-mail to go to a building on the university campus at any time between 7:45 am and 4:45 p.m. during a period of three days. Collection of initial data began on August 23, 2010, post-test data collection began on November 08, 2010, and follow-up data collection began on November 29, 2010. Both groups completed questionnaire packets within the same time frames. The participants located their sealed packet from a stack of numbered packets (utilizing participants' code numbers). The participants completed their packets following the instructions found within the packet. Upon completion, participants returned their numbered questionnaires to their numbered packets and inserted them into a locked mailbox that allowed participants to

insert documents, but not retrieve them.

As a potential benefit for their participation, following each completion of the questionnaire packet, participants had the option of entering their code number in a drawing to win one of three \$25.00 gift cards. If the participant chose to do so, he/she wrote his/her code number on the slip of paper found within the questionnaire packet at each of the three administrations and returned the slip of paper into the questionnaire packet to be placed into the designated mailbox. After the final wave of data collection, all slips of paper with code numbers written on them were entered into a bowl and three slips of paper were selected at random. If the participant's code number was on the slip of paper that was selected, he/she received a gift card. Participants were eligible to receive multiple gift cards if a slip of paper with their code name was chosen multiple times, however this did not occur.

Individuals who were randomly assigned to the treatment group participated in the 8-week, 9-session MBSR course offered by an instructor who has taught MBSR for 10 years and has also taught a university level Stress Reduction course for 3 years. The instructor also has a Masters Degree in Speech and Language Pathology and has worked as a Speech and Language Pathologist for 18 years. The MBSR course met for 8 consecutive weeks for two and a half hours per week (on Monday evenings from 7:00 to 9:30 pm), and a seven and a half hour "day of meditation" session in between the sixth and seventh sessions (on October 23, 2010; see Appendix B for the MBSR detailed curriculum guide).

IV. Results

Design

Descriptive statistics were computed for all measures. Repeated measures ANOVAs with a between-subjects factor were utilized to test all hypotheses in the study. The independent variable for the between-subjects factor was group and there were two levels: “treatment” and “control.” The independent variable for the within-subjects factor was time and there were three times: “pre”, “post”, and “follow-up.” The dependent variables were scores on the Kentucky Inventory of Mindfulness Skills, Self Consciousness Scale, Interpersonal Reactivity Index, and the Maslach Burnout Inventory (3rd Ed.)

Quantitative Results

Due to the limited number of participants (16 total), a separate analysis was run for each dependent variable in order to conserve statistical power. The first analysis examined the pre-test to post-test scores; the second analysis examined the post-test to follow-up scores, and the third analysis examined the pre-test to follow-up scores. All analyses were assessed for violations of the specified assumptions for a repeated measures ANOVA with a between-subject factor. All instances of violated assumptions, as well as information regarding the chosen transformations are included with the appropriate analysis. If a violation is not mentioned, no assumptions were violated.

In order to determine whether significant differences existed between the participants that dropped out of the study and those who chose to continue, an independent t-test was used to assess the available data. Results indicated no significant difference between the groups on any of the dependent variables, other than the Time 1 scores on the Personal Distress subscale of the instrument used to assess empathy, the Interpersonal Reactivity Index (see Table 10). On

average, the participants who eventually dropped out of the study experienced lower levels of Personal Distress ($M = 5.50$, $SE = 2.33$) than the participants who chose to continue in the study ($M = 10.38$, $SE = .63$). This difference was statistically significant $t(12) = -2.30$, $p > .05$, and the effect size was strong $r = .55$.

Hypothesis 1(a)(1): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 2 indicated the main effect for time was not statistically significant, Wilks' Lambda = .90, $F(1, 14) = 1.60$, $p = .23$, partial eta squared = .10. The main effect for group was not statistically significant, $F(1, 14) = .242$, $p = .14$, partial eta squared = .15. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .96, $F(1, 14) = .58$, $p = .46$, partial eta squared = .04. The evidence failed to support Hypothesis 1(a)(1).

Hypothesis 1(a)(2): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 2 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = 1.00, $F(1, 14) = .02$, $p = .88$, partial eta squared = .00. The main effect for group was not statistically significant, $F(1, 14) = .00$, $p = .1.00$, partial eta squared = .00. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .96, $F(1, 14) = .60$, $p = .45$, partial eta squared = .04. The evidence failed to support Hypothesis 1(a)(2).

Hypothesis 1(a)(3): MBSR Treatment will cause a greater increase in the *self-regulated attention in the present moment* facet of Mindfulness (as measured by the Act with Awareness subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = .94, $F(1, 14) = .91$, $p = .36$, partial eta squared = .06. The main effect for group was not statistically significant, $F(1, 14) = .46$, $p = .51$, partial eta squared = .03. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .93, $F(1, 14) = 1.07$, $p = .31$, partial eta squared = .07. The evidence failed to support Hypothesis 1(a)(3).

Hypothesis 1(b)(1): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 2 indicated the main effect for time was not statistically significant, Wilks' Lambda = .99, $F(1, 14) = .18$, $p = .68$, partial eta squared = .01. The main effect for group was not statistically significant, $F(1, 14) = 1.65$, $p = .22$, partial eta squared = .11. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .94, $F(1, 14) = .84$, $p = .37$, partial eta squared = .06. The evidence failed to support Hypothesis 1(b)(1).

Hypothesis 1(b)(2): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 2 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda =

.96, $F(1, 14) = .63$, $p = .44$, partial eta squared = .04. The main effect for group was not statistically significant, $F(1, 14) = 2.18$, $p = .16$, partial eta squared = .14. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .85, $F(1, 14) = 2.51$, $p = .14$, partial eta squared = .15. The evidence failed to support Hypothesis 1(b)(2).

Hypothesis 1(b)(3): MBSR Treatment will cause a greater increase in the *non-judgmental attitude of openness and acceptance* facet of Mindfulness (as measured by the Accept Without Judgment subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = .99, $F(1, 14) = .16$, $p = .70$, partial eta squared = .01. The main effect for group was not statistically significant, $F(1, 14) = 2.96$, $p = .11$, partial eta squared = .18. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .97, $F(1, 14) = .51$, $p = .49$, partial eta squared = .04. The evidence failed to support Hypothesis 1(b)(3).

Hypothesis 1(c)(1): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 2 indicated a statistically significant main effect for time, Wilks' Lambda = .49, $F(1, 14) = 14.82$, $p = .00$, partial eta squared = .51 (see Table 3). This suggests that, ignoring all other variables, time statistically significantly affected participants' scores. The main effect for group was not statistically significant, $F(1, 14) = .00$, $p = .00$, partial eta squared = .00, suggesting that

the treatment group's scores were not statistically significantly different than the control group's scores. There was also an interaction between treatment group and time, Wilks' Lambda = .68, $F(1, 14) = 6.59$, $p = .02$, partial eta squared = .51, observed power = .95. This indicates that scores were affected by time, differently, depending on the group to which the participant belonged. While the statistically significant interaction and main effects lend support for Hypothesis 1(c)(1), the evidence failed to support the hypothesis due to the interaction failing to meet the specified effect size of .8 or the power of .8. Additionally, $p = .02$ exceeds the adjusted alpha level of .00.

Hypothesis 1(c)(2): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 2 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = 1.00, $F(1, 14) = .00$, $p = 1.00$, partial eta squared = .00. The main effect for group was not statistically significant, $F(1, 14) = .50$, $p = .49$, partial eta squared = .04. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .98, $F(1, 14) = .29$, $p = .60$, partial eta squared = .02. The evidence failed to support Hypothesis 1(c)(2).

Hypothesis 1(c)(3): MBSR Treatment will cause a greater increase in the *awareness of internal and external stimuli* facet of Mindfulness (as measured by the Observe subscale of the KIMS), from pretest to follow up compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 3 indicated that the main effect for time was statistically significant, Wilks' Lambda = .61, $F(1, 14) = 9.09$, $p = .01$, partial eta squared = .39, observed power = .80 (see Table 5). This

suggests that, ignoring all other variables, time significantly affected participants' scores. The main effect for group was not statistically significant, $F(1, 14) = .01$, $p = .92$, partial eta squared = .00, suggesting that the treatment group's scores were not significantly different than the control group's scores. There was a statistically significant interaction between treatment group and time, Wilks' Lambda = .71, $F(1, 14) = 5.70$, $p = .03$, partial eta squared = .29, observed power = .60. This indicates that scores were affected by time, differently, depending on the group to which the participant belonged. While the significant interaction and main effects lend support for Hypothesis 1(c)(1), the evidence failed to support the hypothesis due to the interaction failing to meet the specified effect size of .8 or the power of .8. Additionally, $p = .03$ exceeds the adjusted alpha level of .00.

Hypothesis 1(d)(1): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 2 indicated the main effect for time was not statistically significant, Wilks' Lambda = .92, $F(1, 14) = 1.25$, $p = .28$, partial eta squared = .08. The main effect for group was not statistically significant, $F(1, 14) = 3.91$, $p = .07$, partial eta squared = .22. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.00, $F(1, 14) = 0.00$, $p = .1.00$, partial eta squared = .00. The evidence failed to support Hypothesis 1(d)(1).

Hypothesis 1(d)(2): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 2 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = .98, $F(1, 14) = .29$, $p = .60$, partial eta squared = .02. The main effect for group was not statistically significant, $F(1, 14) = 3.81$, $p = .07$, partial eta squared = .21. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .98, $F(1, 14) = 29$, $p = .60$, partial eta squared = .02. The evidence failed to support Hypothesis 1(d)(2).

Hypothesis 1(d)(3): MBSR Treatment will cause a greater increase in the *ability to describe one's internal state* facet of Mindfulness (as measured by the Describe subscale of the KIMS), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor from Time 1 to Time 3 indicated the main effect for time was not statistically significant, Wilks' Lambda = .96, $F(1, 14) = .56$, $p = .47$, partial eta squared = .04. However, the main effect for group was statistically significant, $F(1, 14) = 4.43$, $p = .05$, partial eta squared = .24, observed power = .50, suggesting that the scores between groups were significantly different when time is ignored. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .09$, $p = .77$, partial eta squared = .01. The evidence failed to support Hypothesis 1(d)(3).

Hypothesis 2 (a)(1): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from pretest to posttest, compared to a waiting list control.

The Public SCS scores were significantly non-normal at Time 1, violating the assumption of normal distribution: $D(1, 14) = .224$, $p = .03$. Therefore, a reflect and inverse transformation was performed as is recommended by Tabachnick and Fidell (2007) when there is an extreme

positive skew with unequal variance. The result of the repeated measures ANOVA with a between-subject factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .10, $F(1, 14) = .02$, $p = .88$, partial eta squared = .00. The main effect for group was not statistically significant, $F(1, 14) = 2.61$, $p = .13$, partial eta squared = .16. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .93, $F(1, 14) = 1.05$, $p = .32$, partial eta squared = .07. The evidence failed to support Hypothesis 2 (a)(1).

Hypothesis 2 (a)(2): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .97, $F(1, 14) = .48$, $p = .50$, partial eta squared = .03. The main effect for group was not statistically significant, $F(1, 14) = 1.27$, $p = .28$, partial eta squared = .08. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.04, $F(1, 14) = .08$, $p = .78$, partial eta squared = .01. The evidence failed to support Hypothesis 2 (a)(2).

Hypothesis 2 (a)(3): MBSR Treatment will cause a greater increase in the *contents of external experience* facet of self-awareness (as measured by the Public subscale of the Self-Consciousness Scale, SCS), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .98, $F(1, 14) = .29$, $p = .60$, partial eta squared = .02. The main effect for group was statistically significant, $F(1, 14) = 5.21$, $p = .04$, partial eta squared = .27, observed power = .57, suggesting that the scores between groups were statistically significantly different when time is ignored. There was no statistically

significant interaction between treatment group and time, Wilks' Lambda = .92, $F(1, 14) = 1.29$, $p = .28$, partial eta squared = .08. The evidence failed to support Hypothesis 2 (a)(3).

Hypothesis 2 (b)(1): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between-subject factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .90, $F(1, 14) = 1.64$, $p = .22$, partial eta squared = .11. The main effect for group was not statistically significant, $F(1, 14) = .08$, $p = .78$, partial eta squared = .01. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .97, $F(1, 14) = .46$, $p = .51$, partial eta squared = .03. The evidence failed to support Hypothesis 2 (b)(1).

Hypothesis 2 (b)(2): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from posttest to follow up, compared to a waiting list control.

The variances were significantly different on the SCS Private scale scores at follow-up, $F(1, 14) = 5.94$, $p = .03$, indicating a violation of the assumption of homogeneity of variance.

However, no transformation was conducted because an analysis of variance is reasonably robust to violations of this assumption (Stevens 1996, p. 249). The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .98, $F(1, 14) = .26$, $p = .62$, partial eta squared = .02. The main effect for group was not statistically significant, $F(1, 14) = .02$, $p = .89$, partial eta squared = .00. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .98, $F(1, 14) = .26$, $p = .62$, partial eta squared = .02. The evidence failed to support

Hypothesis 2 (b)(2).

Hypothesis 2 (b)(3): MBSR Treatment will cause a greater increase in the *contents of internal experience* facet of self-awareness (as measured by the Private subscale of the Self-Consciousness Scale, SCS), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .95, $F(1, 14) = .69$, $p = .42$, partial eta squared = .05. The main effect for group was not statistically significant, $F(1, 14) = .16$, $p = .69$, partial eta squared = .01. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .10$, $p = .75$, partial eta squared = .01. The evidence failed to support Hypothesis 2 (b)(3).

Hypothesis 3 (a)(1): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .97, $F(1, 14) = .43$, $p = .52$, partial eta squared = .03. The main effect for group was not statistically significant, $F(1, 14) = 1.17$, $p = .30$, partial eta squared = .08. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.0, $F(1, 14) = .03$, $p = .86$, partial eta squared = .00. The evidence failed to support Hypothesis 3 (a)(1).

Hypothesis 3 (a)(2): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the

main effect for time was not statistically significant, Wilks' Lambda = .96, $F(1, 14) = .61$, $p = .45$, partial eta squared = .04. The main effect for group was not statistically significant, $F(1, 14) = 1.13$, $p = .31$, partial eta squared = .07. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .22$, $p = .65$, partial eta squared = .02. The evidence failed to support Hypothesis 3 (a)(2).

Hypothesis 3 (a)(3): MBSR Treatment will cause a greater increase in the *cognitive* facet of empathy (as measured by the Perspective Taking subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = 1.00, $F(1, 14) = .01$, $p = .93$, partial eta squared = .00. The main effect for group was not statistically significant, $F(1, 14) = 1.78$, $p = .20$, partial eta squared = .11. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.00, $F(1, 14) = .07$, $p = .80$, partial eta squared = .01. The evidence failed to support Hypothesis 3 (a)(3).

Hypothesis 3 (b)(1): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

The scores on the IRI Fantasy scale at Time 3 were significantly non-normal, violating the assumption of normal distribution: $D(16) = .23$, $p = .02$, therefore a square root transformation was conducted for all IRI Fantasy scores (Time 1, Time 2, and Time 3 for the purposes of comparison) as suggested by Tabachnick and Fidell (2007) in the case of moderate positive skew. The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .94, $F(1, 14) = .98$, $p = .34$,

partial eta squared = .07. The main effect for group was not statistically significant, $F(1, 14) = 1.88$, $p = .19$, partial eta squared = .12. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .97, $F(1, 14) = .44$, $p = .52$, partial eta squared = .03. The evidence failed to support Hypothesis 3 (b)(1).

Hypothesis 3 (b)(2): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

After completing a square root transformation for all IRI Fantasy scores, the result of the repeated measures ANOVA with a between subjects factor revealed a statistically significant main effect for time, Wilks' Lambda = .74, $F(1, 14) = 4.96$, $p = .04$, partial eta squared = .26, observed power = .55, suggesting that time significantly affected scores. The main effect for group was not statistically significant, $F(1, 14) = 1.64$, $p = .22$, partial eta squared = .11. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .94, $F(1, 14) = .97$, $p = .34$, partial eta squared = .15. The evidence failed to support Hypothesis 3 (b)(2).

Hypothesis 3 (b)(3): MBSR Treatment will cause a greater increase in the *imaginative* facet of empathy (as measured by the Fantasy subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

After completing square root transformations for all of the IRI Fantasy scores, the results of the repeated measures ANOVA with a between subjects factor revealed a statistically significant main effect for time, Wilks' Lambda = .74, $F(1, 14) = 5.00$, $p = .04$, partial eta squared = .26, observed power = .55, suggesting that time significantly affected scores. The main effect for group was not statistically significant, $F(1, 14) = 3.00$, $p = .11$, partial eta squared =

.18. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .1.00, $F(1, 14) = .01$, $p = .94$, partial eta squared = .00. The evidence failed to support Hypothesis 3(b)(3).

Hypothesis 3 (c)(1): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

The scores on the IRI Empathic Concern scale at Time 3 were significantly non-normal, violating the assumption of normal distribution: $D(16) = .26$, $p = .01$, therefore a reflect and logarithmic transformation was conducted for all IRI Empathic Concern scores (Time 1, Time 2, and Time 3 for the purposes of comparison) as recommended by Tabachnick and Fidell (2007) when scores are substantially negatively skewed. The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .97, $F(1, 14) = .46$, $p = .51$, partial eta squared = .03. The main effect for group was not statistically significant, $F(1, 14) = 1.14$, $p = .08$, partial eta squared = .08. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .98, $F(1, 14) = .22$, $p = .65$, partial eta squared = .02. The evidence failed to support Hypothesis 3 (c)(1).

Hypothesis 3 (c)(2): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

After completing a reflect and logarithmic transformation of all IRI Empathic Concern scores, the result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .96, $F(1, 14) = .67$, $p =$

.43, partial eta squared = .05. The main effect for group was not statistically significant, $F(1, 14) = .57$, $p = .46$, partial eta squared = .04. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .18$, $p = .68$, partial eta squared = .01. The evidence failed to support Hypothesis 3 (c)(2).

Hypothesis 3 (c)(3): MBSR Treatment will cause a greater increase in the *affective* facet of empathy (as measured by the Empathic Concern subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

After completing reflect and logarithmic transformations for all scores on the IRI empathic concern scale, the results of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .90, $F(1, 14) = 1.49$, $p = .24$, partial eta squared = .10. The main effect for group was not statistically significant, $F(1, 14) = .07$, $p = .79$, partial eta squared = .01. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .93, $F(1, 14) = .103$, $p = .33$, partial eta squared = .07. The evidence failed to support Hypothesis 3 (c)(3).

Hypothesis 3 (d)(1): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed a statistically significant main effect for time, Wilks' Lambda = .70, $F(1, 14) = 5.91$, $p = .03$, partial eta squared = .30, observed power = .62, indicating that time significantly affected scores (see Table 3). There was also a statistically significant main effect for group, $F(1, 14) = 5.84$, $p = .03$, partial eta squared = .30, observed power = .61, suggesting that the scores between groups were significantly different when time is ignored. There was no statistically significant

interaction between treatment group and time, Wilks' Lambda = .81, $F(1, 14) = 3.33$, $p = .09$, partial eta squared = .19. Due to the absence of an interaction between group and time, the evidence failed to support hypothesis 3 (d)(1).

Hypothesis 3 (d)(2): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed a statistically significant main effect for time, Wilks' Lambda = .75, $F(1, 14) = 4.64$, $p = .05$, partial eta squared = .25, observed power = .52, indicating that time significantly affected scores (see Table 4). The main effect for group was also statistically significant, $F(1, 14) = 5.59$, $p = .03$, partial eta squared = .29, observed power = .60, suggesting that the scores between groups were significantly different when time is ignored. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .98, $F(1, 14) = .25$, $p = .63$, partial eta squared = .02. Due to the absence of an interaction between group and time, the evidence failed to support hypothesis 3 (d)(2).

Hypothesis 3 (d)(3): MBSR Treatment will cause a greater increase in the *self-oriented* facet of empathy (as measured by the Personal Distress subscale of the Interpersonal Reactivity Index, IRI), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed a statistically significant main effect for time, Wilks' Lambda = .51, $F(1, 14) = 13.55$, $p = .00$, partial eta squared = .49, observed power = .93, indicating that time significantly affected scores (see Table 5). The main effect for group was also statistically significant, $F(1, 14) = 6.70$, $p = .02$, partial eta squared = .32, observed power = .67, suggesting that the scores between groups

were significantly different when time is ignored. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .78, $F(1, 14) = 3.96$, $p = .07$, partial eta squared = .22. Due to the absence of an interaction between time and group, the evidence failed to support hypothesis 3 (d)(3).

Hypothesis 4 (a)(1): MBSR Treatment will cause a greater decrease in the *emotional depletion* facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .95, $F(1, 14) = .68$, $p = .42$, partial eta squared = .05. The main effect for group was not statistically significant, $F(1, 14) = .00$, $p = .97$, partial eta squared = .00. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .13$, $p = .72$, partial eta squared = .01. The evidence failed to support Hypothesis 4 (a)(1).

Hypothesis 4 (a)(2): MBSR Treatment will cause a greater decrease in the *emotional depletion* facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects revealed the main effect for time was not statistically significant, Wilks' Lambda = .93, $F(1, 14) = 1.05$, $p = .32$, partial eta squared = .07. The main effect for group was not statistically significant, $F(1, 14) = .03$, $p = .86$, partial eta squared = .00. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.0, $F(1, 14) = .03$, $p = .87$, partial eta squared = .00. The evidence failed to support Hypothesis 4 (a)(2).

Hypothesis 4 (a)(3): MBSR Treatment will cause a greater decrease in the *emotional*

depletion facet of burnout (as measured by the Emotional Exhaustion subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .89, $F(1, 14) = 1.69$, $p = .22$, partial eta squared = .11. The main effect for group was not statistically significant, $F(1, 14) = .00$, $p = .99$, partial eta squared = .00. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .08$, $p = .78$, partial eta squared = .01. The evidence failed to support Hypothesis 4 (a)(3).

Hypothesis 4 (b)(1): MBSR Treatment will cause a greater decrease in the *dehumanized perception of others* facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

The scores on the MBI Depersonalization scale at Times 2 and 3 were significantly non-normal, violating the assumption of normal distribution: $D(16) = .38$, $p = .00$, and $D(16) = .22$, $p = .04$, respectively. Therefore, a logarithmic transformation was conducted for all MBI Depersonalization scores (Time 1, Time 2, and Time 3 for the purpose of comparison) as suggested by Tabachnick and Fidell (2007) when scores are substantially positively skewed. The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .96, $F(1, 14) = .62$, $p = .44$, partial eta squared = .04. The main effect for group was not statistically significant, $F(1, 14) = .38$, $p = .55$, partial eta squared = .03. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .97, $F(1, 14) = .37$, $p = .55$, partial eta squared = .03. The evidence failed to support Hypothesis 4 (b)(1).

Hypothesis 4 (b)(2): MBSR Treatment will cause a greater decrease in the *dehumanized*

perception of others facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

After completing logarithmic transformations for all MBI Depersonalization scores, the results of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .80, $F(1, 14) = 3.55$, $p = .08$, partial eta squared = .20. The main effect for group was not statistically significant, $F(1, 14) = .35$, $p = .56$, partial eta squared = .02. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .99, $F(1, 14) = .17$, $p = .69$, partial eta squared = .01. The evidence failed to support Hypothesis 4 (b)(2).

Hypothesis 4 (b)(3): MBSR Treatment will cause a greater decrease in the *dehumanized perception of others* facet of burnout (as measured by the Depersonalization subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

After completing logarithmic transformations for all MBI Depersonalization scores, the results of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .87, $F(1, 14) = 2.02$, $p = .18$, partial eta squared = .13. The main effect for group was not statistically significant, $F(1, 14) = .11$, $p = .75$, partial eta squared = .01. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.00, $F(1, 14) = .00$, $p = 1.00$, partial eta squared = .00. The evidence failed to support Hypothesis 4 (b)(3).

Hypothesis 4 (c)(1): MBSR Treatment will cause a greater decrease in the *negative evaluation of one's work* facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from pretest to posttest, compared to a waiting list control.

The scores on the MBI Personal Accomplishment scale at Time 1 were significantly non-normal, violating the assumption of normal distribution: $D(16) = .22, p = .04$, therefore a square root transformation was conducted for all MBI Personal Accomplishment scores (Time 1, Time 2, and Time 3, for the purpose of comparison) as suggested by Tabachnick and Fidell (2007) when there is moderate positive skew. The result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .92, $F(1, 14) = 1.16, p = .30$, partial eta squared = .08. The main effect for group was not statistically significant, $F(1, 14) = 1.85, p = .20$, partial eta squared = .12. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = 1.00, $F(1, 14) = .00, p = .96$, partial eta squared = .00. The evidence failed to support Hypothesis 4 (c)(1).

Hypothesis 4 (c)(2): MBSR Treatment will cause a greater decrease in the *negative evaluation of one's work* facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from posttest to follow up, compared to a waiting list control.

After completing square root transformations on all MBI Personal Accomplishment scores, the results of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .81, $F(1, 14) = 3.27, p = .09$, partial eta squared = .19. The main effect for group was not statistically significant, $F(1, 14) = .86, p = .37$, partial eta squared = .06. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .97, $F(1, 14) = .39, p = .55$, partial eta squared = .03. The evidence failed to support Hypothesis 4 (c)(2).

Hypothesis 4 (c)(3): MBSR Treatment will cause a greater decrease in the *negative*

evaluation of one's work facet of burnout (as measured by the Personal Accomplishment subscale of the Maslach Burnout Inventory, MBI), from pretest to follow up, compared to a waiting list control.

After completing square root transformations for all MBI Personal Accomplishment scores, the result of the repeated measures ANOVA with a between subjects factor revealed the main effect for time was not statistically significant, Wilks' Lambda = .94, $F(1, 14) = .98$, $p = .34$, partial eta squared = .07. The main effect for group was not statistically significant, $F(1, 14) = 1.01$, $p = .33$, partial eta squared = .07. There was no statistically significant interaction between treatment group and time, Wilks' Lambda = .96, $F(1, 14) = .58$, $p = .46$, partial eta squared = .04. The evidence failed to support Hypothesis 4 (c)(3).

To adjust for the large number of hypotheses that were tested, the Bonferroni correction was calculated by dividing the .05 alpha by the number of analyses conducted ($n = 39$), resulting in an adjusted alpha level of .00. Testing at the .00 alpha level, resulted in no statistically significant interactions.

Open-Ended Questions

The current study sought to obtain information about mental health service providers-in-training's perceptions of the nature of their stressors as well as the strategies used to manage stress. Additionally, this study sought to obtain information from the treatment group about the perceived benefits/hindrances they experience from the Mindfulness Based Stress Reduction training. Information was obtained by examining the written responses to five, open-ended, questions included in the posttest questionnaire packet.

In response to the first prompt, "Please describe the events, circumstances, or tasks in your life this semester which you feel were/are stressful", the control group noted the following

stressors: personal issues (1 person), class work (3), working on thesis project (1), managing various roles and time commitments such as practicum, clinic, classes, and research (5), pregnancy or health related concerns (1), providing therapy for the first time (1). The treatment group noted the following stressors: opening up about one's sexual orientation (1), working on thesis project (1), adjusting to a new job (1), life transitions (2), managing various roles and time commitments such as practicum, clinic, classes, and research (3), health (2), class work (3), death of a friend (2), termination of a romantic relationship (2), job interviews (1), travel (1), 70 hour work week (1), financial concerns (1).

In response to the second prompt "Please describe the ways in which you managed your stress this semester", the control group noted the following strategies: reading (1), exercise (2), spending time with friends (2), engaging in only one task at a time (1), making time for leisure/fun (2), prayer (1), relaxation techniques (1), long baths (1), going out to eat (1), venting frustrations to a friend (1), traveling (1), didn't manage stress well (1). The treatment group noted the following strategies: meditation (4), MBSR training (2), choosing to remain optimistic (1), setting boundaries by not engaging in work on weekends (1), engaging in self-care (2), taking time off (1), breathing exercises (3), prioritizing obligations (2), exercising (1), reading (1), playing with a pet (1), spending time with friends (5), drinking cheap wine (2).

In response to the question "Did you find the act of providing therapy to clients, this semester, stressful or taxing in any way?" all 8 participants in the control group responded "yes", while the treatment group's responses were split; 4 indicated "yes" and 4 indicated "no." The control group listed the following reasons to describe what was stressful or taxing about providing therapy to clients: worry about effectiveness (1), the desire to know more about the process of providing therapy (2), client no-shows (1), client's intense emotional experiences (1),

therapist took too much responsibility for client's progress (2), personal issues consuming therapist's thoughts (1), client's presenting with many, varied presenting concerns (2). The treatment group listed the following reasons: clients requesting more than therapy (1), working to integrate theory and empirically supported treatments (1), providing services to 6-7 clients in one day (1), volatile or unpredictable clients (1), personal issues consuming therapist's thoughts (1), providing therapy was not rewarding (1), providing therapy was emotionally exhausting (1).

In response to the prompt "If you participated in the MBSR program this semester, please describe whether or not you found the program to be helpful" all 8 members of the treatment group indicated that it was helpful (4), very helpful (2), or extremely helpful (2). Participants provided the following reasons to describe why the MBSR program was helpful: leaders were very competent (2), breathing and yoga techniques (4), home practice assignments (1), weekly group discussion/support (2), education about mindfulness techniques (1), participant was able to integrate techniques with their clients (1), techniques were easy to incorporate throughout the day (1).

In response to the prompt "Please describe the unhelpful (or less helpful) aspects of the MBSR program and list any suggestions for improvement" the following was noted: MBSR program requires time consuming at-home practice (45 minutes per day, (4)), time commitment is too great (2), the body scan exercise was not helpful (1), ineffective use of class time (e.g., waiting for participants to arrive (1)).

Table 1

Untransformed Variable Means and Standard Deviations

Variable	<u>Treatment</u>									<u>Control</u>								
	<u>Time 1</u>			<u>Time 2</u>			<u>Time 3</u>			<u>Time 1</u>			<u>Time 2</u>			<u>Time 3</u>		
	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD
KIMS: AWA	25.00	25.13	2.90	27.00	27.63	4.10	29.50	28.13	5.94	27.50	27.63	2.00	29.00	28.25	3.37	28.50	27.50	4.38
KIMS: AWJ	34.50	34.75	4.68	33.50	33.38	3.29	35.00	35.50	5.71	32.50	31.25	4.98	32.00	31.75	4.77	31.00	31.00	4.44
KIMS: Obs.	38.00	36.63	7.44	42.00	41.63	6.70	42.00	42.00	7.69	39.00	38.63	7.44	38.50	39.63	6.09	40.00	39.25	6.76
KIMS: Des.	32.50	31.25	2.96	30.00	30.38	3.07	31.00	30.38	2.20	30.00	28.25	4.03	26.50	27.38	3.50	28.50	27.88	2.95
SCS: Pub.	15.00	14.50	4.72	15.00	15.25	5.37	15.00	14.63	5.37	20.50	19.25	2.77	17.00	18.13	3.04	18.50	18.63	1.92
SCS: Priv.	25.50	25.13	4.29	27.00	24.63	6.55	27.50	24.63	6.95	25.50	26.38	4.44	24.00	24.75	4.46	24.50	25.25	3.85
IRI: PT	21.00	21.50	2.93	21.00	20.63	3.46	22.00	21.63	3.25	20.50	20.25	2.25	20.00	19.75	2.71	19.50	20.00	1.60
IRI: Fantasy	18.50	18.38	4.78	17.50	18.00	4.21	16.00	16.38	4.14	21.00	21.50	3.55	19.50	20.00	4.41	18.00	19.25	3.66
IRI: EC	24.50	23.88	4.22	23.00	23.38	3.46	23.50	22.50	5.32	23.00	22.75	3.15	23.00	23.00	1.69	22.50	22.63	2.07
IRI: PD	10.00	10.38	1.77	4.00	5.13	5.46	3.00	4.50	4.93	12.00	12.00	1.69	11.50	11.25	5.45	10.50	10.25	4.40
MBI: EE	19.50	21.00	9.74	19.50	22.13	12.65	22.50	23.50	12.81	19.00	20.25	6.21	23.50	23.13	4.32	24.50	24.13	5.14
MBI: Dep.	3.00	3.00	2.98	2.50	3.50	7.13	4.50	5.63	6.57	4.00	2.88	1.81	3.50	2.50	1.31	5.50	4.50	2.56
MBI: PA	9.00	8.38	2.56	5.50	8.13	6.51	11.00	11.13	6.64	11.50	12.50	7.48	10.50	10.75	4.77	13.50	12.50	5.83

Note. N = 8 for all variables. Med = Median; M = Mean; SD = Standard Deviation; AWA = Act with Awareness; AWJ = Accept without judgment; Obs. = Observe; Des. = Describe; Pub = Public; Priv = Private; PT = Perspective Taking; EC = Empathic Concern; PD = Personal Distress; EE = Emotional Exhaustion; Dep = Depersonalization; PA = Personal Accomplishment. The Kentucky Inventory of Mindfulness Skills (KIMS) is from Baer, Smith, & Allen (2004); the Self-Consciousness Scale (SCS) is from Fenigstein (1975); the Interpersonal Reactivity Index (IRI) is from Davis (1980); the Maslach Burnout Inventory is from Maslach, Jackson, & Leiter (1996). All values represent raw, nonstandardized scores.

^aFor those providing mental health services, Emotional Exhaustion scores ≥ 21 are considered “high.” Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual*, (3rd ed.). California: Consulting Psychologists.

Table 2

Transformed Variable Means and Standard Deviations

Variable	<u>Treatment</u>									<u>Control</u>								
	<u>Time 1</u>			<u>Time 2</u>			<u>Time 3</u>			<u>Time 1</u>			<u>Time 2</u>			<u>Time 3</u>		
	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD	Med	M	SD
SCS: Pub.	0.07	0.08	0.03	0.07	0.09	0.04	0.07	0.08	0.03	0.12	0.11	0.03	0.08	0.10	0.04	0.10	0.10	0.02
IRI: Fantasy	4.30	4.25	0.57	4.18	4.22	0.49	4.00	4.02	0.51	4.58	4.62	0.38	4.41	4.45	0.49	4.24	4.37	0.40
IRI: EC	0.65	0.58	0.37	0.77	0.65	0.35	0.74	0.72	0.29	0.77	0.75	0.22	0.78	0.76	0.14	0.78	0.78	0.16
MBI: Dep.	0.48	0.48	0.37	0.39	0.38	0.45	0.74	0.62	0.48	0.60	0.53	0.27	0.54	0.52	0.16	0.81	0.67	0.31
MBI: PA	3.00	2.86	0.47	2.34	2.67	1.06	3.29	3.18	1.06	3.38	3.40	1.02	3.24	3.20	0.78	3.67	3.45	0.85

Note. N=8 for all variables. The Self-Consciousness Scale (SCS) is from Fenigstein (1975); the Interpersonal Reactivity Index (IRI) is from Davis (1980); the Maslach Burnout Inventory is from Maslach, Jackson, & Leiter (1996). All values represent transformed scores. Pub = Public; EC = Empathic Concern; Dep = Depersonalization; PA = Personal Accomplishment.

Table 3

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 1 to Time 2

<u>Time 1 to Time 2</u>						
Variable	Wilks' Lambda	df	F	p	h _p ²	Observed power
KIMS: Act With Awareness (AWA): Interaction	.96	(1, 14)	.58	.46	.04	
KIMS: AWA: Main (time)	.90	(1, 14)	1.60	.23	.10	
KIMS: AWA: Main (group)		(1, 14)	2.42	.14	.15	
KIMS: Accept Without Judgment (AWJ): Interaction	.94	(1, 14)	.84	.37	.06	
KIMS: AWJ: Main (time)	.99	(1, 14)	.18	.68	.01	
KIMS: AWJ: Main (group)		(1, 14)	1.65	.22	.11	
KIMS: Observe: Interaction	.68	(1, 14)	6.59	.02*	.32	.67
KIMS: Observe: Main (time)	.49	(1, 14)	14.82	.00*	.51	.95
KIMS: Observe: Main (group)		(1, 14)	.00	1.00	.00	
KIMS: Describe: Interaction	1.00	(1, 14)	.00	1.00	.00	
KIMS: Describe: Main (time)	.92	(1, 14)	1.25	.28	.08	
KIMS: Describe: Main (group)		(1, 14)	3.91	.07	.22	
SCS: Public: Interaction	.93	(1, 14)	1.05	.32	.07	
SCS: Public: Main (time)	.10	(1, 14)	.02	.88	.00	
SCS: Public: Main (group)		(1, 14)	2.61	.13	.16	
SCS: Private: Interaction	.97	(1, 14)	.46	.51	.03	
SCS: Private: Main (time)	.90	(1, 14)	1.64	.22	.11	
SCS: Private: Main (group)		(1, 14)	.08	.78	.01	
IRI: Perspective taking: Interaction	1.0	(1, 14)	.03	.86	.00	
IRI: Perspective taking: Main (time)	.97	(1, 14)	.43	.52	.03	
IRI: Perspective taking: Main (group)		(1, 14)	1.17	.30	.08	
IRI: Fantasy: Interaction	.97	(1, 14)	.44	.52	.03	
IRI: Fantasy: Main (time)	.94	(1, 14)	.98	.34	.07	
IRI: Fantasy: Main (group)		(1, 14)	1.88	.19	.12	

Table 3 (Continued)

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 1 to Time 2

<u>Time 1 to Time 2</u>						
Variable	Wilks' Lambda	df	F	p	h_p^2	Observed power
IRI: Empathic Concern: Int.	.98	(1, 14)	.22	.65	.02	
IRI: Empathic Concern: Main (time)	.97	(1, 14)	.46	.51	.03	
IRI: Empathic Concern: Main (group)		(1, 14)	1.14	.08	.08	
IRI: Personal Distress: Interaction	.81	(1, 14)	3.33	.09	.19	
IRI: Personal Distress: Main (time)	.70	(1, 14)	5.91	.03*	.30	.62
IRI: Personal Distress: Main (group)		(1, 14)	5.84	.03*	.30	.61
MBI: Emotional Exhaustion: Interaction	.99	(1, 14)	.13	.72	.01	
MBI: Emotional Exhaustion: Main (time)	.95	(1, 14)	.68	.42	.05	
MBI: Emotional Exhaustion: Main (group)		(1, 14)	.00	.97	.00	
MBI: Depersonalization: Interaction	.97	(1, 14)	.37	.55	.03	
MBI: Depersonalization: Main (time)	.96	(1, 14)	.62	.44	.04	
MBI: Depersonalization: Main (group)		(1, 14)	.38	.55	.03	
MBI: Personal Accomplishment: Interaction	1.00	(1, 14)	.00	.96	.00	
MBI: Personal Accomplishment: Main (time)	.92	(1, 14)	1.16	.30	.08	
MBI: Personal Accomplishment: Main (group)		(1, 14)	1.85	.20	.12	

Table 4

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 2 to Time 3

<u>Time 2 to Time 3</u>						
Variable	Wilks' Lambda	df	F	p	h_p^2	Observed power
KIMS: Act With Awareness (AWA): Interaction	.96	(1, 14)	.60	.45	.04	
KIMS: AWA: Main (time)	1.00	(1, 14)	.02	.88	.00	
KIMS: AWA: Main (group)		(1, 14)	.00	1.00	.00	
KIMS: Accept Without Judgment (AWJ): Interaction	.85	(1, 14)	2.51	.14	.15	
KIMS: AWJ: Main (time)	.96	(1, 14)	.63	.44	.04	
KIMS: AWJ: Main (group)		(1, 14)	2.18	.16	.14	
KIMS: Observe: Interaction	.98	(1, 14)	.29	.60	.02	
KIMS: Observe: Main (time)	1.00	(1, 14)	.00	1.00	.00	
KIMS: Observe: Main (group)		(1, 14)	.50	.49	.04	
KIMS: Describe: Interaction	.98	(1, 14)	.29	.60	.02	
KIMS: Describe: Main (time)	.98	(1, 14)	.29	.60	.02	
KIMS: Describe: Main (group)		(1, 14)	3.81	.07	.21	
SCS: Public: Interaction	1.04	(1, 14)	.08	.78	.01	
SCS: Public: M (time)	.97	(1, 14)	.48	.50	.03	
SCS: Public: M (group)		(1, 14)	1.27	.28	.08	
SCS: Private: Interaction	.98	(1, 14)	.26	.62	.02	
SCS: Private: M (time)	.98	(1, 14)	.26	.62	.02	
SCS: Private: M (group)		(1, 14)	.02	.89	.00	
IRI: Perspective taking: Interaction	.99	(1, 14)	.22	.65	.02	
IRI: Perspective taking: M (time)	.96	(1, 14)	.61	.45	.04	
IRI: Perspective taking: M (group)		(1, 14)	1.13	.31	.07	
IRI: Fantasy: Interaction	.94	(1, 14)	.97	.34	.07	
IRI: Fantasy: M (time)	.74	(1, 14)	4.96	.04*	.26	.55
IRI: Fantasy: M (group)		(1, 14)	1.64	.22	.11	

Table 4 (Continued)

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 2 to Time 3

<u>Time 2 to Time 3</u>						
Variable	Wilks' Lambda	df	F	p	h_p^2	Observed power
IRI: Empathic Concern: Interaction	.99	(1, 14)	.18	.68	.01	
IRI: Empathic Concern: M (time)	.96	(1, 14)	.67	.43	.05	
IRI: Empathic Concern: M (group)		(1, 14)	.57	.46	.04	
IRI: Personal Distress: Int.	.98	(1, 14)	.25	.63	.02	
IRI: Personal Distress: M (time)	.75	(1, 14)	4.64	.05*	.25	.52
IRI: Personal Distress: M (group)		(1, 14)	5.59	.03*	.29	.60
MBI: Emotional Exhaustion: Interaction	1.0	(1, 14)	.03	.87	.00	
MBI: Emotional Exhaustion: M (time)	.93	(1, 14)	1.05	.32	.07	
MBI: Emotional Exhaustion: M (group)		(1, 14)	.03	.86	.00	
MBI: Depersonalization: Interaction	.99	(1, 14)	.17	.69	.01	
MBI: Depersonalization: M (time)	.80	(1, 14)	3.55	.08	.20	
MBI: Depersonalization: M (group)		(1, 14)	.35	.56	.02	
MBI: Personal Accomplishment: Interaction	.97	(1, 14)	.39	.55	.03	
MBI: Personal Accomplishment: M (time)	.81	(1, 14)	3.27	.09	.19	
MBI: Personal Accomplishment: M (group)		(1, 14)	.86	.37	.06	

Table 5

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 1 to Time 3

<u>Time 1 to Time 3</u>						
Variable	Wilks' Lambda	df	F	p	h_p^2	Observed power
KIMS: Act With Awareness (AWA): Interaction	.93	(1, 14)	1.08	.32	.07	
KIMS: AWA: Main (time)	.94	(1, 14)	.91	.36	.06	
KIMS: AWA: Main (group)		(1, 14)	.46	.51	.03	
KIMS: Accept Without Judgment (AWJ): Interaction	.97	(1, 14)	.51	.49	.04	
KIMS: AWJ: Main (time)	.99	(1, 14)	.16	.70	.01	
KIMS: AWJ: Main (group)		(1, 14)	2.96	.11	.18	
KIMS: Observe: Interaction	.71	(1, 14)	5.70	.03*	.29	.60
KIMS: Observe: Main (time)	.61	(1, 14)	9.09	.01*	.39	.80
KIMS: Observe: Main (group)		(1, 14)	.01	.92	.00	
KIMS: Describe: Interaction	.99	(1, 14)	.09	.77	.01	
KIMS: Describe: Main (time)	.96	(1, 14)	.56	.47	.04	
KIMS: Describe: Main (group)		(1, 14)	4.43	.05*	.24	.50
SCS: Public: Interaction	.92	(1, 14)	1.29	.28	.08	
SCS: Public: Main (time)	.98	(1, 14)	.29	.60	.02	
SCS: Public: Main (group)		(1, 14)	5.21	.04*	.27	.57
SCS: Private: Interaction	.99	(1, 14)	.10	.75	.01	
SCS: Private: Main (time)	.95	(1, 14)	.69	.42	.05	
SCS: Private: M (group)		(1, 14)	.16	.69	.01	
IRI: Perspective taking: Interaction	1.00	(1, 14)	.07	.80	.01	
IRI: Perspective taking: M (time)	1.00	(1, 14)	.01	.93	.00	
IRI: Perspective taking: M (group)		(1, 14)	1.78	.20	.11	
IRI: Fantasy: Interaction	1.00	(1, 14)	.01	.94	.00	
IRI: Fantasy: M (time)	.74	(1, 14)	5.00	.04*	.26	.55
IRI: Fantasy: M (group)		(1, 14)	3.00	.11	.18	

Table 5 (Continued)

Effects of Repeated Measures ANOVA with a Between-Subjects Factor from Time 1 to Time 3

<u>Time 1 to Time 3</u>						
Variable	Wilks' Lambda	df	F	p	h_p^2	Observed power
IRI: Empathic Concern: Int.	.93	(1, 14)	1.03	.33	.07	
IRI: Empathic Concern: M (time)	.90	(1, 14)	1.49	.24	1.0	
IRI: Empathic Concern: M (group)		(1, 14)	.07	.79	.01	
IRI: Personal Distress: Int.	.78	(1, 14)	3.96	.07	.22	
IRI: Personal Distress: M (time)	.51	(1, 14)	13.55	.00*	.49	.93
IRI: Personal Distress: M (group)		(1, 14)	6.70	.02*	.32	.67
MBI: Emotional Exhaustion: Interaction	.99	(1, 14)	.08	.78	.01	
MBI: Emotional Exhaustion: M (time)	.89	(1, 14)	1.69	.22	.11	
MBI: Emotional Exhaustion: M (group)		(1, 14)	.00	.99	.00	
MBI: Depersonalization: Interaction	1.00	(1, 14)	.00	1.00	.00	
MBI: Depersonalization: M (time)	.87	(1, 14)	2.02	.18	.13	
MBI: Depersonalization: M (group)		(1, 14)	.11	.75	.01	
MBI: Personal Accomplishment: Interaction	.96	(1, 14)	.58	.46	.04	
MBI: Personal Accomplishment: M (time)	.94	(1, 14)	.98	.34	.07	
MBI: Personal Accomplishment: M (group)		(1, 14)	1.01	.33	.07	

Table 6

Untransformed Measures of Normality and Normal Distribution

Variable	Time 1				Time 2				Time 3			
	Levene's		Kilgore-Smirnov		Levene's		Kilgore-Smirnov		Levene's		Kilgore-Smirnov	
	Sig.	F	Sig.	D	Sig.	F	Sig.	D	Sig.	F	Sig.	D.
KIMS: Act With Awareness	.34	.993	.045	.216	.47	.546	.200	.140	.28	1.27	.200	.174
KIMS: Accept Without Judgment	.66	.200	.200	.142	.32	1.05	.200	.106	.22	1.62	.200	.163
KIMS: Observe	1.00	.00	.135	.188	.83	.05	.200	.142	.90	.02	.200	.119
KIMS: Describe	.42	.68	.048	.214	.61	.26	.200	.104	.39	.78	.200	.158
SCS: Public	.82	.06	.031*	.224	1.06	.00	.200	.160	.29	1.20	.200	.172
SCS: Private	.67	.189	.200	.164	.07	3.72	.200	.149	.03*	5.94	.200	.097
IRI: Perspective Taking	.51	.46	.200	.145	.40	.76	.200	.139	.27	1.31	.200	.119
IRI: Fantasy	.50	.48	.200	.141	.75	.12	.104	.195	.38	.82	.022*	.232
IRI: Empathic Concern	.23	1.59	.088	.200	.06	4.23	.200	.141	.301	1.16	.007*	.255
IRI: Personal Distress	.96	.003	.200	.138	.95	.004	.200	.137	.77	.09	.200	.109
MBI: Emotional Exhaustion	.17	2.11	.200	.158	.17	2.08	.121	.191	.21	1.73	.200	.161
MBI: Depersonalization	.38	.83	.200	.153	.12	2.67	.000*	.375	.16	2.26	.038*	.220
MBI: Personal Accomplishment	.08	3.48	.042*	.218	.34	.97	.200	.142	.25	1.46	.200	.172

Note. df = 16 for all variables.

Table 7

Time 1 Pearson Product-Moment Correlations for Scores on the SCS, IRI, MBI-III, and KIMS

Scale (Time 1)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SCS: Pub	-	.589**	-.248	-.069	-.100	.442*	.454*	.356	.436*	.081	-.617**	.264	-.205
2. SCS: Priv	.589**	-	.009	.217	-.183	.098	.173	.235	.376	-.123	-.190	.323	.375
3. IRI: PT	-.248	.009	-	.099	.159	.101	.043	.138	.052	-.077	-.107	-.103	-.106
4. IRI: Fantasy	-.069	.217	.099	-	.093	.425	-.134	-.378	.290	.069	.091	.125	-.029
5. IRI: EC	-.109	-.183	.159	.093	-	.216	.129	-.267	.213	-.086	-.007	-.363	-.433*
6. IRI: PD	.442*	.098	.101	.425	.216	-	.226	.108	.434*	.155	-.171	.285	-.563*
7. MBI: EE	.454*	.173	.043	-.134	.129	.226	-	.385	.058	-.636**	-.636**	.512*	-.152
8. MBI: Dep	.356	.235	.138	-.378	-.267	.108	.385	-	.046	-.376	-.224	.193	.028
9. MBI: PA	.436*	.376	.052	.290	.213	.434*	.058	.046	-	.056	-.310	-.041	-.463*
10. KIMS: AWA	.081	-.123	-.077	.069	-.086	.155	-.636**	-.376	.056	-	.137	-.289	-.186
11. KIMS: AWJ	-.617**	-.190	-.107	.091	-.007	-.171	-.636**	-.224	-.310	.137	-	-.268	.227
12. KIMS: Obs.	.264	.323	-.103	.125	-.363	.285	.512*	.193	-.041	-.289	-.268	-	.128
13. KIMS: Des.	-.205	.375	-.106	-.029	-.433*	-.563*	-.152	.028	-.463*	-.186	.227	.128	-

* $p < .05$. ** $p < .01$.

Note. Pub = Public; Priv = Private; PT = Perspective Taking; EC = Empathic Concern; PD = Personal Distress; EE = Emotional Exhaustion; Dep = Depersonalization; PA = Personal Accomplishment; AWA = Act with Awareness; AWJ = Accept without Judgment; Obs. = Observe; Des. = Describe.

Table 8

Time 2 Pearson Product-Moment Correlations for Scores on the SCS, IRI, MBI-III, and KIMS

Scale (Time 2)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SCS: Priv	-	.558*	.231	.112	-.257	.074	.319	.388	.330	-.037	.009	.523*	-.472*
2. SCS: Pub.	.558*	-	.014	-.254	-.187	.335	.132	-.063	.127	-.323	-.005	.091	-.557*
3. IRI: PT	.231	.014	-	-.097	-.570*	-.631**	.180	.225	-.183	.281	-.017	.483*	.256
4. IRI: Fantasy	.112	-.254	-.097	-	.106	.157	-.022	.109	.077	-.070	-.166	.074	.000
5. IRI: EC	-.257	-.187	-.570*	.106	-	.248	-.218	-.223	-.050	.317	.189	-.108	.096
6. IRI: PD	.074	.335	-.631**	.157	.248	-	.068	-.155	.414	-.578**	-.282	-.292	-.629**
7. MBI: EE	.319	.132	.180	-.022	-.218	.068	-	.800**	.673**	-.107	.257	.222	-.158
8. MBI: Dep.	.388	-.063	.225	.109	-.223	-.155	.800**	-	.672**	.045	.129	.295	-.036
9. MBI: PA	.330	.127	-.183	.077	-.050	.414	.673**	.672**	-	-.435*	.185	.012	-.177
10. KIMS: Des.	-.037	-.323	.281	-.070	.317	-.578**	-.107	.045	-.435*	-	.139	.115	.303
11. KIMS: AWA	.009	-.005	-.017	-.166	.189	-.282	.257	.129	.185	.139	-	.265	.310
12. KIMS: Ob.	.523*	.091	.483*	.074	-.108	-.292	.222	.295	.012	.115	.265	-	.004
13: KIMS: AWJ	-.472*	-.557*	.256	.000	.096	-.629**	-.158	-.036	-.177	.303	.310	.004	-

* $p < .05$. ** $p < .01$.

Note. Pub = Public; Priv = Private; PT = Perspective Taking; EC = Empathic Concern; PD = Personal Distress; EE = Emotional Exhaustion; Dep = Depersonalization; PA = Personal Accomplishment; AWA = Act with Awareness; AWJ = Accept without Judgment; Obs. = Observe; Des. = Describe.

Table 9

Time 3 Pearson Product-Moment Correlations for Scores on the SCS, IRI, MBI-III, and KIMS

Scale (Time 3)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SCS: Priv	-	.574*	.478*	.075	-.212	.080	.374	.326	-.019	-.095	.167	.651**	-.556*
2. SCS: Pub	.574*	-	.113	-.194	-.257	.379	.300	.117	.007	-.452*	-.147	.058	-.667**
3. IRI: PT	.478*	.113	-	.103	-.094	.090	-.088	-.125	-.120	-.051	-.296	.543*	-.363
4. IRI Fantasy	.075	-.194	.103	-	.260	.290	-.097	-.121	-.039	-.085	-.073	.143	-.078
5. IRI: EC	-.212	-.257	-.094	.260	-	.464*	.072	.178	.404	.102	.199	-.148	.166
6. IRI: PD	.080	.379	.090	.290	.464*	-	.096	-.062	.494*	-.645**	-.330	-.238	-.481*
7. MBI: EE	.374	.300	-.088	-.097	.072	.096	-	.915**	.555*	-.034	.342	.164	-.416
8. MBI: Dep.	.326	.117	-.125	-.121	.178	-.062	.915**	-	.466*	.213	.441*	.232	-.221
9. MBI: PA	-.019	.007	-.120	.039	.404	.494*	.555*	.466*	-	-.088	.290	-.177	-.198
10. KIMS: Desc.	-.095	-.452*	-.051	-.085	.102	-.645**	-.034	.213	-.088	-	.483*	.231	.303
11. KIMS: AWA	.167	-.147	-.296	-.073	.199	-.330	.342	.441*	.290	.483*	-	.218	.183
12. KIMS: Obs.	.651**	.058	.543*	.143	-.148	-.238	.164	.232	-.177	.231	.218	-	-.067
13: KIMS: AWJ	-.556*	-.667**	-.363	-.078	.166	-.481*	-.416	-.221	-.198	.303	.183	-.067	-

* $p < .05$. ** $p < .01$.

Note. Pub = Public; Priv = Private; PT = Perspective Taking; EC = Empathic Concern; PD = Personal Distress; EE = Emotional Exhaustion; Dep = Depersonalization; PA = Personal Accomplishment; AWA = Act with Awareness; AWJ = Accept without Judgment; Obs. = Observe; Des. = Describe.

Table 10

Variable Means and Standard Deviations of Continuing Participants and Dropouts

Variable	Treatment Group/ Time 1				Treatment Group/ Time 3			
	Dropouts		Continuers		Dropouts		Continuers	
	M	SD	M	SD	M	SD	M	
SD KIMS: AWA	23.33	4.27	25.13	2.90	26.33	8.50	28.13	
	5.94							
KIMS: AWJ	34.33	3.93	34.75	4.68	34.00	3.46	35.63	
KIMS: Obs.	41.50	7.31	36.63	7.44	47.00	7.55	42.00	
KIMS: Des.	27.00	5.66	31.25	2.96	31.33	1.15	30.38	
SCS: Pub.	19.17	3.37	14.50	4.72	17.33	4.04	14.63	
SCS: Priv.	22.00	3.69	25.13	4.29	26.67	4.51	24.63	
IRI: PT	20.33	2.42	21.50	2.93	22.33	3.06	21.63	
IRI: Fantasy	14.67	5.13	18.38	4.78	16.33	2.08	16.38	
IRI: EC	22.17	2.14	23.88	4.22	22.67	3.51	22.50	
IRI: PD	5.50	5.72	10.38	1.77	5.00	2.00	4.50	
MBI: EE	19.83	9.33	21.00	9.74	28.00	20.66	23.50	
MBI: Dep.	5.83	2.64	4.00	2.98	10.00	8.66	5.63	
MBI: PA	11.17	3.60	8.38	2.56	11.33	6.66	11.13	

Note. $df = 12$ for Time 1, $df = 9$ for Time 3. No data was available for control group participants who dropped out of the study. AWA = Act with Awareness; AWJ = Accept without judgment; Obs. = Observe; Des. = Describe; Pub = Public; Priv = Private; PT = Perspective Taking; EC = Empathic Concern; PD = Personal Distress; EE = Emotional Exhaustion; Dep = Depersonalization; PA = Personal Accomplishment.

V. Discussion

As outlined previously, this study sought to test several hypotheses regarding the potential impact of the Mindfulness Based Stress Reduction (MBSR) program on graduate-level mental health service providers-in-training. The results obtained in this study suggest that graduate level mental health service providers-in-training that complete MBSR training, do not experience statistically significant increases in mindfulness, as specified by the parameters of this study. Thus, the original hypotheses stating that MBSR training would result in higher levels of mindfulness were not supported for this sample. Additionally, the results of this study indicate that MBSR training had no significant impact on levels of self-awareness, empathy, or burnout for this sample.

Mindfulness

It was hypothesized that participation in the MBSR program would result in increased mindfulness scores. In contrast to previous studies examining the effectiveness of the MBSR program, the current study found that those who participated in the MBSR program did not show a statistically significant increase in mindfulness scores, when assessed by the Observe, Describe, Accept Without Judgment, or Act With Awareness subscales of the KIMS. It is possible that participating in the MBSR program did not increase mindfulness, or perhaps those facets of mindfulness measured by the KIMS. It is also possible that the small sample size did not allow for sufficient power to detect statistically significant differences between the treatment and control groups.

Self-Awareness

In this study, neither Public Self-Consciousness, nor Private Self-Consciousness was increased through MBSR training. One potential explanation could be that both treatment and

control participants have likely received some instruction, via practicum courses and clinical supervision, in examining their internal reactions, thoughts, and emotions with regard to providing therapy to clients. Therefore, it is possible that directing attention inward was not a novel skill learned in MBSR but a more general one communicated via practicum and supervision courses. It is also potentially the case that the MBSR training did not add significantly to skills already possessed by both treatment and control group participants.

Empathy

In the current study, several facets of empathy were measured (Fantasy, Perspective Taking, Empathic Concern, and Personal Distress). It was hypothesized that all facets would be increased through MBSR training, however there were no statistically significant increases in empathy among participants in the treatment group. Scores on the Fantasy subscales actually decreased at all three time points for both the treatment and control groups. Perhaps the nature of graduate training (rigorous, focused on concrete assignments, fast-paced) limits the time one spends engaging in leisure reading/television or movie watching and therefore reduces the amount of time spent envisioning oneself as a character in a book/show/movie.

Previous researchers have presumed that the Perspective Taking and Empathic Concern domains of empathy are most likely to be nurtured through mindfulness-based practice (Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007). However, the current study found no differences in the levels of Empathic Concern or Perspective Taking between the treatment and control groups. As mentioned above, Empathic Concern and Perspective Taking are both “other-oriented” rather than “self-oriented.” It may be the case that taking another’s perspective (as measured by the Perspective Taking scale) or feeling concern for unfortunate others (as measured by the Empathic Concern scale) requires one to focus attention outside of the self,

imagining the experience of another and drawing conclusions about the experiences of another, thereby eliciting emotions that are congruent with the imagined “story” of the other’s experience. MBSR training actually encourages individuals to resist getting carried away in the realm of “fantasy” (predicting, imagining, planning, remembering, assuming) and instead noticing what is, as it is occurring, moment-by-moment. This may explain why there were no increases in Empathic Concern or Perspective Taking in the treatment group.

Burnout

While previous studies have shown that mindfulness training resulted in lower levels of burnout and increased levels of global well being among physicians (Weiner, Swain, Wolf, & Gottlieb, 2001), this was not the case in the current study. It is important to note that all mean scores for treatment and control groups on the Emotional Exhaustion subscale were in the “high” range (except the control group at Time 1), suggesting that all participants felt emotionally overextended and depleted of their emotional resources, lacking energy to face the challenges of providing mental health services. However, scores on Depersonalization were in the “low” range and scores on the Personal Accomplishment subscale were in the “high” range, suggesting that participants did not experience callousness toward their work and at times felt competent and productive. It is possible that participants’ experience of Emotional Exhaustion prevented them from potentially benefitting from the MBSR training and perhaps growth in self-awareness and empathy.

Lee and colleagues’ (2011) meta-analysis indicates that over-involvement with clients is strongly and positively correlated with Emotional Exhaustion. The current study indicates that mean scores for Emotional Exhaustion for both groups were in the “high” range. One possible explanation for the lack of statistically significant findings is that the amount of time between the

pre-test and follow-up test was not long enough to detect a decline in burnout symptoms.

Alternatively, MBSR training may simply have no effect on the levels of burnout of graduate level mental health service providers-in-training.

Information gained from the open-ended question document shows that mental health service providers-in-training experience a large variety of stressors, with “managing various roles, time commitments, and class work” being the most frequent stressor mentioned by 16 participants. Stress management strategies were also varied but included themes of seeking social support (mentioned by 8 participants). The treatment group also mentioned various strategies that are taught in the MBSR program: meditation (4), breathing exercises (3), and the MBSR program was also mentioned (2). Only one person in the control group mentioned using relaxation techniques to manage stress. This seems to suggest that the techniques learned in the MBSR program were actually incorporated by the treatment group as effective ways of managing stress. Also notable is that all of the control group participants found the act of providing therapy to clients stressful or taxing, while only half of the treatment group found the act stressful.

The feedback from the treatment group about the MBSR program suggests that all participants found the program helpful despite the criticism that the daily requirement to engage in 45 minutes of meditation, yoga, or body scan was too significant of a time investment. This suggestion aligns with the most commonly cited stressor “managing various roles and time commitments” and provides further evidence that the MBSR program may be more accessible to mental health service providers-in-training if it could be offered in a more abbreviated format or shorten the length of the daily practice sessions.

Limitations

While the current study has the potential to inform researchers and practitioners about the

impact of mindfulness practice with mental health service providers-in-training, several limitations exist. The first limitation concerns the sample used for the study; participants were recruited from one large public university in the Southeastern United States and this minimizes the external validity of the findings. A second limitation is that all of the data collected in the study consisted of self-report questionnaires from the participants. A third, and very significant, limitation of this study is that there were a limited number of available participants and the small pool of participants partially dictated the type of analysis that was utilized, leading to a fairly large number of analyses being conducted and consequently, a very large family wise alpha. While there were no significant findings, the large family wise alpha could have skewed significant findings, had there been any. There was also a fairly high attrition rate in the current study, which may have been related to the fact that participants were instructed to complete packets at three different time points, which is a costly time investment. Finally, the control group was a wait-list control rather than a bonafide treatment so it is possible that teaching one hour of relaxation per week to the treatment group could have resulted in similar outcomes.

Future studies that are able to include a larger numbers of participants may consider more complex designs such as structural equation modeling to address the inter-correlations between the variables. It may also be helpful, to participants, if future studies are able to provide the questionnaires electronically, thereby making it more convenient to complete them. A large percentage of the participants in the treatment group (75 %) commented that the requirement to engage in 45 minutes of daily meditation practice, in addition to the weekly group meetings, was unreasonable given the limited amount of time available after completing academic requirements. A number of studies have begun to examine the effectiveness of an abbreviate version of MBSR (Carmody & Baer, 2009; Klatt, Buckworth, & Malarkey, 2009) and perhaps future studies with

mental health service providers-in-training could utilize the abbreviated version to address concerns about the stringent time requirements in the current study.

The current study revealed that MBSR training did not impact levels of mindfulness, self-awareness, empathy, or burnout. It is important to recognize the statistical limitations of the current study without necessarily drawing conclusions about the effectiveness of MBSR training. The current study revealed that both the treatment group and control group experienced high levels of emotional exhaustion at various times in the study, suggesting that graduate level mental health professionals-in-training could benefit from resources aimed at alleviating emotional exhaustion.

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Appendix A

Demographic Questionnaire

Please complete all of the items listed below by filling in the blanks or circling the appropriate response.

1) Are you currently in a graduate-level Clinical Psychology, Counseling Psychology, Community Agency Counseling, School Psychology, or Marriage and Family Therapy training program? Yes No

2) Are you providing therapy to clients during this semester in which you are completing this survey? Yes No

3) Please circle the type of facility(ies) that best describes the location(s) in which you currently provide mental health services: university counseling center Veteran's Affairs facility in-patient facility community mental health center forensic/court mandated facility other (describe) _____

4) Age: _____

5) Sex: _____

6) Ethnicity: _____

7) Country of Origin: _____

8) How many semesters of your current graduate program have you completed (not counting Fall 2010)? _____

9) How many total months have you provided therapy to clients? Please do not count months between semesters in which you did not provide therapy. _____

10) Have you previously (but not currently) participated in any formal Mindfulness-based programs or workshops (including but not limited to) Mindfulness-Based Stress Reduction (MBSR), and Mindfulness-Based Cognitive Therapy (MBCT)? Yes No

11) Are you currently participating in a formal Mindfulness-based program? Yes No

12) Are you currently practicing any Mindfulness exercises such as seated meditation, religious meditation, walking meditation, yoga, Qigong, or reading books about this topic? Yes No

13) If you answered Yes to question # 11, please describe what your practice(s) include(s) and detail the amount of time spent practicing these activities each week (number of hours):

Appendix B

Informed Consent Letter for Treatment Group

(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)

INFORMED CONSENT

for a Research Study entitled

“The Impact of Mindfulness Practice on Mental Health Service Providers-in-Training: An Examination of Mindfulness, Self-Awareness, Empathy, and Burnout”

You are invited to participate in a research study to investigate the impact of mindfulness training. Christina Spragg, B. A., is conducting the study under the direction of Dr. Randolph Pipes, Ph.D. in the Auburn University Department of Special Education, Rehabilitation, Counseling/School Psychology. You may participate if you are currently a mental health service provider-in-training who will be providing mental health services to clients during the fall semester of 2010 and are age 19 or older. Please do not participate if you will not be providing services to clients in the fall semester or you will be unable to fulfill the time requirements of the research study.

What will be involved if you participate? If you choose to participate in this study you will be invited to participate in an 8-week non-credit course entitled: Mindfulness Based Stress Reduction (MBSR) during the fall semester of 2010. In this program you will learn various forms of meditation, gentle yoga stretches, and ways to incorporate mindfulness into your daily activities. The course will meet for 2.5 hours each week on Monday evenings from 7:00 to 9:30 pm. Following the sixth class you will meet for 7.5 hours on October 30, 2010 to practice the skills learned in a more intensive manner. As part of the program you will be assigned 45 minutes of meditation, 6 days a week, to be practiced at home.

In addition to participating in the MBSR program, you will be asked to complete a series of pencil and paper questionnaires at three separate times: 3 weeks before the start of the course, immediately after completion of the course, and 4 weeks after the completion of the course. The questionnaire packet will include the following: A Demographic Information Sheet, and 4 questionnaires. During the last administration you will also be asked to answer written questions about your experience in the course. Your total time commitment over the course of the semester (including time spent assembled as a group as well as practicing mindfulness activities at home for 45 minutes per day, 6 days per week) will be approximately 60 hours.

Are there any risks or discomforts? The risks associated with the proposed study include: breach of confidentiality because you will provide your email address as well as demographic data such as your age, race, and gender, which could potentially identify you. There is a slight risk of psychological discomfort as you participate in the activities of the MBSR program such as meditation and observing your emotions.

Participant's initials _____

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As you engage in the gentle yoga stretches included in the MBSR program, there is also the potential for muscle strain. Additionally, you will be participating with other mental health service providers-in-training from Counseling Psychology, Clinical Psychology, Community Agency Counseling, School Counseling, and Marriage and Family Therapy. Within the course you may choose to share sensitive information about the stressors in your life but you are in no way required or encouraged to do so. If you choose to share sensitive information with others, be advised that neither Mary Sandage, nor myself can guarantee that other members of the group will keep your information in confidence.

To minimize the risks associated with participation in this study, you have created a code number to use throughout the study. Only the researcher will have a document linking your code number with your email address and this document as well as your demographic information will be stored in a locked box under the care of the researcher. Your informed consent documents will be stored in a locked office. To reduce the risk of muscle strain, the number of participants will be limited in order to allow for more individualized attention from the instructor. If you experience physical discomfort you will be referred to the East Alabama Medical Center Medical Clinic at Auburn University and you will be responsible for all associated costs. If you experience psychological discomfort you will be provided with a list of community mental health service providers. You will be responsible for all associated mental health costs.

Are there any benefits to yourself or others? While it cannot be guaranteed that you will receive direct benefits from participating in the current study, previous participants in the MBSR program have learned effective ways to manage their stress levels and have experienced improved sleep, improved mood, and a reduction in their stress levels. If you desire, you may obtain a brief report of your scores on the questionnaires following completion of the study in order to observe any changes that may have occurred. Finally, the MBSR program typically costs participants between \$475.00 and \$600.00; while participating in the current study you will not incur a fee and you will be permitted to utilize all printed and audio materials without charge.

Will you receive compensation for participating? After you complete each questionnaire a coupon with your code number will be entered into a drawing that will take place after the completion of the study. Three coupons will be drawn and if your coupon(s) is/are drawn you will receive a \$25.00 gift certificate. You may receive multiple gift cards if multiple coupons with your code number are drawn.

Are there any costs? There are no costs to participate in the current study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, please return your materials (books and audio discs) to the researcher. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision to participate, not participate, or discontinue your participation will not jeopardize your future relations with Auburn University, or the Department of Special Education, Rehabilitation, Counseling/School Psychology.

Participant's Initials _____

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Your privacy will be protected. Any information obtained in connection with this study will remain confidential. Information obtained through your participation may be published in a professional journal and presented at a professional conference, but such information will not be directly connected with you.

If you have questions about this study, please contact Christina Spragg, B. A., at spragcn@auburn.edu or Dr. Randolph Pipes, Ph.D. at pipesrb@auburn.edu. A copy of this document will be given to you to keep.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____ Participant's signature	_____ Date	_____ Investigator obtaining consent	_____ Date
_____ Printed Name		_____ Printed Name	

Appendix C

Informed Consent Letter for Control Group

(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)
INFORMED CONSENT
for a Research Study entitled

“The Impact of Mindfulness Practice on Mental Health Service Providers-in-Training: An Examination of Mindfulness, Self-Awareness, Empathy, and Burnout”

You are invited to participate in a research study to investigate the impact of mindfulness training. Christina Spragg, B. A., is conducting the study under the direction of Dr. Randolph Pipes, Ph.D. in the Auburn University Department of Special Education, Rehabilitation, Counseling/School Psychology. You may participate if you are currently a mental health service provider-in-training who will be providing mental health services to clients during the fall semester of 2010 and are age 19 or older. Please do not participate if you will not be providing services to clients in the fall semester or you will be unable to fulfill the time requirements of the research study.

What will be involved if you participate? If you choose to participate in this study you will be invited to participate in an 8-week non-credit course entitled: Mindfulness Based Stress Reduction (MBSR) during the fall semester of 2010. In this program you will learn various forms of meditation, gentle yoga stretches, and ways to incorporate mindfulness into your daily activities. The course will meet for 2.5 hours each week on Monday evenings from 7:00 to 9:30 pm. Following the sixth class you will meet for 7.5 hours on October 30, 2010 to practice the skills learned in a more intensive manner. As part of the program you will be assigned 45 minutes of meditation, 6 days a week, to be practiced at home.

In addition to participating in the MBSR program, you will be asked to complete a series of pencil and paper questionnaires at three separate times: 3 weeks before the start of the course, immediately after completion of the course, and 4 weeks after the completion of the course. The questionnaire packet will include the following: A Demographic Information Sheet, and 4 questionnaires. During the last administration you will also be asked to answer written questions about your experience in the course. Your total time commitment over the course of the semester (including time spent assembled as a group as well as practicing mindfulness activities at home for 45 minutes per day, 6 days per week) will be approximately 60 hours.

Are there any risks or discomforts? The risks associated with the proposed study include: breach of confidentiality because you will provide your email address as well as demographic data such as your age, race, and gender, which could potentially identify you. There is a slight risk of psychological discomfort as you participate in the activities of the MBSR program such as meditation and observing your emotions.

Participant's initials _____

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As you engage in the gentle yoga stretches included in the MBSR program, there is also the potential for muscle strain. Additionally, you will be participating with other mental health service providers-in-training from Counseling Psychology, Clinical Psychology, Community Agency Counseling, School Counseling, and Marriage and Family Therapy. Within the course you may choose to share sensitive information about the stressors in your life but you are in no way required or encouraged to do so. If you choose to share sensitive information with others, be advised that neither Mary Sandage, nor myself can guarantee that other members of the group will keep your information in confidence.

To minimize the risks associated with participation in this study, you have created a code number to use throughout the study. Only the researcher will have a document linking your code number with your email address and this document as well as your demographic information will be stored in a locked box under the care of the researcher. Your informed consent documents will be stored in a locked office. To reduce the risk of muscle strain, the number of participants will be limited in order to allow for more individualized attention from the instructor. If you experience physical discomfort you will be referred to the East Alabama Medical Center Medical Clinic at Auburn University and you will be responsible for all associated costs. If you experience psychological discomfort you will be provided with a list of community mental health service providers. You will be responsible for all associated mental health costs.

Are there any benefits to yourself or others? While it cannot be guaranteed that you will receive direct benefits from participating in the current study, previous participants in the MBSR program have learned effective ways to manage their stress levels and have experienced improved sleep, improved mood, and a reduction in their stress levels. If you desire, you may obtain a brief report of your scores on the questionnaires following completion of the study in order to observe any changes that may have occurred. Finally, the MBSR program typically costs participants between \$475.00 and \$600.00; while participating in the current study you will not incur a fee and you will be permitted to utilize all printed and audio materials without charge.

Will you receive compensation for participating? After you complete each questionnaire a coupon with your code number will be entered into a drawing that will take place after the completion of the study. Three coupons will be drawn and if your coupon(s) is/are drawn you will receive a \$25.00 gift certificate. You may receive multiple gift cards if multiple coupons with your code number are drawn.

Are there any costs? There are no costs to participate in the current study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, please return your materials (books and audio discs) to the researcher. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision to participate, not participate, or discontinue your participation will not jeopardize your future relations with Auburn University, or the Department of Special Education, Rehabilitation, Counseling/School Psychology.

Participant's Initials _____

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Your privacy will be protected. Any information obtained in connection with this study will remain confidential. Information obtained through your participation may be published in a professional journal and presented at a professional conference, but such information will not be directly connected with you.

If you have questions about this study, please contact Christina Spragg, B. A., at spragcn@auburn.edu or Dr. Randolph Pipes, Ph.D. at pipesrb@auburn.edu. A copy of this document will be given to you to keep.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____	_____	_____	_____
Participant's signature	Date	Investigator obtaining consent	Date
_____	_____	_____	_____
Printed Name		Printed Name	

Appendix D

Open-ended Questions

Please take a few moments to reflect on the fall semester of 2010 and answer the following questions with this semester in mind.

- 1) Please describe the events, circumstances, or tasks in your life this semester which you feel were/are stressful.

- 2) Please describe the ways in which you managed your stress this semester.

- 3) Did you find the act of providing therapy to clients (this semester) stressful or taxing in any way? Please circle one: Yes No

If you circled “Yes” please describe, as specifically as possible, what you found to be stressful or taxing about providing therapy to clients.

- 4) If you participated in the Mindfulness Based Stress Reduction program this semester, please describe whether or not you found the program to be helpful.

- 5) Please describe the helpful and/or unhelpful (or less helpful) aspects of the program and any suggestions for improvement.

Appendix E

Figure 1

Flow of Participants Through Each Stage of the Experiment

